REPUBLIC OF INDONESIA

MINISTRY OF COMMUNICATIONS
DIRECTORATE GENERAL OF LAND TRANSPORT
AND INLAND WATERWAYS

TENDER DOCUMENTS
FOR
NEW RAILWAY LINE FOR CENGKARENG AIRPORT
CONSTRUCTION PROJECT

STRUCTURAL CALCULATION SHEETS

PACKAGE I CIVIL AND ARCHITECTURAL WORK

8 of 11

AUGUST 1984

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

SDF
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STRUCTURAL CALCULATION SHEETS

CONTENTS

§§13. BOX CULVERTS

CONTENTS

§1. Basic conditions for design (design criteria)

The design is carried out based upon, the "Design guide of box culvert " tentatively proposed by the "Tokyo construction department No.1 of JNR " July 1979, also the "Design manual of box culvert design " issued by "Structural design institute of JNR" June 1981.

1.1 Configulation and dimension

Box Rahmen (rigid frame) construction Span RC 1

Refer the figures from the Table of inside measuremnt section and height.

1.2 Classification

Cn ———————————— Refer the figures from the Table.

1.3 General conditions

(1) Dead load

Unit weight of reinforced concrete	2500	kg / m³
Unit weight of ballast for track use	1900	〃
Weght of track assembly	450	kg / m
Unit weight of earth (Embankment)	1800	kg / m³

(2) Live load

KS-16

(3) Coefficient of horizontal earth pressure

Box culvert

Member for design	Coefficient of horizontal earth pressure
Top / Bottom slab	0.3
Side wall and Corner part	0.5

(4) Vertical earth pressure

Relative settlement between culvert and neiboring ground is disregarded. Increased surcharge load of earth is not considered.

(5) Seismic load

(5-1) Seismic load in horizontal direction

$Kh = \Delta_1 \Delta_2 K_0$

Δ_1 : Zoning coefficient 1.0

Δ_2 : Coefficient relating to foundation strata 1.0

K_0 : Standard seismic load in horizontal direction 0.1

$Kh = 1.0 \times 1.0 \times 0.1 = 0.1$

(5-2) Seismic load in vertical direction

Say, $Kv = 0$

(6) Temperature change and Drying contraction of concrete

Assumed that temperature difference between top and bottom horizontal concrete members would not occur, the effect of temperature change is disregarded.
Assumed that contraction of members occurs equally, the effect of drying contraction is disregarded.

(7) Longitudinal load of long rail, Brake load and Locomotion load

Longitudinal load of long rail per one track ······ 1 t / m
Brake load ········· 15% of KS loading
Locomotion load ········· 25% of driving axle load
All of above loads are not considered, because box culvert is a buried structure.

(8) Impact

$$i = i_0 \left\{ \frac{2.5 - H}{1.5} \right\}$$

i ······ Impact coefficient acting top slab
i_0 ······ Basic impact coefficient determined by span length (Refer R.C. Standard)
H ······ Depth op surcharge earth fill (ballast depth inclusive)

When $H \leq 1.0$ m then $i = i_0$
When $H \geq 2.5$ m then $i = 0$

(9) Ground water level

Since the site is supposed the embankment construction, ground water
level should be lower than the bottom face of bottom slab.

(10) Ground level to be referred to seismic load calculation

Ground level to be referred to seismic load calculation is assumed as the bottom face of bottom slab.

(11) Various soil mechanical values to be referred to design

(11-1) Existing ground till the depth of supporting layer (Sandy soil)

$\gamma = 1.8\ t/m^3$ $\phi = 30°$ $C = 0\ t/m^2$

(11-2) Supporting groung layer (Sandy soil)

$\gamma = 1.8\ t/m^3$ $\phi = 30°$ $C = 0\ t/m^2$

(12) Safety factors to be applied for stability calculation

(12-1) Stability in terms of vertical support

Ordinary case	3.0
Ordinary case + Temporary load	2.0
Seismic load	1.5

(12-2) Stability against overturning

Eccentricity of acting point of resultant shall be within the following limit values.

Ordinary case	B / 6
Ordinary case + Temporary load	B / 4
Seismic load	B / 3

B: Width of foundation base

(12-3) Stabilty caluculation in terms of horizontal support

Ordinary case	3.0
Ordinary case + Temporary load	2.0
Seismic load	1.5

(13) Material

Concrete : Standard strength for design $\sigma ck = 240kg/cm^2$

Reinforcing bar : JIS G 3112 SD30

(14) Allowable stress

<table>
<tr><th></th><th colspan="2">Kind of stress</th><th>Allowable stress (kg/cm^2)</th></tr>
<tr><td rowspan="6">Concrete</td><td colspan="2">Standard value of bending compressive stress</td><td>90 〃</td></tr>
<tr><td rowspan="2">Benging shearing stress</td><td>Allowable shearing stress for member without diagonal tension bar</td><td>39 〃</td></tr>
<tr><td>Allowable shearing stress for member with diagonal tension bar</td><td>17 〃</td></tr>
<tr><td colspan="2">Standard allowable bond stress</td><td>16 〃</td></tr>
<tr><td colspan="2">Standard allowable compressive stress</td><td>80 〃</td></tr>
<tr><td colspan="2">Standard allowable tensile stress</td><td>1800 〃</td></tr>
<tr><td rowspan="3">Reinforcing bar</td><td colspan="3">Allowabale stress of member to bo affected by fatigue
$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$</td></tr>
<tr><td rowspan="2">Allowabale stress applied for the analysis,safe against cracking
$\alpha = \dfrac{\sigma \ell + i}{\sigma d + \sigma \ell + i}$</td><td>$\alpha \geqq 0.25$</td><td>1000 〃</td></tr>
<tr><td>$\alpha < 0.25$</td><td>1200 〃</td></tr>
</table>

Guideline applied for the allowable stress of box culvert design

a. Shearing stress (R.C. Standard 31.39)

Allowable shearing stress ($\tau a1$) to be applied for the member which has no diagonal tension bar, will be given an extra as shown in the following table.

Steel-concrete ratio of main rainforcing bars / Effective height (d) m	$0.3 \leq \rho < 0.4$	$0.4 \leq P \rho < 0.6$	$0.6 \leq \rho < 0.8$	$0.8 \leq \rho < 1.0$
$20 < d \leq 40$	1.4	1.6	1.8	2.0
$40 < d \leq 60$	1.2	1.3	1.6	1.8
$60 < d \leq 80$	1.0	1.2	1.5	1.7
$80 < d \leq 100$	1.0	1.1	1.4	1.6

(Note) The above listed Extra factor is obtained from the following equation.

$$\alpha = \frac{\sqrt{100\rho} + \sqrt{100/d} - 1}{\sqrt{0.3}}$$

Where,

P, d : Values corresponding to the relevant member

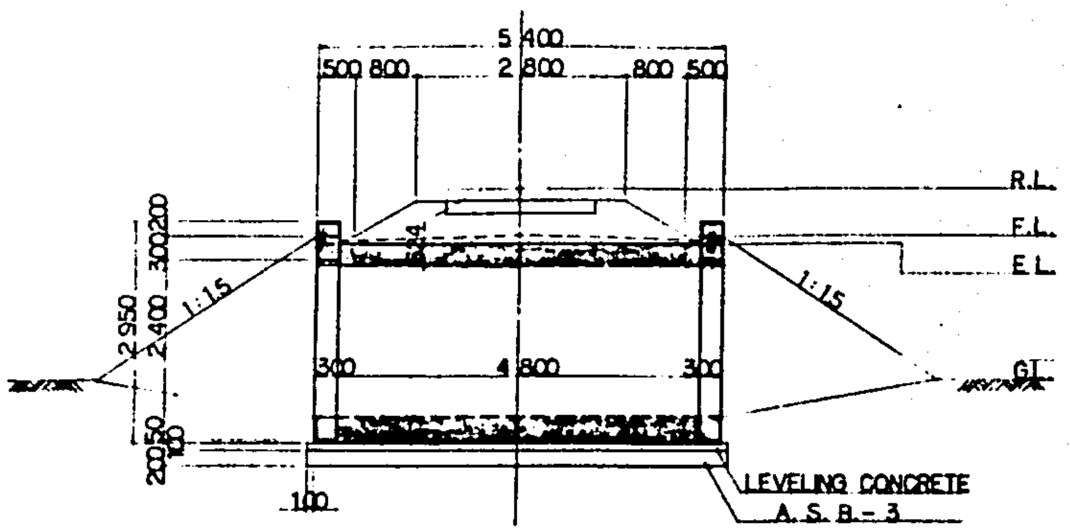
(15) Combination of loads and corresponding coefficient applied for the increased allowable stress

	Combination of loads	Coefficient of increased load
Ordinary case	Dead load +Surcharge earth load +Earth pressure	1.0
Ordinary load + Temporary load	Dead load +Surcharge earth load +Earth pressure+Live load +Impact	1.0
	Dead load +Surcharge earth load +Earth pressure+Live load +Impact +Effect of temperature change	1.15
	Dead load +Surcharge earth load +Earth pressure+Wind load	1.25
Seismic load	Dead load +Surcharge earth load +Earth pressure+Effect of earthquake	1.5

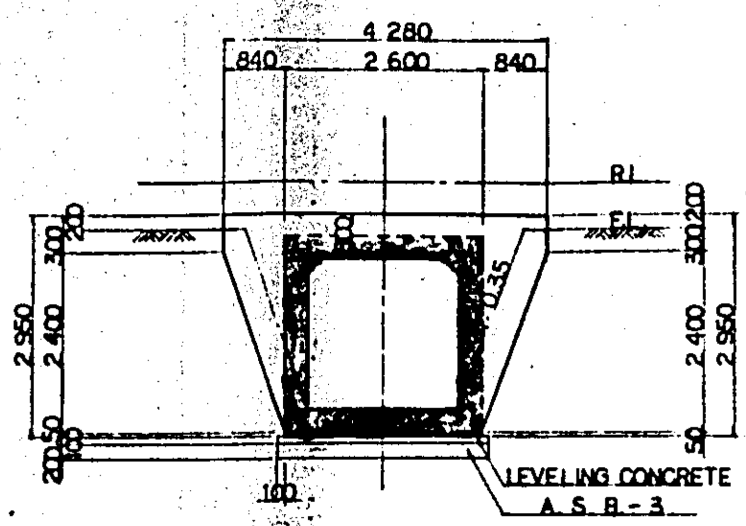
§ 2. Cb06 BOX CULVERT

($2^m.00$ x $2^m.00$)

1. Configulation



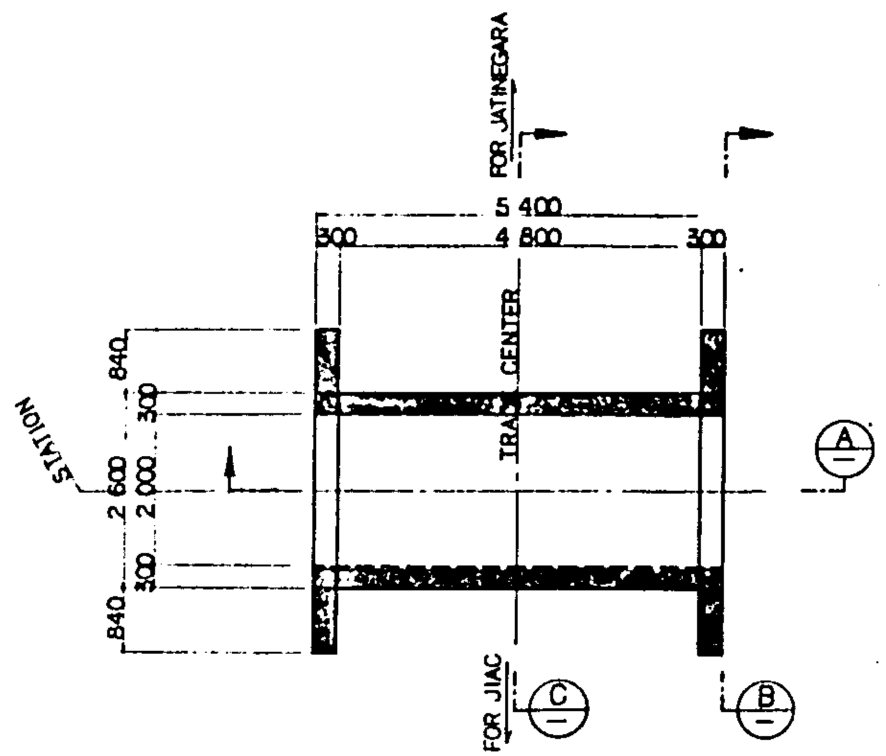
SECTION A
SCALE 1:50



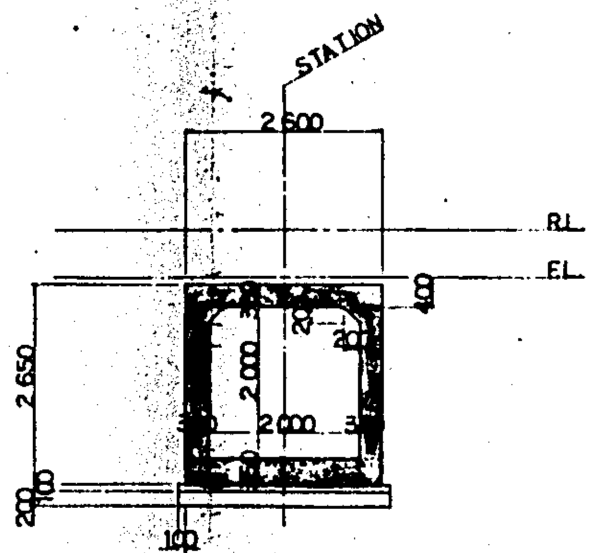
SECTION B
SCALE 1:50

DIMENSIONS SCHEDULE

	STATION	R.L.	F.L.	E.L.	G.L.
C06	$3^{k}600^{m}000$	$4^{m}714$	$4^{m}090$	$3^{m}990$	$2^{m}350$
C07	$4^{k}250^{m}000$	$4^{m}714$	$4^{m}090$	$3^{m}990$	$2^{m}450$
C08	$4^{k}750^{m}000$	$4^{m}714$	$4^{m}090$	$3^{m}990$	$2^{m}340$
C09	$5^{k}050^{m}000$	$4^{m}714$	$4^{m}090$	$3^{m}990$	$2^{m}390$
C11	$5^{k}800^{m}000$	$4^{m}714$	$4^{m}090$	$3^{m}990$	$2^{m}370$
C26	$12^{k}800^{m}000$	$3^{m}474$	$2^{m}850$	$2^{m}750$	$0^{m}650$
C28	$10^{k}626^{m}000$	$5^{m}214$	$4^{m}590$	$4^{m}490$	$2^{m}470$



PLAN SCALE 1:50

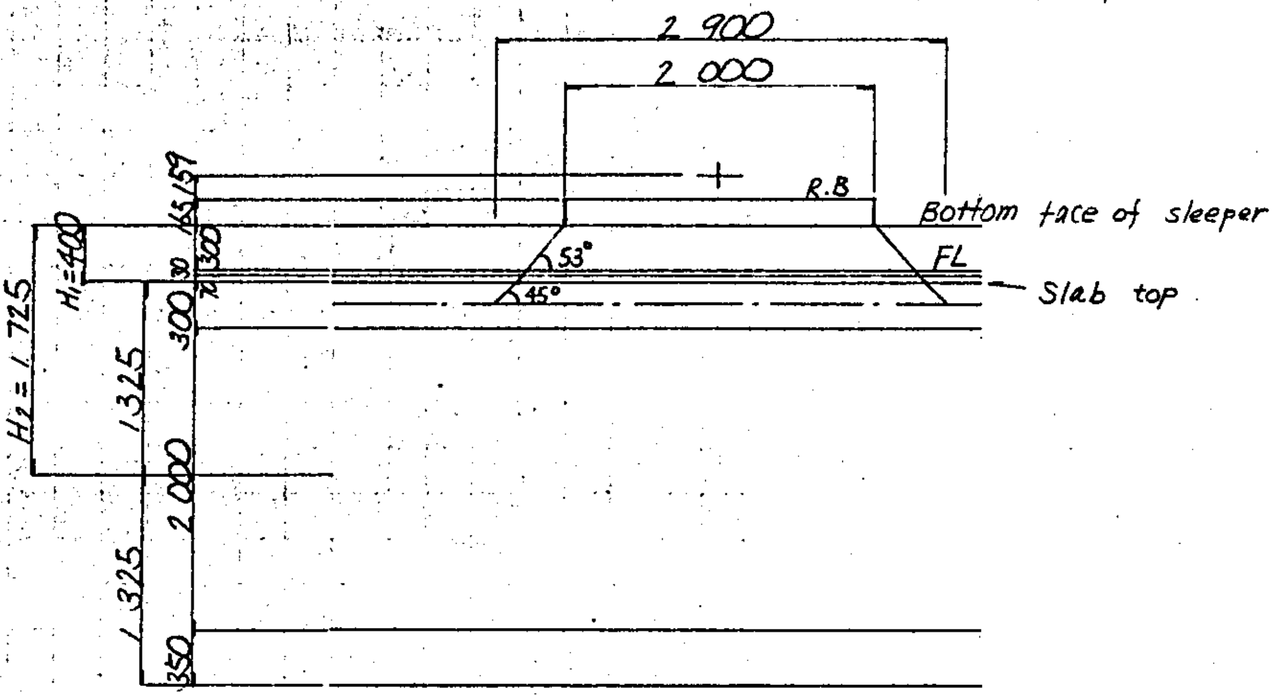


SECTION C
SCALE 1:50

NOTES:

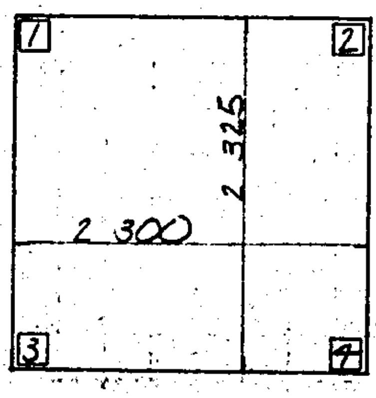
1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE INDICATED
2. REFERENCE DRAWING FOR BAR ARRANGEMENT: CE-019
3. GRADING CONCRETE SHALL BE SIMULTANEOUSLY PLACED WITH SLAB CONCRETE

2. Configuration and dimension: Surcharge earth load



3. cross section

1. Axes of Rahmen(Rigid frame)



2. Cross sectional area: Moment of inertia of the area

1)Top slab

$A = 1.00 \times 0.30 = 0.300$ m²

$I = 1/12 \times 1.00 \times 0.30^3 = 0.00225$ m⁴

2)Bottom slab

$A = 1.00 \times 0.35 = 0.350$ m²

$I = 1/12 \times 1.00 \times 0.35^3 = 0.00357$ m⁴

3)Side wall

$A = 1.00 \times 0.30 = 0.300$ m²

$I = 1/12 \times 1.00 \times 0.30^3 = 0.00225$ m⁴

4. Loads

Calcultion is carried out based on the unit width of Rahmen(Rigid frame).

4.1 Dead load

Weight of track assembly

$0.45\ t/m \div 2.90m = 0.16\ t/m^2$

(between track centers)

Track ballast

$1.9\ t/m^3 \times 0.47 = 0.89$ 〃

(R.B.～F.L.)

Subgrade material

(upper layer) $1.9\ t/m^3 \times 0.03m = 0.06$ 〃

Grading concrete $2.35\ t/m^3 \times 0.07m = 0.16$ 〃

Weight of top slab $2.5\ t/m^3 \times 0.30m = 0.75$ 〃

$Wd = 2.02\ t/m^2$

Weight of side wall

$2.5\ t/m^3 \times 0.30m \times 2.325 = 1.74\ t/m$

Weight of bottom slab

$2.02 + 1.74 \times 2 \times 1/2.30 = 3.53\ t/m^2$

4.2 Train load

Uniformly distributed load, equivalent to KS-16 loading

$\ell = 2.3^m$ surcharge earth (Sleeper bottom - Slab top) is assumed as 0.4m ,then $Pm = 6.0\ t/m^2$

$Ps = 6.0 \times 1.2 = 7.2\ t/m^2$

4.3 Impact coefficient

$$i = i_o \left\{ \frac{2.5 - H}{1.5} \right\}$$

$$= 0.54$$

$H \leq 1.0^m \quad i = i_o$

$H \geq 2.5^m \quad i = 0$

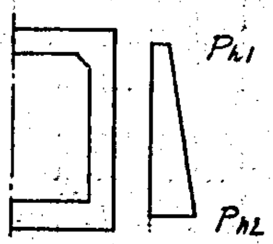
4.4 Earth pressure

1) Ordinary case, earth pressure due to dead load

Horizontal earth pressure acting at the depth of H

Bottom face of sleeper

$$Ph = K \cdot \gamma \cdot H$$



Ph : Horizontal earth pressure per unit area

γ: Unit weight of earth $= 1.8\ t/m^3$

H: Depth of earth (depth above slab top is the equivalent value)

K: Coefficient of static earth pressure $= 0.5$

$K = 0.5$

$Ph1 = K \cdot \gamma \cdot H_1$

$= 0.5 \times 1.8 \times (0.62 + 0.07 + 0.30/2) = 0.76\ t/m^2$

$H_1 = 1/1.8 \times (2.02 - 0.75 - 0.16) = 0.62\ m$

$Ph2 = Ph1 + K \gamma H_2$

$= 0.76 + 0.5 \times 1.8 \times 2.325 = 2.85\ t/m^2$

$K = 0.3$

$Ph1 = 0.3 \times 1.8 \times (0.62 + 0.07 + 0.30/2) = 0.45\ t/m^2$

$Ph2 = 0.45 + 0.3 \times 1.8 \times 2.325 = 1.71\ t/m^2$

2) Horizontal earth pressure caused by train load

$$Ph\ell = K \cdot Pv\ell$$

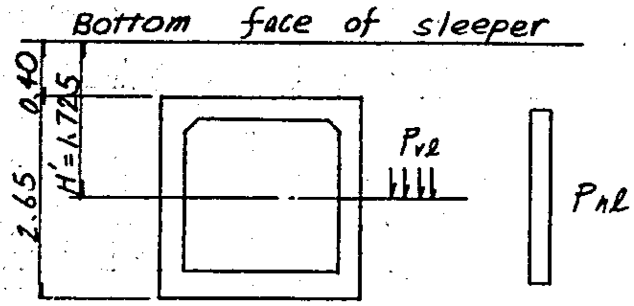
$Ph\ell$: Effect of train load acting at the side. (uniformly distributed load) (t/m^2)

$Pv\ell$: Effect of train load in vertical direction at the depth of the level of culvert center (t/m^2)

K : Coefficient of horizontal earth pressure (generally assumed as 0.5)

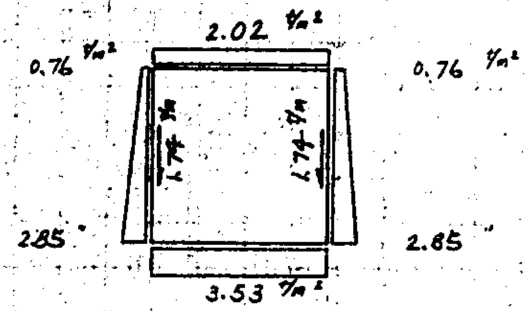
H' : Depth of the level of culvert center (m)

$$Ph\ell = K \cdot Pv\ell$$
$$= 0.5 \times 2.79$$
$$= 1.40 \ t/m^2$$

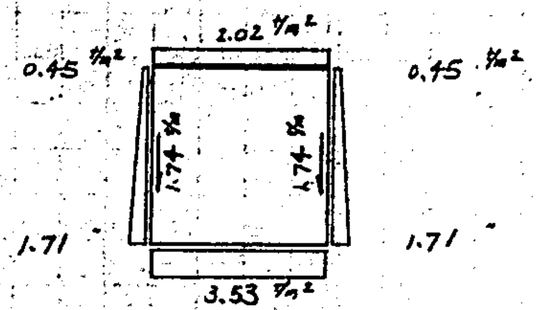


4.5 Loading condition

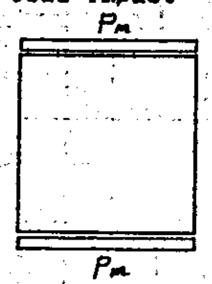
case1 Dead load + Earth pressure (0.5)



case2 Dead load + Earth pressure (0.3)



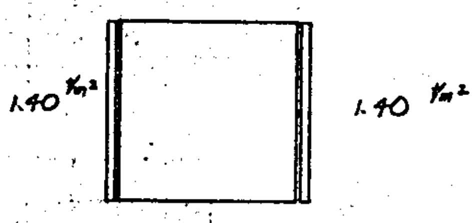
case3 Live load Impact



$P_m = 6.0 \times 1.54 = 9.24\ t/m^2$

$P_s = 7.2 \times 1.54 = 11.09$ 〃

case4 Earth pressure due to live load



Combination of loads

Case	Combination of loads
①	Dead load + Surcharge earth load + Earth pressure (K = 0.5)
②	Dead load + Surcharge earth load + Earth pressure (K = 0.3)
③	live load + Impact
④	live load, Earth pressure

Difine	Case
$\boxed{1}$	① ②
$\boxed{2}$	③
$\boxed{3}$	④

Combine	Difine	Coefficient of increased load
	$\boxed{1}$	1.00
	$\boxed{1}$ + $\boxed{2}$	1.00
	$\boxed{1}$ + $\boxed{3}$	1.00
	$\boxed{1}$ + $\boxed{2}$ + $\boxed{3}$	1.00

Pick up	Combine	
1	1, 2, 3, 4	

BASIC DATA

NUMBER OF JOINTS	=	4
NUMBER OF MEMBERS	=	4
NUMBER OF SUPPORTS	=	2
NUMBER OF FRAME TYPE	=	1
NUMBER OF LOADS TYPE	=	4
NUMBER OF LOADS	=	4
NUMBER OF ALPH LOADS	=	0
NUMBER OF DEFINE	=	3
NUMBER OF COMB.LOADS	=	4
MODULE OF L. E.	=	1.000E-05

JOINT COORDINATES

JOINT NO.	X	Y
1	0.000	2.325
2	2.300	2.325
3	0.000	0.000
4	2.300	0.000

MEMBER INCI. & PROPER.

MEMB. NO.	I	J	A	I
1	1 ,	2	0.30000	0.002250
2	3 ,	4	0.35000	0.003570
3	1 ,	3	0.30000	0.002250
4	2 ,	4	0.30000	0.002250

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FRAME TYPE 1

ELASTICITY & SPRING

MEMB. NO.	E	SPRING
1	2.700E+06	0.0
2	2.700E+06	0.0
3	2.700E+06	0.0
4	2.700E+06	0.0

JOINT SUPPORTS

JOINT NO.	X	Y	M
3	1	1	0
4	0	1	0

VIEW POINTS

MEMB. NO.	N	L1	L2	L3	L4	L5	L6	L7	L8	L9
1	6	0.150	0.200	0.350	0.400	0.650	1.150			
2	4	0.150	0.300	0.650	1.150					
3	9	0.150	0.200	0.350	0.400	0.900	1.200	1.500	2.000	2.150

LOAD DATA

MEMBER LOAD

MEMB. NO	MARK	L1	L2	P1	P2	(V,H)
CASE - 1						
1	2	0.000	0.000	2.020	2.020	
2	2	0.000	0.000	-3.530	-3.530	
3	2	0.000	0.000	-0.760	-2.850	
4	2	0.000	0.000	0.760	2.850	
3	6	0.000	0.000	0.750	0.750	
4	6	0.000	0.000	0.750	0.750	
CASE - 2						
1	2	0.000	0.000	2.020	2.020	
2	2	0.000	0.000	-3.530	-3.530	
3	2	0.000	0.000	-0.450	-1.710	
4	2	0.000	0.000	0.450	1.710	
3	6	0.000	0.000	0.750	0.750	
4	6	0.000	0.000	0.750	0.750	
CASE - 3						
1	2	0.000	0.000	9.240	9.240	
2	2	0.000	0.000	-9.240	-9.240	
1	12	SHEAR	(S/M) ...	1.20000		
2	12	SHEAR	(S/M) ...	1.20000		
CASE - 4						
3	2	0.000	0.000	-1.400	-1.400	
4	2	0.000	0.000	1.400	1.400	

JOINT LOAD

JOINT NO.	FORCE X	FORCE Y	MOMENT M

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USED FRAME TYPE

CASE NO.	LOADS TYPE	USED-FRAME
1	1	1
2	2	1
3	3	1
4	4	1

DEFINE CASE

DEF.NO	N	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
1	2	1	2								
2	1	3									
3	1	4									

COMBINE CASE

CASE NO.	ALPHA	N	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13
1	1.0000	1	1												
2	1.0000	2	1	2											
3	1.0000	2	1	3											
4	1.0000	3	1	2	3										

PICK UP

TABLE NO. 1 COMBINE CASE

N	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13
4	1	2	3	4									

REACTION

JT.NO.	X	Y	MOMENT
LOAD - 1 CASE 1			
3	-0.000	0.007	0.000
4	0.000	0.007	0.000
LOAD - 3 CASE 3			
3	0.000	0.000	0.000
4	0.000	0.000	0.000

REACTION

JT.NO	X	Y	MOMENT
LOAD - 2 CASE 2			
3	0.000	0.007	0.000
4	0.000	0.007	0.000
LOAD - 4 CASE 4			
3	-0.000	-0.000	0.000
4	0.000	-0.000	0.000

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DEFLECTION

JT.NO.	X-DISP. (MM)	Y-DISP. (MM)	ROTATION (R/1000)
LOAD - 1 CASE 1			
1	-0.001146	-0.009170	0.024222
2	-0.005411	-0.009170	-0.024222
3	0.000000	0.000000	-0.041586
4	-0.006558	0.000000	0.041586
LOAD - 3 CASE 3			
1	0.000830	-0.030500	0.364570
2	-0.000063	-0.030500	-0.364570
3	0.000000	0.000000	-0.317143
4	0.000766	0.000000	0.317143

DEFLECTION

JT.NO.	X-DISP. (MM)	Y-DISP. (MM)	ROTATION (R/1000)
LOAD - 2 CASE 2			
1	-0.000803	-0.009170	0.051656
2	-0.003228	-0.009170	-0.051656
3	0.000000	0.000000	-0.068402
4	-0.004032	0.000000	0.068402
LOAD - 4 CASE 4			
1	0.000200	0.000000	-0.056333
2	-0.004281	0.000000	0.056333
3	0.000000	0.000000	0.049188
4	-0.004081	0.000000	-0.049188

****
COMBINE 1
****

	DIST.	MOMENT MAXIMUM M	S	N	CASE	MOMENT MINIMUM M	S	N	CASE
MEMBER 1 (1 - 2)									
I TAN	0.000	-0.617	2.323	-0.854	(2)	-0.762	2.322	-1.501	(1)
1	0.150	-0.291	2.020	-0.854	(2)	-0.436	2.019	-1.501	(1)
2	0.200	-0.193	1.919	-0.854	(2)	-0.338	1.918	-1.501	(1)
3	0.350	0.071	1.616	-0.854	(2)	-0.073	1.615	-1.501	(1)
4	0.400	0.149	1.515	-0.854	(2)	0.005	1.514	-1.501	(1)
5	0.650	0.465	1.010	-0.854	(2)	0.320	1.009	-1.501	(1)
6	1.150	0.718	0.000	-0.854	(2)	0.573	-0.000	-1.501	(1)
J TAN	2.300	-0.617	-2.323	-0.854	(2)	-0.762	-2.323	-1.501	(1)
MEMBER 2 (3 - 4)									
I TAN	0.000	1.207	-4.059	-2.694	(1)	0.982	-4.059	-1.656	(2)
1	0.150	0.638	-3.530	-2.694	(1)	0.413	-3.530	-1.656	(2)
2	0.300	0.148	-3.000	-2.694	(1)	-0.076	-3.000	-1.656	(2)
3	0.650	-0.685	-1.765	-2.694	(1)	-0.910	-1.765	-1.656	(2)
4	1.150	-1.126	-0.000	-2.694	(1)	-1.351	0.000	-1.656	(2)
J TAN	2.300	1.207	4.059	-2.694	(1)	0.982	4.059	-1.656	(2)
MEMBER 3 (1 - 3)									
I TAN	0.000	0.762	-1.501	-2.322	(1)	0.617	-0.854	-2.323	(2)
1	0.150	0.546	-1.377	-2.435	(1)	0.494	-0.780	-2.435	(2)
2	0.200	0.478	-1.331	-2.472	(1)	0.456	-0.753	-2.473	(2)
3	0.350	0.350	-0.663	-2.585	(2)	0.289	-1.180	-2.585	(1)
4	0.400	0.317	-0.630	-2.623	(2)	0.232	-1.126	-2.622	(1)
5	0.900	0.096	-0.229	-2.998	(2)	-0.172	-0.453	-2.997	(1)
6	1.200	0.072	0.075	-3.223	(2)	-0.233	0.057	-3.222	(1)
7	1.500	0.147	0.430	-3.448	(2)	-0.129	0.649	-3.447	(1)
8	2.000	0.531	1.129	-3.823	(2)	0.477	1.815	-3.822	(1)
9	2.150	0.773	2.209	-3.935	(1)	0.718	1.363	-3.935	(2)
J TAN	2.325	1.207	2.694	-4.066	(1)	0.982	1.656	-4.066	(2)
MEMBER 4 (2 - 4)									
I TAN	0.000	-0.617	0.854	-2.323	(2)	-0.762	1.501	-2.323	(1)
J TAN	2.325	-0.982	-1.656	-4.066	(2)	-1.207	-2.694	-4.066	(1)

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****
COMBINE 1
****

SHEAR MAXIMUM / SHEAR MINIMUM

	DIST.	M (max)	S (max)	N (max)	CASE (max)	M (min)	S (min)	N (min)	CASE (min)
MEMBER 1 (1 - 2)									
I TAN	0.000	-0.617	2.323	-0.854	(2)	-0.762	2.322	-1.501	(1)
1	0.150	-0.291	2.020	-0.854	(2)	-0.436	2.019	-1.501	(1)
2	0.200	-0.193	1.919	-0.854	(2)	-0.338	1.918	-1.501	(1)
3	0.350	0.071	1.616	-0.854	(2)	-0.073	1.615	-1.501	(1)
4	0.400	0.149	1.515	-0.854	(2)	0.005	1.514	-1.501	(1)
5	0.650	0.465	1.010	-0.854	(2)	0.320	1.009	-1.501	(1)
6	1.150	0.718	0.000	-0.854	(2)	0.573	-0.000	-1.501	(1)
J TAN	2.300	-0.617	-2.323	-0.854	(2)	-0.762	-2.323	-1.501	(1)
MEMBER 2 (3 - 4)									
I TAN	0.000	0.982	-4.059	-1.656	(2)	1.207	-4.059	-2.694	(1)
1	0.150	0.413	-3.530	-1.656	(2)	0.638	-3.530	-2.694	(1)
2	0.300	-0.076	-3.000	-1.656	(2)	0.148	-3.000	-2.694	(1)
3	0.650	-0.910	-1.765	-1.656	(2)	-0.685	-1.765	-2.694	(1)
4	1.150	-1.351	0.000	-1.656	(2)	-1.126	-0.000	-2.694	(1)
J TAN	2.300	0.982	4.059	-1.656	(2)	1.207	4.059	-2.694	(1)
MEMBER 3 (1 - 3)									
I TAN	0.000	0.617	-0.854	-2.323	(2)	0.762	-1.501	-2.322	(1)
1	0.150	0.494	-0.780	-2.435	(2)	0.546	-1.377	-2.435	(1)
2	0.200	0.456	-0.753	-2.473	(2)	0.478	-1.331	-2.472	(1)
3	0.350	0.350	-0.663	-2.585	(2)	0.289	-1.180	-2.585	(1)
4	0.400	0.317	-0.630	-2.623	(2)	0.232	-1.126	-2.622	(1)
5	0.900	0.096	-0.229	-2.998	(2)	-0.172	-0.453	-2.997	(1)
6	1.200	0.072	0.075	-3.223	(2)	-0.233	0.057	-3.222	(1)
7	1.500	-0.129	0.649	-3.447	(1)	0.147	0.430	-3.448	(2)
8	2.000	0.477	1.815	-3.822	(1)	0.531	1.129	-3.823	(2)
9	2.150	0.778	2.209	-3.935	(1)	0.718	1.365	-3.935	(2)
J TAN	2.325	1.207	2.694	-4.066	(1)	0.982	1.656	-4.066	(2)
MEMBER 4 (2 - 4)									
I TAN	0.000	-0.762	1.501	-2.323	(1)	-0.617	0.854	-2.323	(2)
J TAN	2.325	-0.982	-1.656	-4.066	(2)	-1.207	-2.694	-4.066	(1)

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****
COMBINE 1
****

AXIAL MAXIMUM / AXIAL MINIMUM

	DIST.	M (max)	S (max)	N (max)	CASE (max)	M (min)	S (min)	N (min)	CASE (min)
MEMBER 1 (1 - 2)									
I TAN	0.000	-0.617	2.323	-0.854	(2)	-0.762	2.322	-1.501	(1)
1	0.150	-0.291	2.020	-0.854	(2)	-0.436	2.019	-1.501	(1)
2	0.200	-0.193	1.919	-0.854	(2)	-0.338	1.918	-1.501	(1)
3	0.350	0.071	1.616	-0.854	(2)	-0.073	1.615	-1.501	(1)
4	0.400	0.149	1.515	-0.854	(2)	0.005	1.514	-1.501	(1)
5	0.650	0.465	1.010	-0.854	(2)	0.320	1.009	-1.501	(1)
6	1.150	0.718	0.000	-0.854	(2)	0.573	-0.000	-1.501	(1)
J TAN	2.300	-0.617	-2.323	-0.854	(2)	-0.762	-2.323	-1.501	(1)
MEMBER 2 (3 - 4)									
I TAN	0.000	0.982	-4.059	-1.656	(2)	1.207	-4.059	-2.694	(1)
1	0.150	0.413	-3.530	-1.656	(2)	0.633	-3.530	-2.694	(1)
2	0.300	-0.076	-3.000	-1.656	(2)	0.148	-3.000	-2.694	(1)
3	0.630	-0.910	-1.765	-1.656	(2)	-0.685	-1.765	-2.694	(1)
4	1.150	-1.351	0.000	-1.656	(2)	-1.126	-0.000	-2.694	(1)
J TAN	2.300	0.982	4.059	-1.656	(2)	1.207	4.059	-2.694	(1)
MEMBER 3 (1 - 3)									
I TAN	0.000	0.762	-1.501	-2.322	(1)	0.617	-0.854	-2.323	(2)
1	0.150	0.546	-1.377	-2.435	(1)	0.494	-0.780	-2.435	(2)
2	0.200	0.478	-1.331	-2.472	(1)	0.456	-0.753	-2.473	(2)
3	0.350	0.289	-1.180	-2.585	(1)	0.350	-0.663	-2.585	(2)
4	0.400	0.232	-1.126	-2.622	(1)	0.317	-0.630	-2.623	(2)
5	0.900	-0.172	-0.453	-2.997	(1)	0.096	-0.229	-2.998	(2)
6	1.200	-0.233	0.057	-3.222	(1)	0.072	0.075	-3.223	(2)
7	1.500	-0.129	0.649	-3.447	(1)	0.147	0.430	-3.448	(2)
8	2.000	0.477	1.815	-3.822	(1)	0.531	1.129	-3.823	(2)
9	2.150	0.778	2.209	-3.935	(1)	0.718	1.363	-3.935	(2)
J TAN	2.325	1.207	2.694	-4.066	(1)	0.982	1.656	-4.066	(2)
MEMBER 4 (2 - 4)									
I TAN	0.000	-0.617	0.854	-2.323	(2)	-0.617	0.854	-2.323	(2)
J TAN	2.325	-0.982	-1.656	-4.066	(2)	-0.982	-1.656	-4.066	(2)

****
PICK UP 1
****

MOMENT MAXIMUM / MOMENT MINIMUM

	DIST.	M (max)	S (max)	N (max)	CASE (max)	M (min)	S (min)	N (min)	CASE (min)
MEMBER 1 (1 - 2)									
I TAN	0.000	-0.617	2.323	-0.854	(1; 2)	-3.207	15.074	-3.395	(4; 1 3 4)
1	0.150	-0.291	2.020	-0.854	(1; 2)	-1.391	13.108	-3.395	(4; 1 3 4)
2	0.200	-0.193	1.919	-0.854	(1; 2)	-0.842	12.452	-3.395	(4; 1 3 4)
3	0.350	1.077	10.486	-1.169	(2; 2 3)	-0.370	1.615	-3.080	(3; 1 4)
4	0.400	1.513	9.831	-1.169	(2; 2 3)	-0.292	1.514	-3.080	(3; 1 4)
5	0.650	3.273	6.554	-1.169	(2; 2 3)	0.023	1.009	-3.080	(3; 1 4)
6	1.150	4.680	0.000	-1.169	(2; 2 3)	0.275	-0.000	-3.080	(3; 1 4)
J TAN	2.300	-0.617	-2.323	-0.854	(1; 2)	-3.207	-15.074	-3.395	(4; 1 3 4)
MEMBER 2 (3 - 4)									
I TAN	0.000	3.034	-16.810	-4.056	(4; 1 3 4)	0.982	-4.059	-1.656	(1; 2)
1	0.150	1.050	-3.530	-4.371	(3; 1 4)	0.338	-14.618	-1.341	(2; 2 3)
2	0.300	0.560	-3.000	-4.371	(3; 1 4)	-1.433	-12.425	-1.341	(2; 2 3)
3	0.650	-0.273	-1.765	-4.371	(3; 1 4)	-4.450	-7.309	-1.341	(2; 2 3)
4	1.150	-0.714	-0.000	-4.371	(3; 1 4)	-6.046	0.000	-1.341	(2; 2 3)
J TAN	2.300	3.034	16.810	-4.056	(4; 1 3 4)	0.982	4.059	-1.656	(1; 2)
MEMBER 3 (1 - 3)									
I TAN	0.000	3.207	-3.395	-12.949	(4; 1 3 4)	0.617	-0.854	-2.323	(1; 2)
1	0.150	2.723	-3.060	-13.061	(4; 1 3 4)	0.494	-0.780	-2.435	(1; 2)
2	0.200	2.572	-2.945	-13.099	(4; 1 3 4)	0.456	-0.753	-2.473	(1; 2)
3	0.350	2.387	-0.978	-13.211	(2; 2 3)	0.120	-2.269	-2.585	(3; 1 4)
4	0.400	2.339	-0.945	-13.249	(2; 2 3)	0.010	-2.144	-2.622	(3; 1 4)
5	0.900	1.960	-0.544	-13.624	(2; 2 3)	-0.727	-0.772	-2.997	(3; 1 4)
6	1.200	1.841	-0.239	-13.849	(2; 2 3)	-0.821	0.159	-3.222	(3; 1 4)
7	1.500	1.822	0.115	-14.074	(2; 2 3)	-0.624	1.171	-3.447	(3; 1 4)
8	2.000	2.049	0.814	-14.449	(2; 2 3)	0.418	3.037	-3.822	(3; 1 4)
9	2.150	2.389	3.326	-14.561	(4; 1 3 4)	0.718	1.365	-3.935	(1; 2)
J TAN	2.325	3.034	4.056	-14.692	(4; 1 3 4)	0.982	1.656	-4.066	(1; 2)
MEMBER 4 (2 - 4)									
I TAN	0.000	-0.617	0.854	-[illegible].323	(1; 2)	-3.207	3.395	-12.949	(4; 1 3 4)
J TAN	2.325	-0.982	-1.656	-4.066	(1; 2)	-3.034	-4.056	-14.692	(4; 1 3 4)

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****
PICK UP 1
****

	DIST.	SHEAR MAXIMUM M	S	N	CASE	SHEAR MINIMUM M	S	N	CASE
MEMBER 1 (1 - 2)									
I TAN	0.000	-3.062	15.074	-2.747	(4; 2 3 4)	-1.060	2.322	-3.080	(3; 1 4)
1	0.150	-1.246	13.108	-2.747	(4; 2 3 4)	-0.734	2.019	-3.080	(3; 1 4)
2	0.200	-0.698	12.452	-2.747	(4; 2 3 4)	-0.635	1.918	-3.080	(3; 1 4)
3	0.350	0.779	10.486	-2.747	(4; 2 3 4)	-0.370	1.615	-3.080	(3; 1 4)
4	0.400	1.216	* 9.831	-2.747	(4; 2 3 4)	-0.292	1.514	-3.080	(3; 1 4)
5	0.650	2.975	6.554	-2.747	(4; 2 3 4)	0.023	1.009	-3.080	(3; 1 4)
6	1.150	4.680	0.000	-1.169	(2; 2 3)	4.238	-0.000	-3.395	(4; 1 3 4)
J TAN	2.300	-0.915	-2.323	-2.432	(3; 2 4)	-3.207	-15.074	-3.395	(4; 1 3 4)
MEMBER 2 (3 - 4)									
I TAN	0.000	1.395	-4.059	-3.333	(3; 2 4)	3.034	-16.810	-4.056	(4; 1 3 4)
1	0.150	0.823	-3.530	-3.333	(3; 2 4)	0.973	-14.618	-4.056	(4; 1 3 4)
2	0.300	0.336	-3.000	-3.333	(3; 2 4)	-0.796	*-12.425	-4.056	(4; 1 3 4)
3	0.650	-0.497	-1.765	-3.333	(3; 2 4)	-3.812	-7.309	-4.056	(4; 1 3 4)
4	1.150	-6.046	0.000	-1.341	(2; 2 3)	-5.409	-0.000	-4.056	(4; 1 3 4)
J TAN	2.300	2.810	16.810	-3.018	(4; 2 3 4)	1.619	4.059	-4.371	(3; 1 4)
MEMBER 3 (1 - 3)									
I TAN	0.000	0.617	-0.854	-2.323	(1; 2)	3.207	-3.395	-12.949	(4; 1 3 4)
1	0.150	0.494	-0.780	-2.435	(1; 2)	2.723	-3.060	-13.061	(4; 1 3 4)
2	0.200	0.456	-0.753	-2.473	(1; 2)	2.572	-2.945	-13.099	(4; 1 3 4)
3	0.350	0.350	-0.663	-2.585	(1; 2)	2.157	-2.584	-13.211	(4; 1 3 4)
4	0.400	0.317	-0.630	-2.623	(1; 2)	2.031	*-2.459	-13.249	(4; 1 3 4)
5	0.900	0.096	-0.229	-2.998	(1; 2)	1.135	-1.087	-13.624	(4; 1 3 4)
6	1.200	-0.515	0.177	-3.222	(3; 2 4)	1.535	-0.257	-13.849	(2; 1 3)
7	1.500	-0.624	1.171	-3.447	(3; 1 4)	1.822	0.115	-14.074	(2; 2 3)
8	2.000	0.418	* 3.037	-3.822	(3; 1 4)	2.049	0.814	-14.449	(2; 2 3)
9	2.150	0.919	3.641	-3.935	(3; 1 4)	2.188	1.050	-14.561	(2; 2 3)
J TAN	2.325	1.619	4.371	-4.066	(3; 1 4)	2.397	1.341	-14.692	(2; 2 3)
MEMBER 4 (2 - 4)									
I TAN	0.000	-3.207	3.395	-12.949	(4; 1 3 4)	-0.617	0.854	-2.323	(1; 2)
J TAN	2.325	-2.397	-1.341	-14.692	(2; 2 3)	-1.619	-4.371	-4.066	(3; 1 4)

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****
PICK UP 1
****

AXIAL MAXIMUM / AXIAL MINIMUM

	DIST.	M (max)	S (max)	N (max)	CASE (max)	M (min)	S (min)	N (min)	CASE (min)
MEMBER 1 (1 - 2)									
I TAN	0.000	-0.617	2.323	-0.854	(1; 2)	-3.207	15.074	-3.395	(4; 1 3 4)
1	0.150	-0.291	2.020	-0.854	(1; 2)	-1.391	13.108	-3.395	(4; 1 3 4)
2	0.200	-0.193	1.919	-0.854	(1; 2)	-0.842	12.452	-3.395	(4; 1 3 4)
3	0.350	0.071	1.616	-0.854	(1; 2)	0.634	10.486	-3.395	(4; 1 3 4)
4	0.400	0.149	1.515	-0.854	(1; 2)	1.071	9.830	-3.395	(4; 1 3 4)
5	0.650	0.465	1.010	-0.854	(1; 2)	2.830	6.553	-3.395	(4; 1 3 4)
6	1.150	0.718	0.000	-0.854	(1; 2)	4.238	-0.000	-3.395	(4; 1 3 4)
J TAN	2.300	-0.617	-2.323	-0.854	(1; 2)	-3.207	-15.074	-3.395	(4; 1 3 4)
MEMBER 2 (3 - 4)									
I TAN	0.000	2.397	-16.810	-1.341	(2; 2 3)	1.619	-4.059	-4.371	(3; 1 4)
1	0.150	0.338	-14.618	-1.341	(2; 2 3)	1.050	-3.530	-4.371	(3; 1 4)
2	0.300	-1.433	-12.425	-1.341	(2; 2 3)	0.560	-3.000	-4.371	(3; 1 4)
3	0.650	-4.450	-7.309	-1.341	(2; 2 3)	-0.273	-1.763	-4.371	(3; 1 4)
4	1.150	-6.046	0.000	-1.341	(2; 2 3)	-0.714	-0.000	-4.371	(3; 1 4)
J TAN	2.300	2.397	16.810	-1.341	(2; 2 3)	1.619	4.059	-4.371	(3; 1 4)
MEMBER 3 (1 - 3)									
I TAN	0.000	1.060	-3.080	-2.322	(3; 1 4)	3.062	-2.747	-12.949	(4; 2 3 4)
1	0.150	0.622	-2.746	-2.435	(3; 1 4)	2.671	-2.463	-13.061	(4; 2 3 4)
2	0.200	0.488	-2.630	-2.472	(3; 1 4)	2.550	-2.366	-13.099	(4; 2 3 4)
3	0.350	0.120	-2.269	-2.585	(3; 1 4)	2.218	-2.066	-13.211	(4; 2 3 4)
4	0.400	0.010	-2.144	-2.622	(3; 1 4)	2.117	-1.964	-13.249	(4; 2 3 4)
5	0.900	-0.727	-0.772	-2.997	(3; 1 4)	1.405	-0.862	-13.624	(4; 2 3 4)
6	1.200	-0.821	0.159	-3.222	(3; 1 4)	1.253	-0.137	-13.849	(4; 2 3 4)
7	1.500	-0.624	1.171	-3.447	(3; 1 4)	1.327	0.637	-14.074	(4; 2 3 4)
8	2.000	0.418	3.037	-3.822	(3; 1 4)	1.990	2.036	-14.449	(4; 2 3 4)
9	2.150	0.919	3.641	-3.935	(3; 1 4)	2.329	2.482	-14.561	(4; 2 3 4)
J TAN	2.325	1.619	4.371	-4.066	(3; 1 4)	2.810	3.018	-14.692	(4; 2 3 4)
MEMBER 4 (2 - 4)									
I TAN	0.000	-0.915	2.432	-2.323	(3; 2 4)	-3.062	2.747	-12.949	(4; 2 3 4)
J TAN	2.325	-1.395	-3.333	-4.066	(3; 2 4)	-2.810	-3.018	-14.692	(4; 2 3 4)

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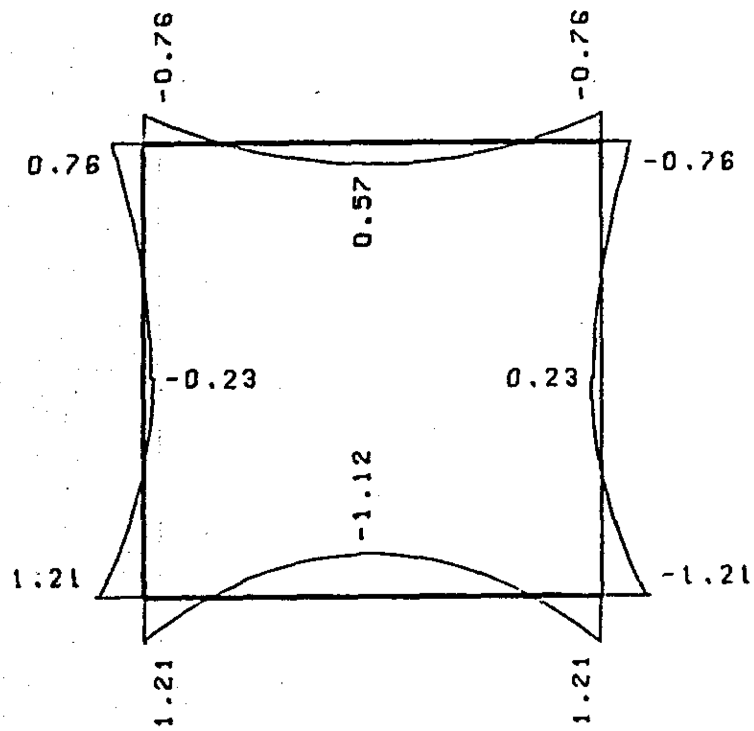
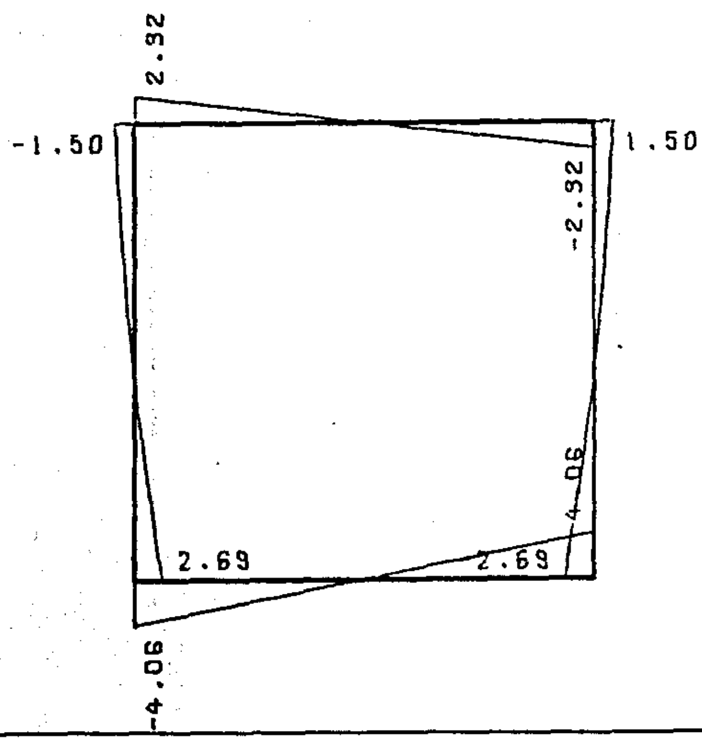
CASE 1

BENDING MOMENT



SHEARING FORCE



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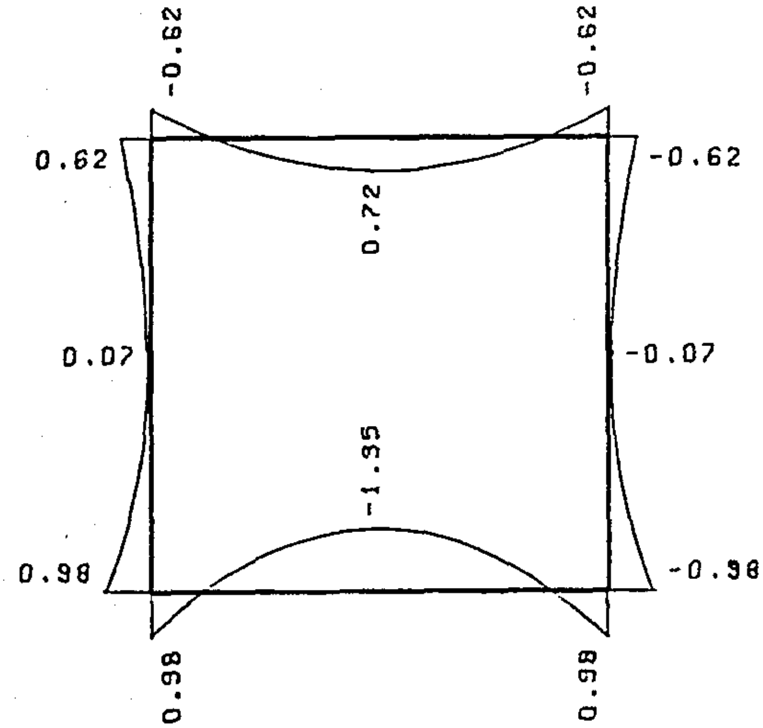
CASE 2

BENDING MOMENT



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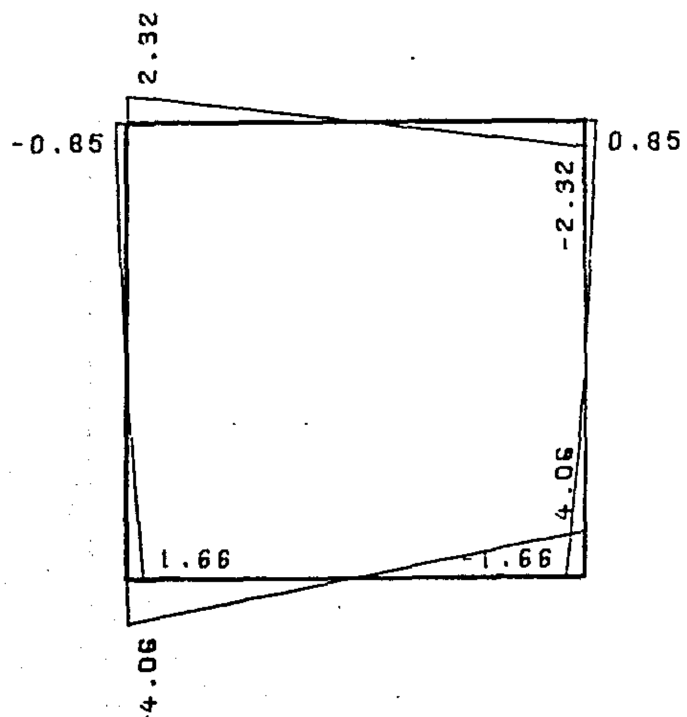

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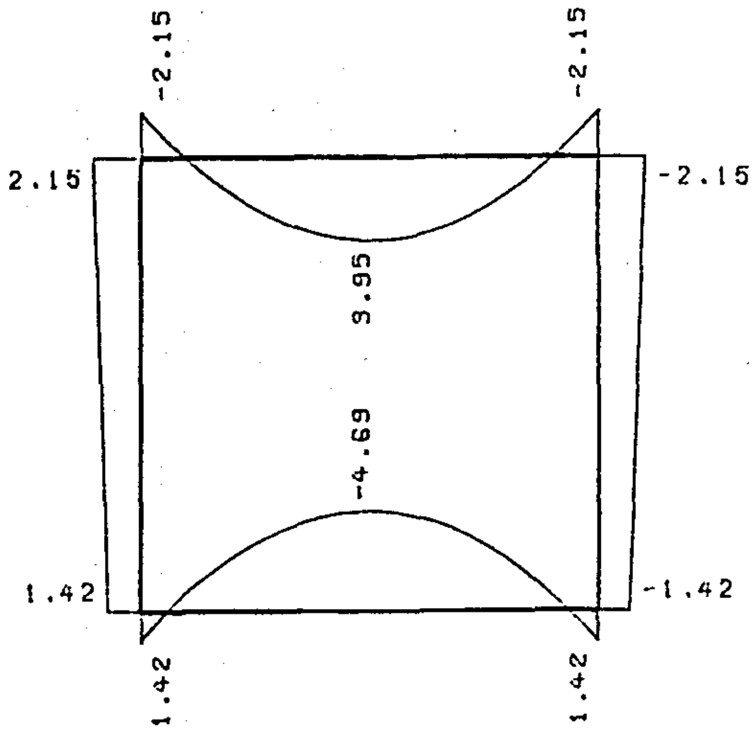
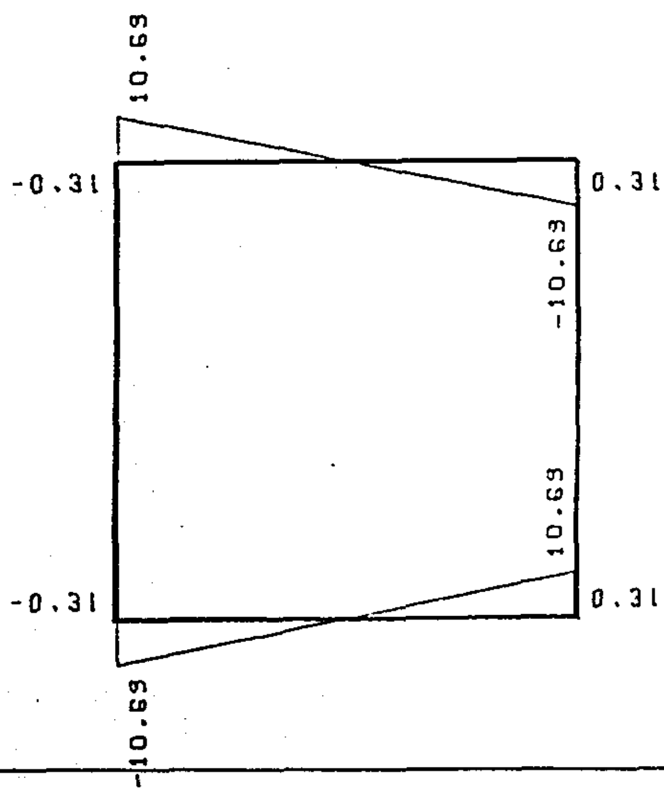
CASE 3

BENDING MOMENT



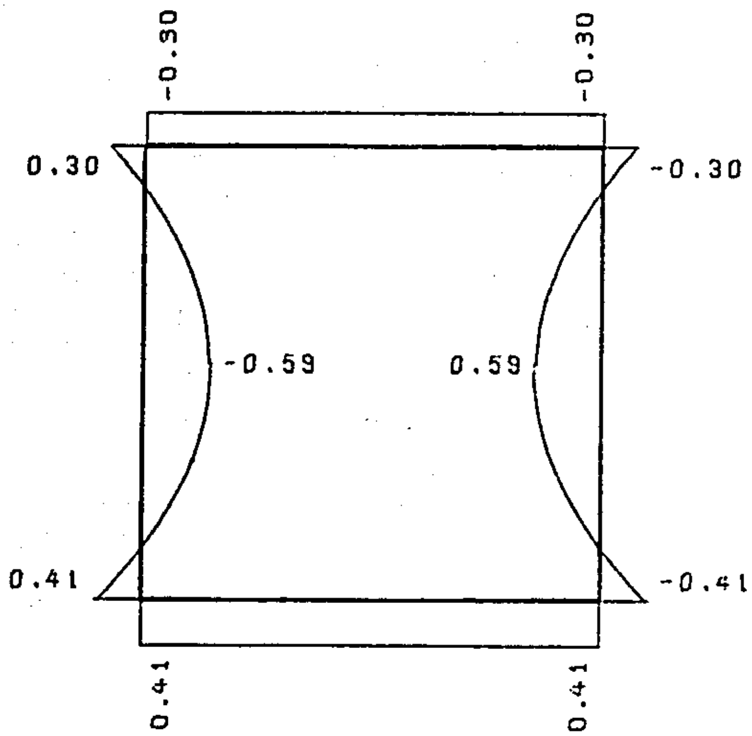
SHEARING FORCE



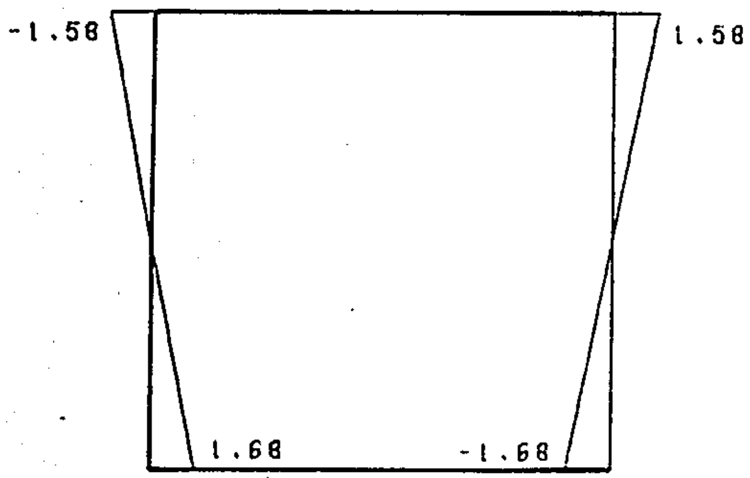
C-Ø6

CASE 4

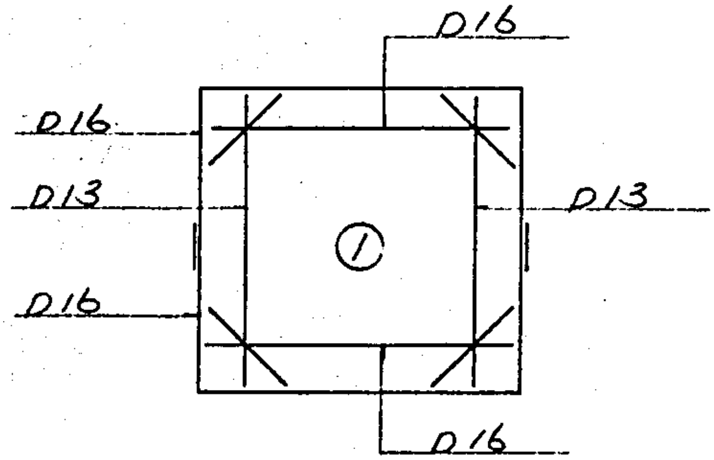
BENDING MOMENT

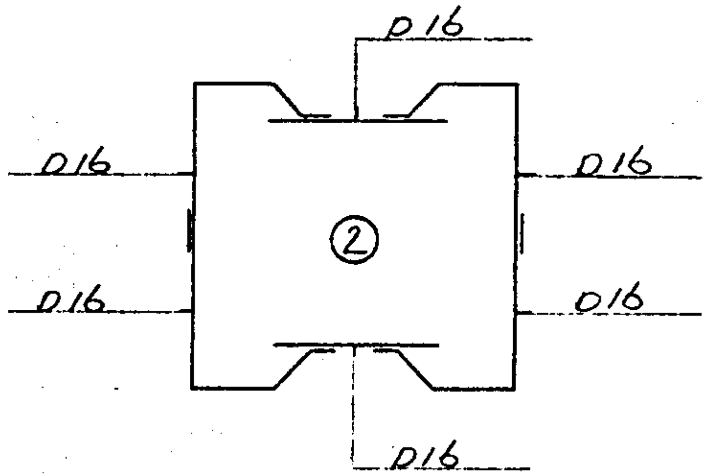


SHEARING FORCE



REINFORCEMENT FRAME





STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

	NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2	NO.(4) 3-4	NO.(5) 3-4
B (CM)	100.00	100.00	100.00	100.00	100.00
H (CM)	36.70	30.00	30.00	35.00	35.00
D (CM)	30.70	24.00	24.00	26.00	29.00
D' (CM)	0.00	6.00	6.00	0.00	9.00
D'' (CM)	6.00	6.00	6.00	9.00	6.00
	8.00 D-16	4.00 D-16	8.00 D-16	8.00 D-16	8.00 D-16
AS (CM2)	15.888	7.944	15.888	15.888	15.888
P	0.00517	0.00331	0.00662	0.00611	0.00547
		4.00 D-16	4.00 D-16		4.00 D-16
AS' (CM2)	0.000	7.944	7.944	0.000	7.944
P'	0.00000	0.00331	0.00331	0.00000	0.00273
M (T*M)	0.76	0.34	0.75	0.64	1.35
N (T)	1.50	1.50	0.85	2.69	1.66
S (T)	0.00	0.00	0.00	0.00	0.00
E0 (CM)	50.666	22.666	88.235	23.791	81.325
E (CM)	63.016	31.666	97.235	32.291	92.825
E' (CM)	32.316	13.666	79.235	6.291	72.825
E'/E	0.512	0.431	0.814	0.194	0.784
D'/D	0.000	0.250	0.250	0.000	0.310
D/E	0.487	0.757	0.246	0.805	0.312
N*E/B*D2	1.002	0.824	1.434	1.284	1.832
K		0.396	0.379		0.370
LC		0.185	0.178		0.166
C	0.173			0.213	
BETA	22.397			14.071	
SGM C(KG/CM2)	5.77	4.44	8.04	6.01	10.97
SGM S(KG/CM2)	129.29	101.56	197.52	84.65	279.89
TAU (KG/CM2)	0.00	0.00	0.00	0.00	0.00

C06 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(6) 1-3.2-4	NO.(7) 1-3.2-4	NO.(8) 1-3.2-4	NO.(9) 1-3.2-4
B	(CM)	100.00	100.00	100.00	100.00
H	(CM)	36.70	30.00	30.00	30.00
D	(CM)	30.70	24.00	24.00	24.00
D'	(CM)	0.00	6.00	6.00	0.00
D''	(CM)	6.00	6.00	6.00	6.00
		8.00 D-16	8.00 D-16	4.00 D-13	8.00 D-16
AS	(CM2)	15.888	15.888	5.068	15.888
P		0.00517	0.00662	0.00211	0.00662
			4.00 D-13	8.00 D-16	
AS'	(CM2)	0.000	5.068	15.888	0.000
P'		0.00000	0.00211	0.00662	0.00000
M	(T*M)	0.76	0.48	0.23	0.78
N	(T)	2.44	2.59	3.22	3.94
S	(T)	0.00	0.00	0.00	0.00
E0	(CM)	31.147	18.532	7.142	19.796
E	(CM)	43.497	27.532	16.142	28.796
E'	(CM)	12.797	9.532	-1.857	4.796
E'/E		0.294	0.346	-0.115	0.166
D'/D		0.000	0.250	0.250	0.000
D/E		0.705	0.871	1.486	0.833
N*E/B*D2		1.126	1.238	0.902	1.969
K			0.542	1.014	
LC			0.235	0.391	
C		0.193			0.220
BETA		17.772			12.857
SGM C	(KG/CM2)	5.80	5.26	2.30	8.91
SGM S	(KG/CM2)	103.19	66.46	-0.49	114.65
TAU	(KG/CM2)	0.00	0.00	0.00	0.00

C06 FATIGUE & REGISTING POWER

STRESS

SGM CA	=	0.000	(KG/M2)
SGM SA	=	0.000	(KG/M2)
TAU A	=	0.000	(KG/M2)

	NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2	NO.(4) 3-4	NO.(5) 3-4
B (CM)	100.00	100.00	100.00	100.00	100.00
H (CM)	36.70	30.00	30.00	35.00	35.00
D (CM)	30.70	24.00	24.00	26.00	29.00
D' (CM)	0.00	6.00	6.00	0.00	9.00
D'' (CM)	6.00	6.00	6.00	9.00	6.00
	8.00 D-16	4.00 D-16	8.00 D-16	8.00 D-16	8.00 D-16
AS (CM2)	15.888	7.944	15.888	15.888	15.888
P	0.00517	0.00331	0.00662	0.00611	0.00547
		4.00 D-16	4.00 D-16		4.00 D-16
AS' (CM2)	0.000	7.944	7.944	0.000	7.944
P'	0.00000	0.00331	0.00331	0.00000	0.00273
M (T*M)	3.21	0.84	4.68	1.05	6.05
N (T)	3.40	3.40	1.17	4.37	1.34
S (T)	0.00	0.00	0.00	0.00	0.00
E0 (CM)	94.411	24.705	400.000	24.027	451.492
E (CM)	106.761	33.705	409.000	32.527	462.992
E' (CM)	76.061	15.705	391.000	6.527	442.992
E'/E	0.712	0.465	0.955	0.200	0.956
D'/D	0.000	0.250	0.250	0.000	0.310
D/E	0.287	0.712	0.058	0.799	0.062
N*E/B*D2	3.851	1.989	8.307	2.102	7.377
K		0.382	0.353		0.336
LC		0.179	0.166		0.151
C	0.159			0.212	
BETA	26.252			14.192	
SGM C(KG/CM2)	24.10	11.08	49.78	9.87	48.65
SGM S(KG/CM2)	632.33	268.37	1365.37	140.17	1438.67
TAU (KG/CM2)	0.00	0.00	0.00	0.00	0.00

C06 FATIGUE & REGISTING POWER

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

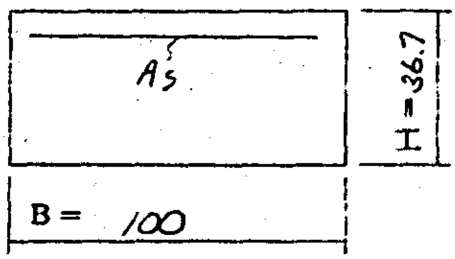
		NO.(6)	NO.(7)	NO.(8)	NO.(9)
		1-3.2-4	1-3.2-4	1-3.2-4	1-3.2-4
B	(CM)	100.00	100.00	100.00	100.00
H	(CM)	36.70	30.00	30.00	30.00
D	(CM)	30.70	24.00	24.00	24.00
D'	(CM)	0.00	6.00	6.00	0.00
D''	(CM)	6.00	6.00	6.00	6.00
		8.00 D-16	8.00 D-16	4.00 D-13	8.00 D-16
AS	(CM2)	15.888	15.888	5.068	15.888
P		0.00517	0.00662	0.00211	0.00662
			4.00 D-13	8.00 D-16	
AS'	(CM2)	0.000	5.068	15.888	0.000
P'		0.00000	0.00211	0.00662	0.00000
M	(T*M)	3.21	2.57	0.82	2.39
N	(T)	13.06	13.21	3.22	14.56
S	(T)	0.00	0.00	0.00	0.00
EO	(CM)	24.578	19.454	25.465	16.414
E	(CM)	36.928	28.454	34.465	25.414
E'	(CM)	6.228	10.454	16.465	1.414
E'/E		0.168	0.367	0.477	0.055
D'/D		0.000	0.250	0.250	0.000
D/E		0.831	0.843	0.696	0.944
N*E/B*D2		5.117	6.525	1.926	6.424
K			0.531	0.314	
LC			0.231	0.156	
C		0.208			0.235
BETA		14.907			10.615
SGM C	(KG/CM2)	24.50	28.21	12.34	27.26
SGM S	(KG/CM2)	365.27	372.95	403.29	289.39
TAU	(KG/CM2)	0.00	0.00	0.00	0.00

Stress calculation

Stress calculation of slab

1-2 (1) (for slab calculation)

Section



Standard strength for design $\sigma ck = 240$ kg / cm²

Re-bar SD30

AS = 15.89cm² (8 − D16)

AS' = 〃 (− D)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 0.76 tm	Mdℓi = 3.21 tm	M = 3.21 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 5.8 kg / cm² σs = 130 〃 τ = — 〃	σc = 24.1 kg / cm² σs = 630 〃 τ = — 〃	σc = 24.1 kg / cm² σs = 630 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1400 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{630 - 130}{630} = 0.79 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

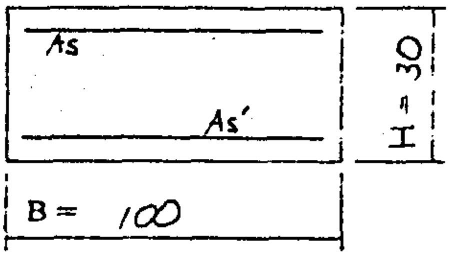
Span for fatigue analysis KS-16 $\ell = 2.30$m $\sigma rao = 1350$ kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 130 + (1 - 130 / 5000) \times 1350 = 1440 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1 − 2 (2)　　　　　　　　　　　　(for slab calculation)

Section	 Standard strength for design σck = 240 kg / ㎠ Re-bar SD30 AS = 7.94 ㎠ (4 − D16) AS′ = 7.94 〃 (4 − D16)		
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 0.34 tm	Mdℓi = 0.84 tm	M = 0.84 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 4.4 kg / ㎠ σs = 100 〃 τ = — 〃	σc = 11.1 kg / ㎠ σs = 270 〃 τ = — 〃	σc = 11.1 kg / ㎠ σs = 270 〃 τ = — 〃
Allowable stress	σca = 90kg / ㎠ σsa = 1000 〃 τa = — 〃	σca = 90kg / ㎠ σsa = 1420 〃 τa = — 〃	σca = 90kg / ㎠ σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{270 - 100}{270} = 0.63 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / ㎠,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / ㎠)

2. Allowable stress of re-bar in terms of fatigue

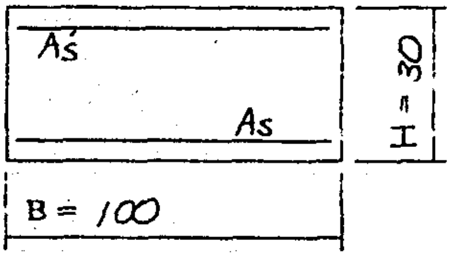
Span for fatigue analysis Ks-16　ℓ = 2.30m　σrao = 1350kg / ㎠

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 100 + (1 - 100 / 5000) \times 1350 = 1420 \text{ kg / ㎠}$$

Stress calculation

Stress calculation of slab

1-2 (3) (for slab calculation)

Section		Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 15.87 cm² (8-D16) AS' = 7.94 〃 (4-D16)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 0.75 tm	Mdℓi = 4.68 tm	M = 4.68 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 8.0 kg/cm² σs = 200 〃 τ = — 〃	σc = 49.8 kg/cm² σs = 1 370 〃 τ = — 〃	σc = 49.8 kg/cm² σs = 1370 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1 000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1 490 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1370 - 200}{1370} = 0.85 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis KS-16 $\ell = 2.30$m $\sigma rao = 1350$ kg/cm²

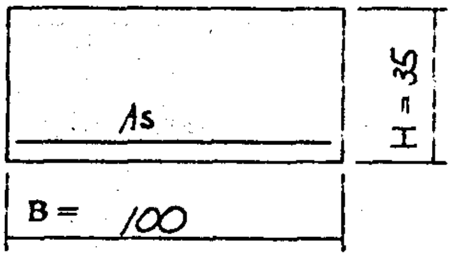
$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$

$= 200 + (1 - 200 / 5000) \times 1350 = 1490$ kg/cm²

Stress calculation

Stress calculation of slab

3-4 (4) (for slab calculation)

Section		Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 15.89 cm² (8 − D 16) AS′ = 〃 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 0.64 tm	Mdℓi = 1.05 tm	M = 1.05 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 6.0 kg/cm² σs = 80 〃 τ = — 〃	σc = 9.9 kg/cm² σs = 140 〃 τ = — 〃	σc = 9.9 kg/cm² σs = 140 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1,000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1,400 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{140-80}{140} = 0.43 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 $\ell = 2.30$ m $\sigma rao = 1350$ kg/cm²

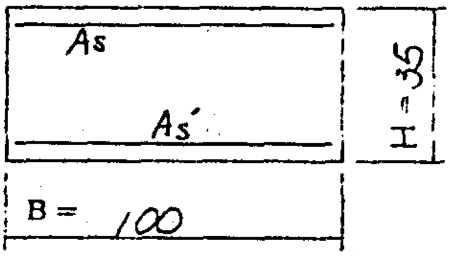
$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 80 + (1 - 80 / 5000) \times 1350 = 1400 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

3 - 4 (5) (for slab calculation)

Section		Standard strength for design σck = 240 kg / cm² Re-bar SD30 AS = 15.89 cm² (8 - D16) AS' = 7.94 〃 (4 - D16)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 1.35 tm	Mdℓi = 6.05 tm	M = 6.05 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 11.0 kg / cm² σs = 280 〃 τ = — 〃	σc = 48.7 kg / cm² σs = 1440 〃 τ = — 〃	σc = 48.7 kg / cm² σs = 1440 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1550 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1440 - 280}{1440} = 0.81 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 2.30m σrao = 1350kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 280 + (1 - 280 / 5000) \times 1350 = 1550 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (6) (for slab calculation)

Section	As, H = 36.7, B = 100	Standard strength for design σck = 240 kg/cm² Re-bar SD30 AS = 15.89 cm² (8 - D 16) AS' = 〃 (- D)	
	Analysis of cracking	Analysis of fatigue	Analysis of resisting power
Bending moment	Md = 0.76 tm	Mdℓi = 3.21 tm	M = 3.21 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 5.8 kg/cm² σs = 100 〃 τ = — 〃	σc = 24.5 kg/cm² σs = 370 〃 τ = — 〃	σc = 24.5 kg/cm² σs = 370 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1,000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1420 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{370-100}{370} = 0.73 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 2,325ᵐ σrao = 1350 kg/cm²

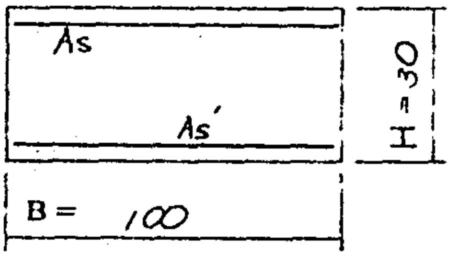
$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 100 + (1 - 100 / 5000) \times 1350 = 1420 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (7)

(for slab calculation)

Section		Standard strength for design $\sigma ck = 240\ kg/cm^2$ Re-bar SD30 $AS = 15.89\ cm^2$ (8-D16) $AS' = 5.07$ 〃 (4-D13)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	$Md = 0.48$ t m	$Md\ell i = 2.57$ t m	$M = 2.57$ t m
Shearing force	$Sd =$ — t	$Sd\ell i =$ — t	$S =$ — t
Stress	$\sigma c = 5.3\ kg/cm^2$ $\sigma s = 70$ 〃 $\tau =$ — 〃	$\sigma c = 28.2\ kg/cm^2$ $\sigma s = 370$ 〃 $\tau =$ — 〃	$\sigma c = 28.2\ kg/cm^2$ $\sigma s = 370$ 〃 $\tau =$ — 〃
Allowable stress	$\sigma ca = 90kg/cm^2$ $\sigma sa = 1000$ 〃 $\tau a =$ — 〃	$\sigma ca = 90kg/cm^2$ $\sigma sa = 1400$ 〃 $\tau a =$ — 〃	$\sigma ca = 90kg/cm^2$ $\sigma sa = 1800$ 〃 $\tau a =$ — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{370 - 70}{370} = 0.81 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000kg/cm^2$,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200kg/cm^2$)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 $\ell = 2.325^m$ $\sigma rao = 1350kg/cm^2$

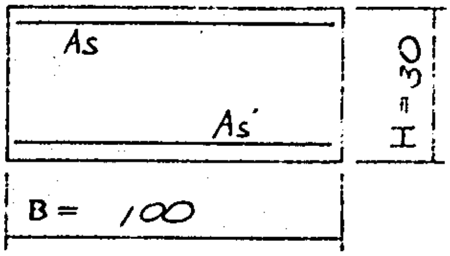
$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 70 + (1 - 70 / 5000) \times 1350 = 1400\ kg/cm^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (8) (for slab calculation)

Section		Standard strength for design σck = 240 kg / ㎠ Re-bar SD30 A S = 5.07 ㎠ (4 − D13) A S' = 15.89 〃 (8 − D16)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	M d = 0.23 t m	M d ℓ i = 0.82 t m	M = 0.82 t m
Shearing force	S d = — t	S d ℓ i = — t	S = — t
Stress	σ c = 2.30 kg / ㎠ σ s = — 〃 τ = — 〃	σ c = 12.3 kg / ㎠ σ s = 400 〃 τ = — 〃	σ c = 12.3 kg / ㎠ σ s = 400 〃 τ = — 〃
Allowable stress	σ ca = 90kg / ㎠ σ sa = 1,000 〃 τ a = — 〃	σ ca = 90kg / ㎠ σ sa = 1,350 〃 τ a = — 〃	σ ca = 90kg / ㎠ σ sa = 1800 〃 τ a = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{400 - 0}{400} = 1.0 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / ㎠,

$\alpha \leq 0.25 \rightarrow$ Static (σsa = 1200kg / ㎠)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 ℓ = 2.325m σrao = 1,350kg / ㎠

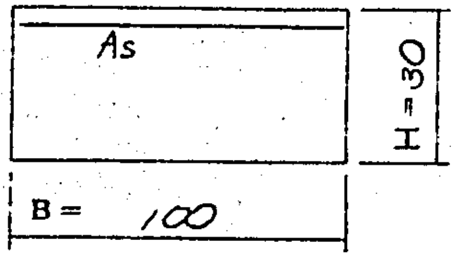
$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 0 + (1 - 0 / 5000) \times 1350 = 1,350 \text{ kg / ㎠}$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (9) (for slab calculation)

Section		Standard strength for design σck = 240 kg / cm² Re-bar SD30 AS = 15.89 cm² (8 − D 16) AS′ = 〃 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 0.78 tm	Mdℓi = 2.39 tm	M = 2.39 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 8.9 kg / cm² σs = 110 〃 τ = — 〃	σc = 27.3 kg / cm² σs = 290 〃 τ = — 〃	σc = 27.3 kg / cm² σs = 290 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1430 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{290-110}{290} = 0.62 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

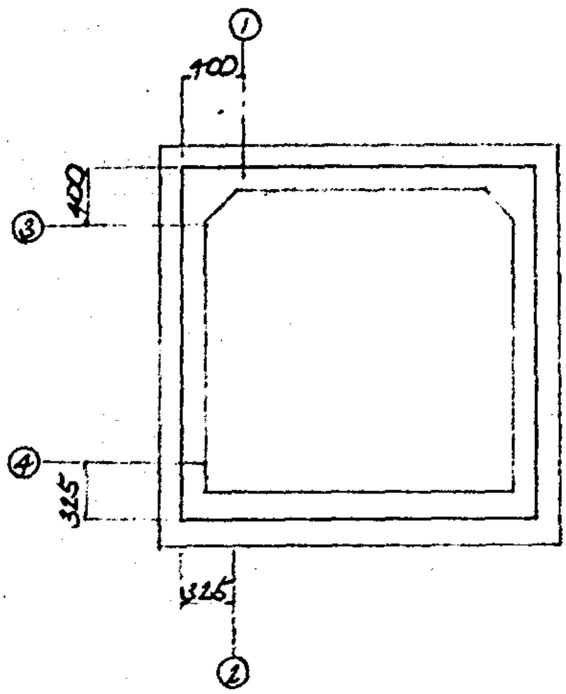
Span for fatigue analysis KS-16 ℓ = 2.325m σrao = 1350 kg / cm²

$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$

$= 110 + (1 - 110 / 5000) \times 1350 = 1430$ kg / cm²

Calculation of shearing force

Sections of calculation of shearing stress



$$\tau = \frac{S}{b \cdot d}$$

b = 100 cm

h = Thickness of member

d" = Thickness of concrete cover of tension bar

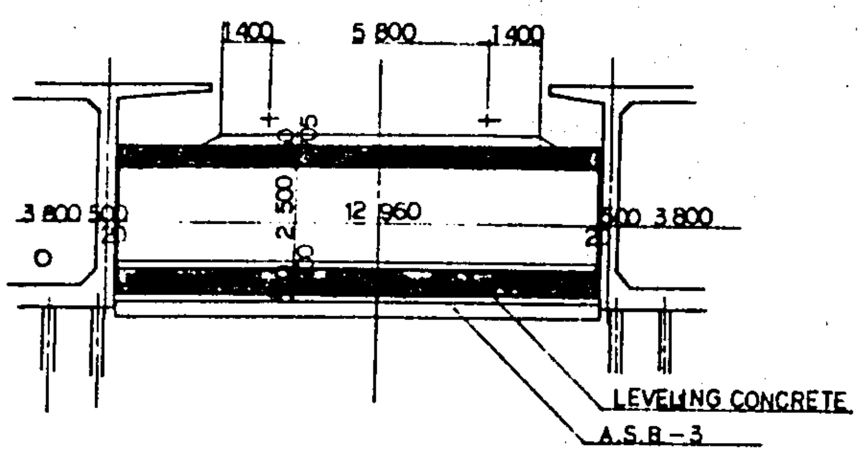
d = Effective height

Sections of calculation	cm h	cm d'	cm d = h-d	kg S	kg / cm² τ	% ρ	kg / cm² τ a
1	30	6	24	9830	4.1	0.33	5.5
2	35	9	26	12430	4.8	0.61	6.2
3	30	6	24	2460	1.0	0.66	6.2
4	30	6	24	3040	1.3	0.66	6.2

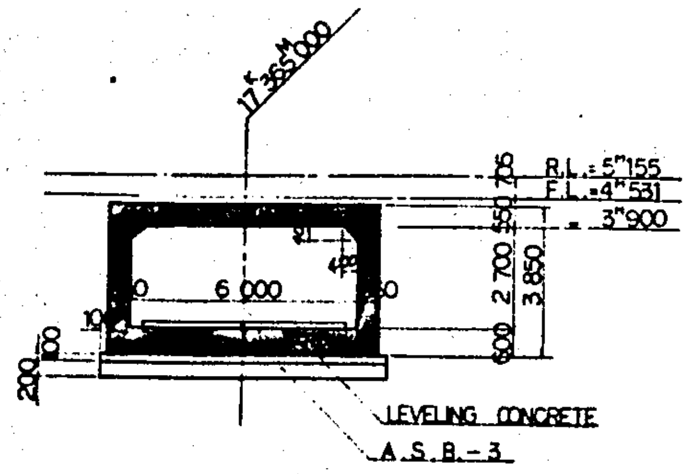
§ 3. Cb29 BOX CULVERT

($6^{m}.00$ x $2^{m}.70$)

1. Configuration



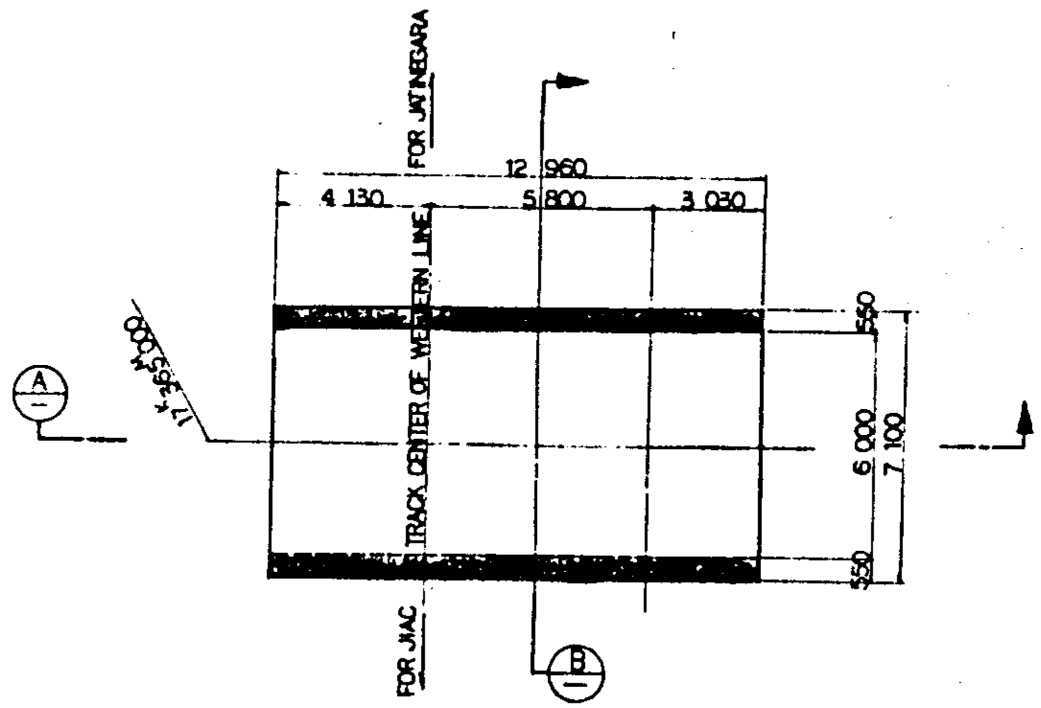
SECTION (A)
SCALE 1:100



SECTION (B)
SCALE 1:100

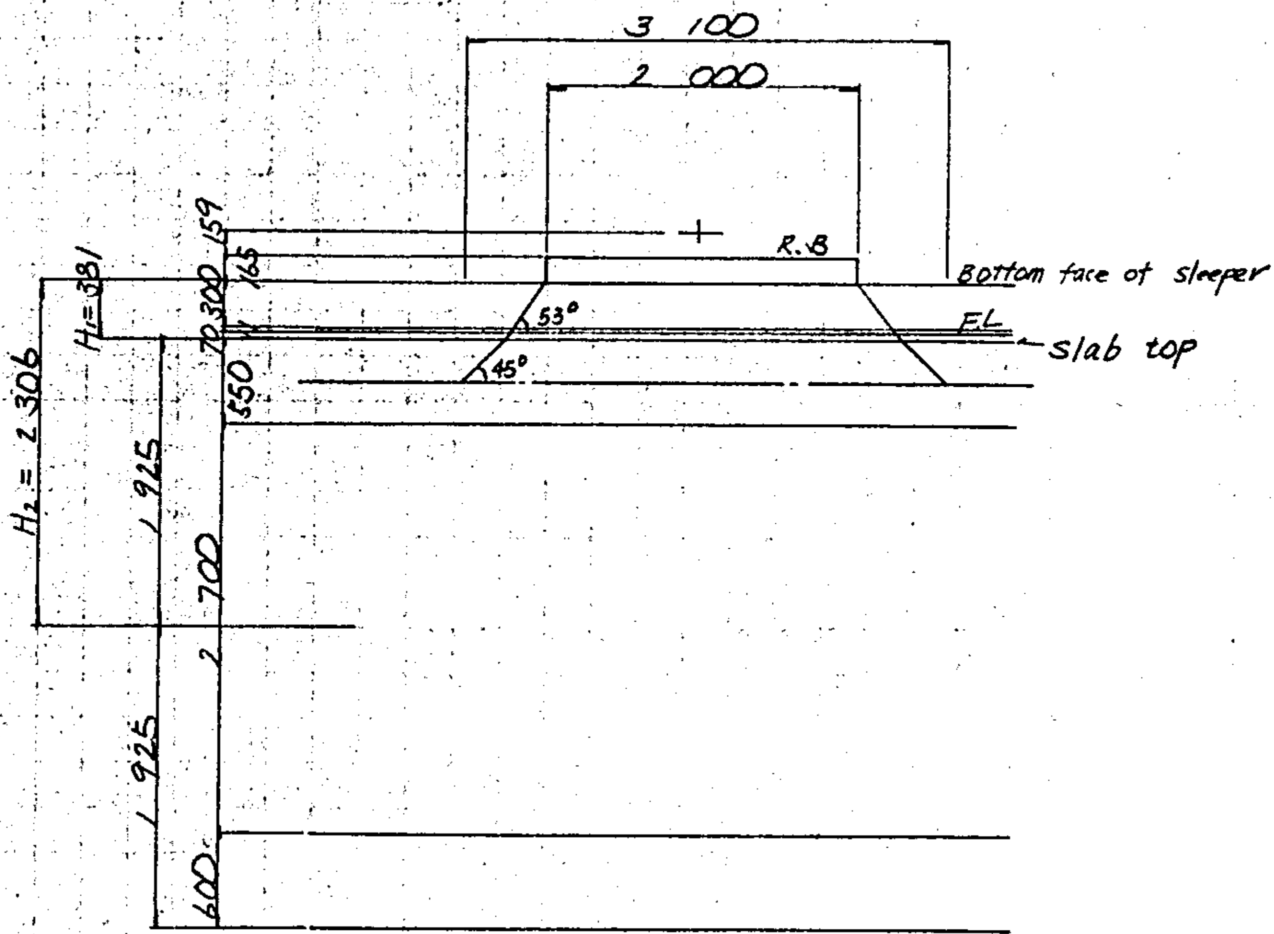
NOTES:

1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE INDICATED
2. REFERENCE DRAWING FOR BAR ARRANGEMENT: CE-036
3. GRADING CONCRETE SHALL BE SIMULTANEOUSLY PLACED WITH SLAB CONCRETE



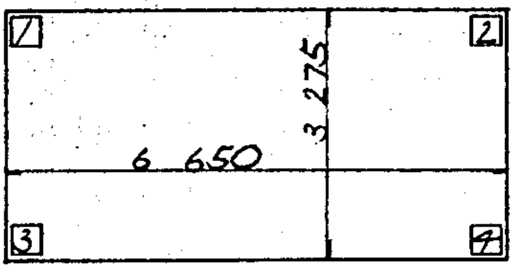
PLAN SCALE 1:100

2. Configuration and dimension: Surcharge earth load



3. cross section

1. Axes of Rahmen(Rigid frame)



2. Cross sectional area: Moment of inertia of the area

1)Top slab

$A = 1.00 \times 0.55 = 0.550$ m²

$I = 1/12 \times 1.00 \times 0.55^3 = 0.01386$ m⁴

2)Bottom slab

$A = 1.00 \times 0.60 = 0.600$ m²

$I = 1/12 \times 1.00 \times 0.60^3 = 0.01800$ m⁴

3)Side wall

$A = 1.00 \times 0.55 = 0.550$ m²

$I = 1/12 \times 1.00 \times 0.55^3 = 0.01386$ m⁴

4. Loads

Calcultion is carried out based on the unit width of Rahmen(Rigid frame).

4.1 Dead load

Weight of track assembly

0.45 t / m ÷ 3.10 m = 0.15 t / m²
(between track centers)

Track ballast

1.9 t / m³ × 0.47 = 0.89 〃
(R.B.～F.L.)

Subgrade material

(upper layer)	1.9 t / m³	× 0.01 m	= 0.02	〃
Grading concrete	2.35 t / m³	× 0.07 m	= 0.16	〃
Weight of top slab	2.5 t / m³	× 0.55 m	= 1.38	〃
		W d	= 2.60	t / m²

Weight of side wall

2.5 t / m³ × 0.55 m × 3.275 = 4.50 t / m

Weight of bottom slab

2.60 + 4.50 × 2 × 1 / 6.55 = 3.97 t / m²

4.2 Train load

Uniformly distributed load, equivalent to KS-16 loading

$\ell = 6.55^{m}$ surcharge earth (Sleeper bottom - Slab top)

is assumed as 0.381m, then P m = 2.8 t / m²

P s = 2.8 × 1.2 = 3.4 t / m²

4.3 Impact coefficient

$$i = i_o \left\{ \frac{2.5 - H}{1.5} \right\}$$

$$= 0.46$$

$H \leq 1.0^{m}$ $i = i_o$

$H \geq 2.5^{m}$ $i = 0$

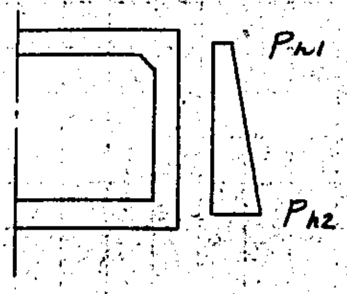
4.4 Earth pressure

1) Ordinary case, earth pressure due to dead load

Bottom face of sleeper

Horizontal earth pressure acting at the depth of H

$$Ph = K \cdot \gamma \cdot H$$



Ph : Horizontal earth pressure per unit area

γ: Unit weight of earth $= 1.8\,t/m^3$

H: Depth of earth (depth above slab top is the equivalent value)

K: Coefficient of static earth pressure $= 0.5$

$K = 0.5$

$Ph1 = K \cdot \gamma \cdot H_1$

$= 0.5 \times 1.8 \times (0.59 + 0.07 + 0.55/2) = 0.84 \quad t/m^2$

$H_1 = 1/1.8 \times (2.60 - 1.38 - 0.16) = 0.59 \quad m$

$Ph2 = Ph1 + K\gamma H_2$

$= 0.84 + 0.5 \times 1.8 \times 3.275 = 3.79 \quad t/m^2$

$K = 0.3$

$Ph1 = 0.3 \times 1.8 \times (0.59 + 0.07 + 0.55/2) = 0.50 \quad t/m^2$

$Ph2 = 0.50 + 0.3 \times 1.8 \times 3.275 = 2.27 \quad t/m^2$

2) Horizontal earth pressure caused by train load

$$Ph\ell = K \cdot Pv\ell$$

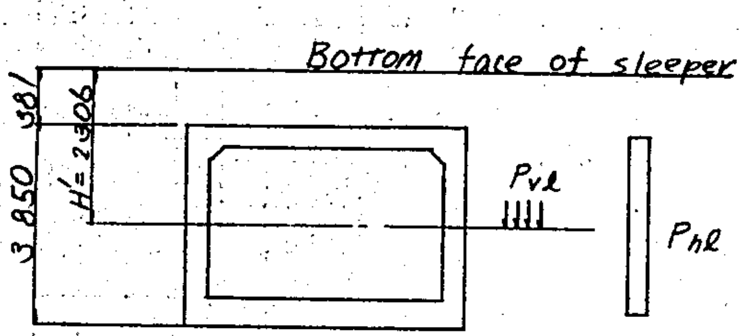
$Ph\ell$: Effect of train load acting at the side. (uniformly distributed load) (t/m^2)

$Pv\ell$: Effect of train load in vertical direction at the depth of the level of culvert center (t/m^2)

K : Coefficient of horizontal earth pressure (generally assumed as 0.5)

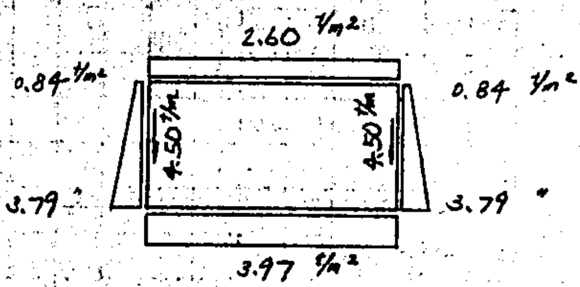
H' : Depth of the level of culvert center (m)

$$Ph\ell = K \cdot Pv\ell = 0.5 \times 2.39 = 1.20\ t/m^2$$

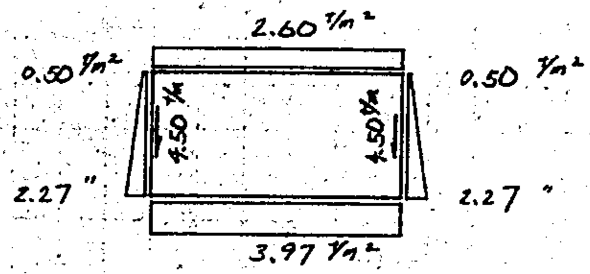


4.5 Loading condition

case1 Dead load + Earth pressure (0.5)



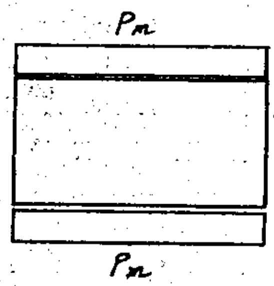
case2 Dead load + Earth pressure (0.3)



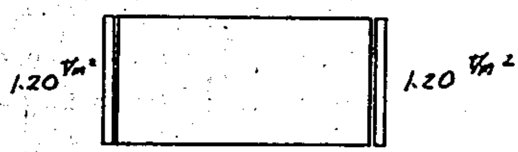
case3 Live load Impact

$P_m = 2.8 \times 1.46 = 4.09$ t / m²

$P_s = 3.4 \times 1.46 = 4.96$ 〃



case4 Earth pressure due to live load



Combination of loads

Case	Combination of loads
①	Dead load + Surcharge earth load + Earth pressure (K = 0.5)
②	Dead load + Surcharge earth load + Earth pressure (K = 0.3)
③	live load + Impact
④	live load, Earth pressure

Difine	Case
1	① ②
2	③
3	④

Combine	Difime	Coefficient of increased load
	1	1.00
	1 + 2	1.00
	1 + 3	1.00
	1 + 2 + 3	1.00

Pick up	Combine	
1	1, 2, 3, 4	

BASIC DATA

NUMBER OF JOINTS	=	4
NUMBER OF MEMBERS	=	4
NUMBER OF SUPPORTS	=	2
NUMBER OF FRAME TYPE	=	1
NUMBER OF LOADS TYPE	=	4
NUMBER OF LOADS	=	4
NUMBER OF ALPH LOADS	=	0
NUMBER OF DEFINE	=	3
NUMBER OF COMB.LOADS	=	4
MODULE OF L. E.	=	1.000E-05

JOINT COORDINATES

JOINT NO.	X	Y
1	0.000	3.275
2	6.550	3.275
3	0.000	0.000
4	6.550	0.000

MEMBER INCI. & PROPER.

MEMB. NO.	I	,	J	A	I
1	1	,	2	0.55000	0.013860
2	3	,	4	0.60000	0.018000
3	1	,	3	0.55000	0.013860
4	2	,	4	0.55000	0.013860

FRAME TYPE 1

ELASTICITY & SPRING

MEMB. NO.	E	SPRING
1	2.700E+06	0.0
2	2.700E+06	0.0
3	2.700E+06	0.0
4	2.700E+06	0.0

JOINT SUPPORTS

JOINT NO.	X	Y	M
3	1	1	0
4	0	1	0

VIEW POINTS

MEMB. NO.	N	L1	L2	L3	L4	L5	L6	L7	L8	L9
1	7	0.275	0.400	0.675	0.750	2.275	2.775	3.275		
2	5	0.275	0.575	2.275	2.775	3.275				
3	9	0.275	0.400	0.675	0.750	1.400	1.700	2.000	2.700	2.975

LOAD DATA

MEMBER LOAD

JOINT LOAD

MEMB. NO	MARK	L1	L2	P1	P2	(V,H)	JOINT NO.	FORCE X	FORCE Y	MOMENT M
CASE - 1										
1	2	0.000	0.000	2.600	2.600					
2	2	0.000	0.000	-3.970	-3.970					
3	2	0.000	0.000	-0.840	-3.790					
4	2	0.000	0.000	0.840	3.790					
3	6	0.000	0.000	1.375	1.375					
4	6	0.000	0.000	1.375	1.375					
CASE - 2										
1	2	0.000	0.000	2.600	2.600					
2	2	0.000	0.000	-3.970	-3.970					
3	2	0.000	0.000	-0.500	-2.270					
4	2	0.000	0.000	0.500	2.270					
3	6	0.000	0.000	1.375	1.375					
4	6	0.000	0.000	1.375	1.375					
CASE - 3										
1	2	0.000	0.000	4.090	4.090					
2	2	0.000	0.000	-4.090	-4.090					
1	12	SHEAR	(S/M) ...	1.20000						
2	12	SHEAR	(S/M) ...	1.20000						
CASE - 4										
3	2	0.000	0.000	-1.200	-1.200					
4	2	0.000	0.000	1.200	1.200					

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USED FRAME TYPE

CASE NO.	LOADS TYPE	USED-FRAME
1	1	1
2	2	1
3	3	1
4	4	1

DEFINE CASE

DEF.NO	N	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
1	2	1	2								
2	1	3									
3	1	4									

COMBINE CASE

CASE NO.	ALPHA	N	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13
1	1.0000	1	1												
2	1.0000	2	1	2											
3	1.0000	2	1	3											
4	1.0000	3	1	2	3										

PICK UP

TABLE NO. 1

	COMBINE CASE												
N	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13
4	1	2	3	4									

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REACTION

JT.NO.	X	Y	MOMENT
LOAD - 1 CASE 1			
3	0.000	0.016	0.000
4	0.000	0.016	0.000
LOAD - 3 CASE 3			
3	-0.000	-0.000	0.000
4	0.000	0.000	0.000

REACTION

JT.NO	X	Y	MOMENT
LOAD - 2 CASE 2			
3	0.000	0.016	0.000
4	0.000	0.016	0.000
LOAD - 4 CASE 4			
3	0.000	-0.000	0.000
4	0.000	0.000	0.000

DEFLECTION

JT.NO.	X-DISP. (MM)	Y-DISP. (MM)	ROTATION (R/1000)
LOAD - 1 CASE 1			
1	-0.007070	-0.023744	0.244805
2	-0.015686	-0.023744	-0.244805
3	0.000000	0.000000	-0.290743
4	-0.022756	0.000000	0.290743
LOAD - 3 CASE 3			
1	0.001490	-0.029540	0.415638
2	-0.000064	-0.029540	-0.415638
3	0.000000	0.000000	-0.397880
4	0.001426	0.000000	0.397880

DEFLECTION

JT.NO.	X-DISP. (MM)	Y-DISP. (MM)	ROTATION (R/1000)
LOAD - 2 CASE 2			
1	-0.005869	-0.023744	0.267379
2	-0.009313	-0.023744	-0.267379
3	0.000000	0.000000	-0.314319
4	-0.015183	0.000000	0.314319
LOAD - 4 CASE 4			
1	0.000248	0.000000	-0.030390
2	-0.008301	-0.000000	0.030390
3	0.000000	0.000000	0.029271
4	-0.008052	0.000000	-0.029271

****
COMBINE 1
****

	DIST.	MOMENT MAXIMUM M	S	N	CASE	MOMENT MINIMUM M	S	N	CASE
MEMBER 1 (1 - 2)									
I TAN	0.000	-6.240	8.515	-0.780	(2)	-6.498	8.515	-1.953	(1)
1	0.275	-3.997	7.800	-0.780	(2)	-4.254	7.800	-1.953	(1)
2	0.400	-3.042	7.475	-0.780	(2)	-3.300	7.475	-1.953	(1)
3	0.675	-1.085	6.760	-0.780	(2)	-1.342	6.760	-1.953	(1)
4	0.750	-0.585	6.565	-0.780	(2)	-0.843	6.565	-1.953	(1)
5	2.275	6.402	2.600	-0.780	(2)	6.145	2.600	-1.953	(1)
6	2.775	7.377	1.300	-0.780	(2)	7.120	1.300	-1.953	(1)
7	3.275	7.702	0.000	-0.780	(2)	7.445	0.000	-1.953	(1)
J TAN	6.550	-6.240	-8.515	-0.780	(2)	-6.498	-8.515	-1.953	(1)
MEMBER 2 (3 - 4)									
I TAN	0.000	9.879	-13.001	-5.628	(1)	9.529	-13.001	-3.755	(2)
1	0.275	6.453	-11.910	-5.628	(1)	6.103	-11.910	-3.755	(2)
2	0.575	3.059	-10.719	-5.628	(1)	2.709	-10.719	-3.755	(2)
3	2.275	-9.426	-3.970	-5.628	(1)	-9.776	-3.970	-3.755	(2)
4	2.775	-10.915	-1.985	-5.628	(1)	-11.264	-1.985	-3.755	(2)
5	3.275	-11.411	0.000	-5.628	(1)	-11.761	0.000	-3.755	(2)
J TAN	6.550	9.879	13.001	-5.628	(1)	9.529	13.001	-3.755	(2)
MEMBER 3 (1 - 3)									
I TAN	0.000	6.498	-1.953	-8.515	(1)	6.240	-0.780	-8.514	(2)
1	0.275	6.046	-0.622	-8.893	(2)	5.995	-1.688	-8.893	(1)
2	0.400	5.973	-0.537	-9.064	(2)	5.793	-1.545	-9.065	(1)
3	0.675	5.854	-0.320	-9.443	(2)	5.417	-1.181	-9.443	(1)
4	0.750	5.833	-0.253	-9.546	(2)	5.332	-1.070	-9.546	(1)
5	1.400	5.884	0.449	-10.439	(2)	4.998	0.105	-10.440	(1)
6	1.700	6.078	0.850	-10.852	(2)	5.128	0.776	-10.852	(1)
7	2.000	6.399	1.300	-11.264	(2)	5.472	1.528	-11.265	(1)
8	2.700	7.728	2.539	-12.227	(2)	7.240	3.597	-12.227	(1)
9	2.975	8.502	3.098	-12.605	(2)	8.357	4.531	-12.605	(1)
J TAN	3.275	9.879	5.628	-13.018	(1)	9.529	3.755	-13.018	(2)
MEMBER 4 (2 - 4)									
I TAN	0.000	-6.240	0.780	-8.515	(2)	-6.498	1.953	-8.514	(1)
J TAN	3.275	-9.529	-3.755	-13.018	(2)	-9.879	-5.628	-13.018	(1)

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****
COMBINE 1
****

	DIST.	SHEAR MAXIMUM M	S	N	CASE	SHEAR MINIMUM M	S	N	CASE
MEMBER 1 (1 - 2)									
I TAN	0.000	-6.240	8.515	-0.780	(2)	-6.240	8.515	-0.780	(2)
1	0.275	-3.997	7.800	-0.780	(2)	-3.997	7.800	-0.780	(2)
2	0.400	-3.042	7.475	-0.780	(2)	-3.042	7.475	-0.780	(2)
3	0.675	-1.085	6.760	-0.780	(2)	-1.085	6.760	-0.780	(2)
4	0.750	-0.585	6.565	-0.780	(2)	-0.585	6.565	-0.780	(2)
5	2.275	6.402	2.600	-0.780	(2)	6.402	2.600	-0.780	(2)
6	2.775	7.377	1.300	-0.780	(2)	7.377	1.300	-0.780	(2)
7	3.275	7.702	0.000	-0.780	(2)	7.702	0.000	-0.780	(2)
J TAN	6.550	-6.240	-8.515	-0.780	(2)	-6.240	-8.515	-0.780	(2)
MEMBER 2 (3 - 4)									
I TAN	0.000	9.529	-13.001	-3.755	(2)	9.529	-13.001	-3.755	(2)
1	0.275	6.103	-11.910	-3.755	(2)	6.103	-11.910	-3.755	(2)
2	0.575	2.709	-10.719	-3.755	(2)	2.709	-10.719	-3.755	(2)
3	2.275	-9.776	-3.970	-3.755	(2)	-9.776	-3.970	-3.755	(2)
4	2.775	-11.264	-1.985	-3.755	(2)	-11.264	-1.985	-3.755	(2)
5	3.275	-11.761	0.000	-3.755	(2)	-11.761	0.000	-3.755	(2)
J TAN	6.550	9.529	13.001	-3.755	(2)	9.529	13.001	-3.755	(2)
MEMBER 3 (1 - 3)									
I TAN	0.000	6.240	-0.780	-8.514	(2)	6.498	-1.953	-8.515	(1)
1	0.275	6.046	-0.622	-8.893	(2)	5.995	-1.688	-8.893	(1)
2	0.400	5.973	-0.537	-9.064	(2)	5.793	-1.545	-9.065	(1)
3	0.675	5.854	-0.320	-9.443	(2)	5.417	-1.181	-9.443	(1)
4	0.750	5.833	-0.253	-9.546	(2)	5.332	-1.070	-9.546	(1)
5	1.400	5.884	0.449	-10.439	(2)	4.998	0.105	-10.440	(1)
6	1.700	6.078	0.850	-10.852	(2)	5.128	0.776	-10.852	(1)
7	2.000	5.472	1.528	-11.265	(1)	6.399	1.300	-11.264	(2)
8	2.700	7.240	3.597	-12.227	(1)	7.728	2.539	-12.227	(2)
9	2.975	8.357	4.531	-12.605	(1)	8.502	3.098	-12.605	(2)
J TAN	3.275	9.879	5.628	-13.018	(1)	9.529	3.755	-13.018	(2)
MEMBER 4 (2 - 4)									
I TAN	0.000	-6.498	1.953	-8.514	(1)	-6.240	0.780	-8.515	(2)
J TAN	3.275	-9.529	-3.755	-13.018	(2)	-9.879	-5.628	-13.018	(1)

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****
COMBINE 1
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	DIST.	AXIAL MAXIMUM M	S	N	CASE	AXIAL MINIMUM M	S	N	CASE
MEMBER 1 (1 - 2)									
I TAN	0.000	-6.240	8.515	-0.780	(2)	-6.498	8.515	-1.953	(1)
1	0.275	-3.997	7.800	-0.780	(2)	-4.254	7.800	-1.953	(1)
2	0.400	-3.042	7.475	-0.780	(2)	-3.300	7.475	-1.953	(1)
3	0.675	-1.085	6.760	-0.780	(2)	-1.342	6.760	-1.953	(1)
4	0.750	-0.585	6.565	-0.780	(2)	-0.843	6.565	-1.953	(1)
5	2.275	6.402	2.600	-0.780	(2)	6.145	2.600	-1.953	(1)
6	2.775	7.377	1.300	-0.780	(2)	7.120	1.300	-1.953	(1)
7	3.275	7.702	0.000	-0.780	(2)	7.445	0.000	-1.953	(1)
J TAN	6.550	-6.240	-8.515	-0.780	(2)	-6.498	-8.515	-1.953	(1)
MEMBER 2 (3 - 4)									
I TAN	0.000	9.529	-13.001	-3.755	(2)	9.879	-13.001	-5.628	(1)
1	0.275	6.103	-11.910	-3.755	(2)	6.453	-11.910	-5.628	(1)
2	0.575	2.709	-10.719	-3.755	(2)	3.059	-10.719	-5.628	(1)
3	2.275	-9.776	-3.970	-3.755	(2)	-9.426	-3.970	-5.628	(1)
4	2.775	-11.264	-1.985	-3.755	(2)	-10.915	-1.985	-5.628	(1)
5	3.275	-11.761	0.000	-3.755	(2)	-11.411	0.000	-5.628	(1)
J TAN	6.550	9.529	13.001	-3.755	(2)	9.879	13.001	-5.628	(1)
MEMBER 3 (1 - 3)									
I TAN	0.000	6.240	-0.780	-8.514	(2)	6.498	-1.953	-8.515	(1)
1	0.275	6.046	-0.622	-8.893	(2)	5.995	-1.688	-8.893	(1)
2	0.400	5.973	-0.537	-9.064	(2)	5.793	-1.545	-9.065	(1)
3	0.675	5.854	-0.320	-9.443	(2)	5.417	-1.181	-9.443	(1)
4	0.750	5.833	-0.253	-9.546	(2)	5.332	-1.070	-9.546	(1)
5	1.400	5.884	0.449	-10.439	(2)	4.998	0.105	-10.440	(1)
6	1.700	6.078	0.850	-10.852	(2)	5.128	0.776	-10.852	(1)
7	2.000	6.399	1.300	-11.264	(2)	5.472	1.528	-11.265	(1)
8	2.700	7.728	2.539	-12.227	(2)	7.240	3.597	-12.227	(1)
9	2.975	8.502	3.098	-12.605	(2)	8.357	4.531	-12.605	(1)
J TAN	3.275	9.529	3.755	-13.018	(2)	9.879	5.628	-13.018	(1)
MEMBER 4 (2 - 4)									
I TAN	0.000	-6.498	1.953	-8.514	(1)	-6.240	0.780	-8.515	(2)
J TAN	3.275	-9.879	-5.628	-13.018	(1)	-9.529	-3.755	-13.018	(2)

****
PICK UP 1
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	DIST.	MOMENT MAXIMUM M	S	N	CASE	MOMENT MINIMUM M	S	N	CASE
MEMBER 1 (1 - 2)									
I TAN	0.000	-6.240	8.515	-0.780	(1; 2)	-16.718	24.588	-4.244	(4; 1 3 4)
1	0.275	-3.997	7.800	-0.780	(1; 2)	-10.946	22.524	-4.244	(4; 1 3 4)
2	0.400	-3.042	7.475	-0.780	(1; 2)	-8.490	21.585	-4.244	(4; 1 3 4)
3	0.675	-1.085	6.760	-0.780	(1; 2)	-3.453	19.520	-4.244	(4; 1 3 4)
4	0.750	-0.585	6.565	-0.780	(1; 2)	-2.168	18.957	-4.244	(4; 1 3 4)
5	2.275	16.418	7.508	-1.133	(2; 2 3)	5.797	2.600	-3.891	(3; 1 4)
6	2.775	18.927	3.754	-1.133	(2; 2 3)	6.772	1.300	-3.891	(3; 1 4)
7	3.275	19.763	0.000	-1.133	(2; 2 3)	7.097	0.000	-3.891	(3; 1 4)
J TAN	6.550	-6.240	-8.515	-0.780	(1; 2)	-16.718	-24.588	-4.244	(4; 1 3 4)
MEMBER 2 (3 - 4)									
I TAN	0.000	19.031	-29.075	-7.267	(4; 1 3 4)	9.529	-13.001	-3.755	(1; 2)
1	0.275	12.077	-26.634	-7.267	(4; 1 3 4)	6.103	-11.910	-3.755	(1; 2)
2	0.575	5.186	-23.970	-7.267	(4; 1 3 4)	2.709	-10.719	-3.755	(1; 2)
3	2.275	-8.991	-3.970	-7.619	(3; 1 4)	-20.946	-8.878	-3.402	(2; 2 3)
4	2.775	-10.480	-1.985	-7.619	(3; 1 4)	-23.969	-4.439	-3.402	(2; 2 3)
5	3.275	-10.976	0.000	-7.619	(3; 1 4)	-24.976	0.000	-3.402	(2; 2 3)
J TAN	6.550	19.031	29.075	-7.267	(4; 1 3 4)	9.529	13.001	-3.755	(1; 2)
MEMBER 3 (1 - 3)									
I TAN	0.000	16.718	-4.244	-21.909	(4; 1 3 4)	6.240	-0.780	-8.514	(1; 2)
1	0.275	15.822	-0.975	-22.287	(2; 2 3)	5.855	-3.296	-8.893	(3; 1 4)
2	0.400	15.706	-0.890	-22.459	(2; 2 3)	5.461	-3.003	-9.065	(3; 1 4)
3	0.675	15.490	-0.672	-22.837	(2; 2 3)	4.729	-2.309	-9.443	(3; 1 4)
4	0.750	15.442	-0.606	-22.940	(2; 2 3)	4.563	-2.108	-9.546	(3; 1 4)
5	1.400	15.264	0.096	-23.834	(2; 2 3)	3.808	-0.153	-10.440	(3; 1 4)
6	1.700	15.351	0.497	-24.247	(2; 2 3)	3.914	0.877	-10.852	(3; 1 4)
7	2.000	15.567	0.947	-24.659	(2; 2 3)	4.342	1.789	-11.265	(3; 1 4)
8	2.700	16.649	2.186	-25.622	(2; 2 3)	6.728	4.899	-12.227	(3; 1 4)
9	2.975	17.326	2.745	-26.000	(2; 2 3)	8.247	6.163	-12.605	(3; 1 4)
J TAN	3.275	19.031	7.267	-26.412	(4; 1 3 4)	9.529	3.755	-13.018	(1; 2)
MEMBER 4 (2 - 4)									
I TAN	0.000	-6.240	0.780	-8.515	(1; 2)	-16.718	4.244	-21.909	(4; 1 3 4)
J TAN	3.275	-9.529	-3.755	-13.018	(1; 2)	-19.031	-7.267	-26.412	(4; 1 3 4)

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PICK UP 1
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	DIST.	SHEAR MAXIMUM M	S	N	CASE	SHEAR MINIMUM M	S	N	CASE
MEMBER 1 (1 - 2)									
I TAN	0.000	-16.460	24.588	-3.071	(4; 2 3 4)	-6.587	8.515	-2.719	(3; 2 4)
1	0.275	-10.688	22.524	-3.071	(4; 2 3 4)	-4.344	7.800	-2.719	(3; 2 4)
2	0.400	-8.232	21.585	-3.071	(4; 2 3 4)	-3.389	7.475	-2.719	(3; 2 4)
3	0.675	-3.195	19.520	-3.071	(4; 2 3 4)	-1.432	6.760	-2.719	(3; 2 4)
4	0.750	-1.910	18.957	-3.071	(4; 2 3 4)	-0.932	6.565	-2.719	(3; 2 4)
5	2.275	16.071	7.508	-3.071	(4; 2 3 4)	6.055	2.600	-2.719	(3; 2 4)
6	2.775	18.580	3.754	-3.071	(4; 2 3 4)	7.030	1.300	-2.719	(3; 2 4)
7	3.275	19.416	0.000	-3.071	(4; 2 3 4)	7.702	0.000	-0.780	(1; 2)
J TAN	6.550	-6.587	-8.515	-2.719	(3; 2 4)	-16.460	-24.588	-3.071	(4; 2 3 4)
MEMBER 2 (3 - 4)									
I TAN	0.000	9.963	-13.001	-5.746	(3; 2 4)	18.681	-29.075	-5.394	(4; 2 3 4)
1	0.275	6.538	-11.910	-5.746	(3; 2 4)	11.727	-26.634	-5.394	(4; 2 3 4)
2	0.575	3.143	-10.719	-5.746	(3; 2 4)	4.836	-23.970	-5.394	(4; 2 3 4)
3	2.275	-9.341	-3.970	-5.746	(3; 2 4)	-20.512	-8.878	-5.394	(4; 2 3 4)
4	2.775	-10.830	-1.985	-5.746	(3; 2 4)	-23.535	-4.439	-5.394	(4; 2 3 4)
5	3.275	-24.542	0.000	-5.394	(4; 2 3 4)	-24.976	0.000	-3.402	(2; 2 3)
J TAN	6.550	18.681	29.075	-5.394	(4; 2 3 4)	9.963	13.001	-5.746	(3; 2 4)
MEMBER 3 (1 - 3)									
I TAN	0.000	6.240	-0.780	-8.514	(1; 2)	16.718	-4.244	-21.909	(4; 1 3 4)
1	0.275	6.046	-0.622	-8.893	(1; 2)	15.631	-3.649	-22.287	(4; 1 3 4)
2	0.400	5.973	-0.537	-9.064	(1; 2)	15.193	-3.356	-22.459	(4; 1 3 4)
3	0.673	5.854	-0.320	-9.443	(1; 2)	14.364	-2.662	-22.837	(4; 1 3 4)
4	0.750	5.833	-0.253	-9.546	(1; 2)	14.172	-2.461	-22.940	(4; 1 3 4)
5	1.400	5.384	0.449	-10.439	(1; 2)	13.187	-0.505	-23.834	(4; 1 3 4)
6	1.700	4.864	0.951	-10.852	(3; 2 4)	14.402	0.423	-24.247	(2; 1 3)
7	2.000	4.342	1.989	-11.265	(3; 1 4)	15.567	0.947	-24.659	(2; 2 3)
8	2.700	6.728	4.899	-12.227	(3; 1 4)	16.649	2.186	-25.622	(2; 2 3)
9	2.975	8.247	6.163	-12.605	(3; 1 4)	17.326	2.745	-26.000	(2; 2 3)
J TAN	3.275	10.313	7.619	-13.018	(3; 1 4)	18.247	3.402	-26.412	(2; 2 3)
MEMBER 4 (2 - 4)									
I TAN	0.000	-16.718	4.244	-21.909	(4; 1 3 4)	-6.240	0.780	-8.515	(1; 2)
J TAN	3.275	-18.247	-3.402	-26.412	(2; 2 3)	-10.313	-7.619	-13.018	(3; 1 4)

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PICK UP 1
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	DIST.	AXIAL MAXIMUM M	S	N	CASE	AXIAL MINIMUM M	S	N	CASE
MEMBER 1 (1 - 2)									
I TAN	0.000	-6.240	8.515	-0.780	(1; 2)	-16.718	24.588	-4.244	(4; 1 3 4)
1	0.275	-3.997	7.800	-0.780	(1; 2)	-10.946	22.524	-4.244	(4; 1 3 4)
2	0.400	-3.042	7.475	-0.780	(1; 2)	-8.490	21.585	-4.244	(4; 1 3 4)
3	0.675	-1.085	6.760	-0.780	(1; 2)	-3.453	19.520	-4.244	(4; 1 3 4)
4	0.750	-0.585	6.565	-0.780	(1; 2)	-2.168	18.957	-4.244	(4; 1 3 4)
5	2.275	6.402	2.600	-0.780	(1; 2)	15.813	7.508	-4.244	(4; 1 3 4)
6	2.775	7.377	1.300	-0.780	(1; 2)	18.322	3.754	-4.244	(4; 1 3 4)
7	3.273	7.702	0.000	-0.780	(1; 2)	19.158	0.000	-4.244	(4; 1 3 4)
J TAN	6.550	-6.240	-8.515	-0.780	(1; 2)	-16.718	-24.588	-4.244	(4; 1 3 4)
MEMBER 2 (3 - 4)									
I TAN	0.000	18.247	-29.075	-3.402	(2; 2 3)	10.313	-13.001	-7.619	(3; 1 4)
1	0.275	11.293	-26.634	-3.402	(2; 2 3)	6.888	-11.910	-7.619	(3; 1 4)
2	0.575	4.401	-23.970	-3.402	(2; 2 3)	3.493	-10.719	-7.619	(3; 1 4)
3	2.275	-20.946	-8.878	-3.402	(2; 2 3)	-8.991	-3.970	-7.619	(3; 1 4)
4	2.775	-23.969	-4.439	-3.402	(2; 2 3)	-10.480	-1.985	-7.619	(3; 1 4)
5	3.275	-24.976	0.000	-3.402	(2; 2 3)	-10.976	0.000	-7.619	(3; 1 4)
J TAN	6.550	18.247	29.075	-3.402	(2; 2 3)	10.313	13.001	-7.619	(3; 1 4)
MEMBER 3 (1 - 3)									
I TAN	0.000	6.587	-2.719	-8.514	(3; 2 4)	16.718	-4.244	-21.909	(4; 1 3 4)
1	0.275	5.905	-2.231	-8.893	(3; 2 4)	15.631	-3.649	-22.287	(4; 1 3 4)
2	0.400	5.641	-1.995	-9.064	(3; 2 4)	15.193	-3.356	-22.459	(4; 1 3 4)
3	0.675	5.167	-1.448	-9.443	(3; 2 4)	14.364	-2.662	-22.837	(4; 1 3 4)
4	0.750	5.064	-1.292	-9.546	(3; 2 4)	14.172	-2.461	-22.940	(4; 1 3 4)
5	1.400	4.694	0.190	-10.439	(3; 2 4)	13.137	-0.505	-23.834	(4; 1 3 4)
6	1.700	4.864	0.951	-10.852	(3; 2 4)	13.188	0.525	-24.247	(4; 1 3 4)
7	2.000	5.270	1.761	-11.264	(3; 2 4)	13.510	1.637	-24.659	(4; 1 3 4)
8	2.700	7.215	3.840	-12.227	(3; 2 4)	15.649	4.546	-25.622	(4; 1 3 4)
9	2.975	8.393	4.730	-12.605	(3; 2 4)	17.071	5.810	-26.000	(4; 1 3 4)
J TAN	3.275	9.963	5.746	-13.018	(3; 2 4)	19.031	7.267	-26.412	(4; 1 3 4)
MEMBER 4 (2 - 4)									
I TAN	0.000	-6.845	3.891	-8.514	(3; 1 4)	-16.460	3.071	-21.909	(4; 2 3 4)
J TAN	3.275	-10.313	-7.619	-13.018	(3; 1 4)	-18.681	-5.394	-26.412	(4; 2 3 4)

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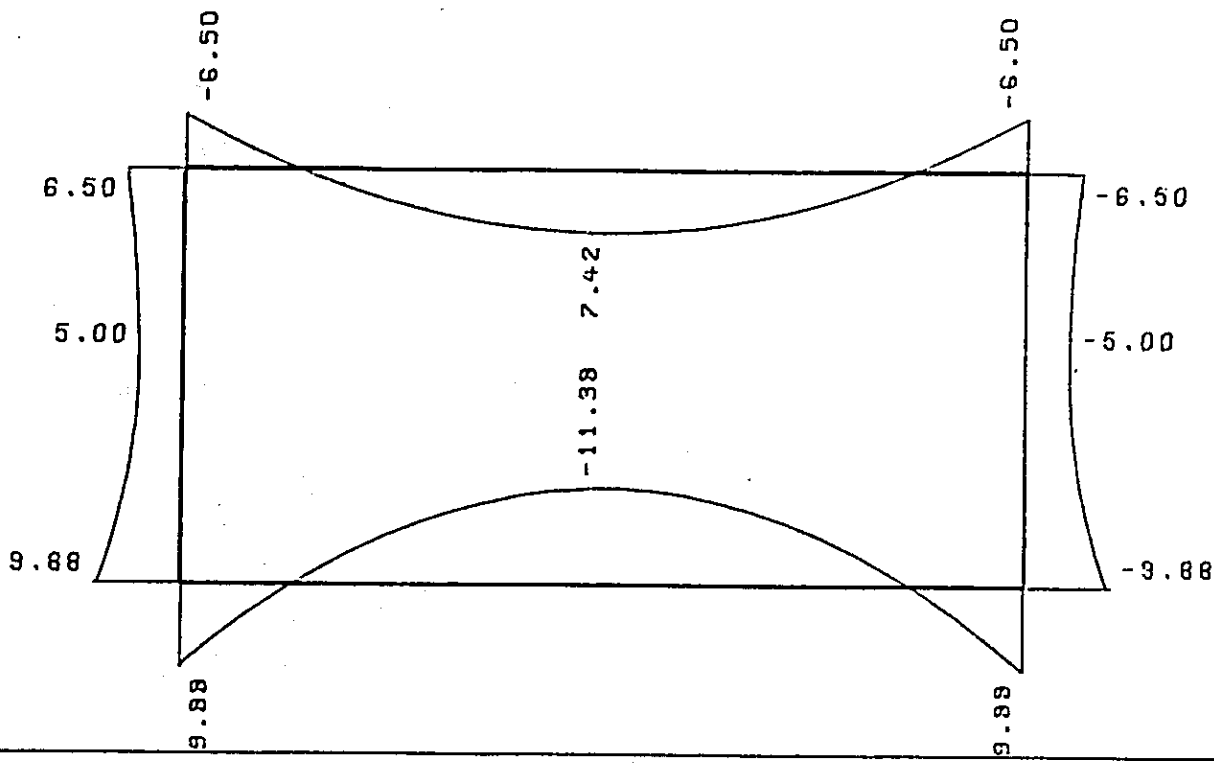
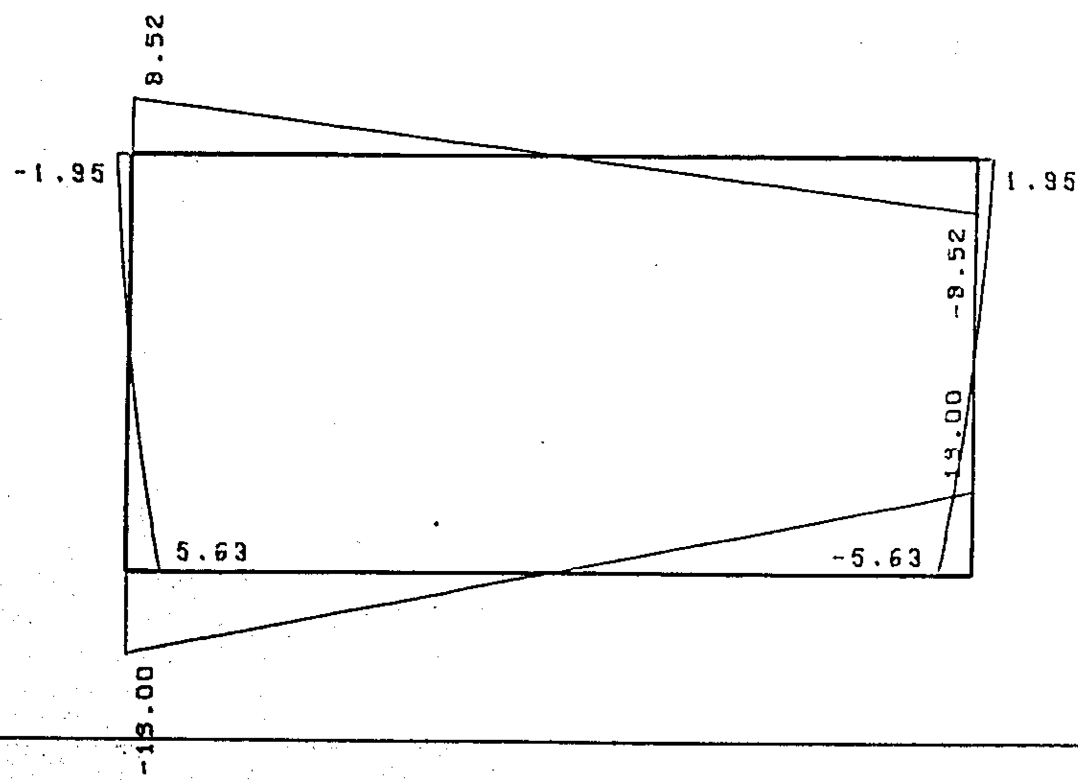
CASE 1

BENDING MOMENT



SHEARING FORCE



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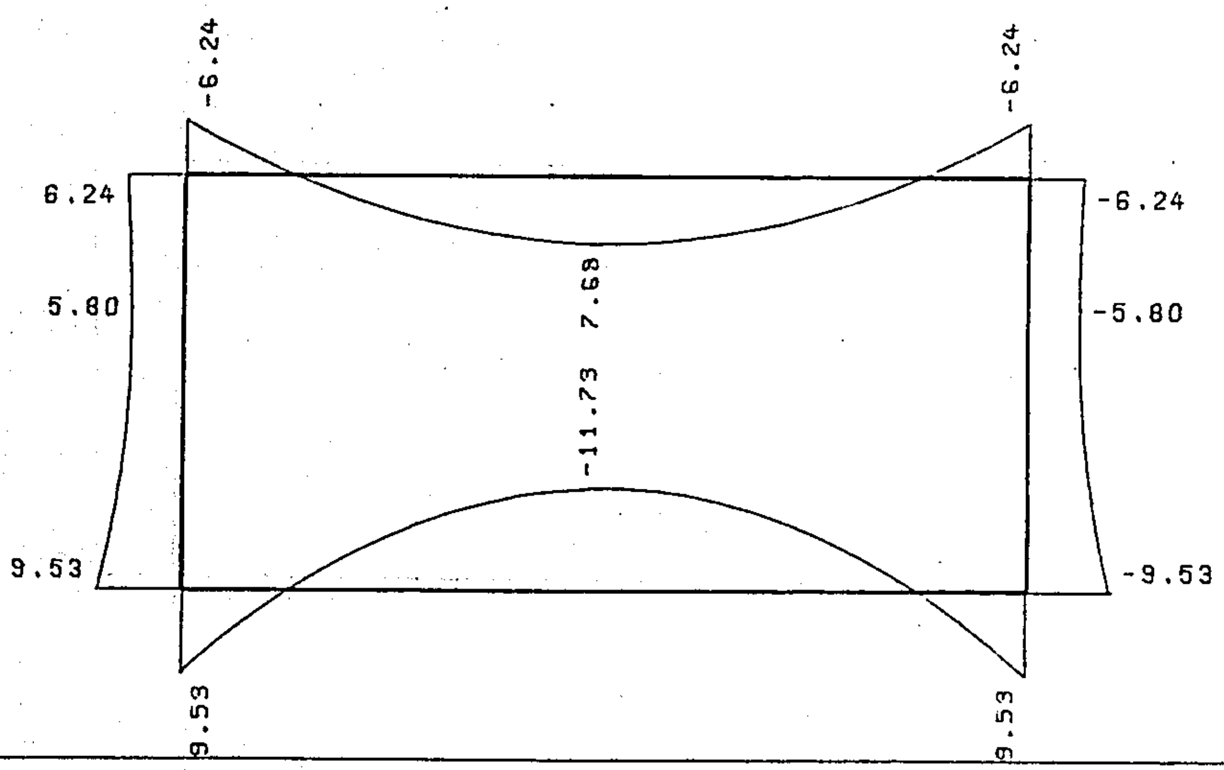
CASE 2

BENDING MOMENT



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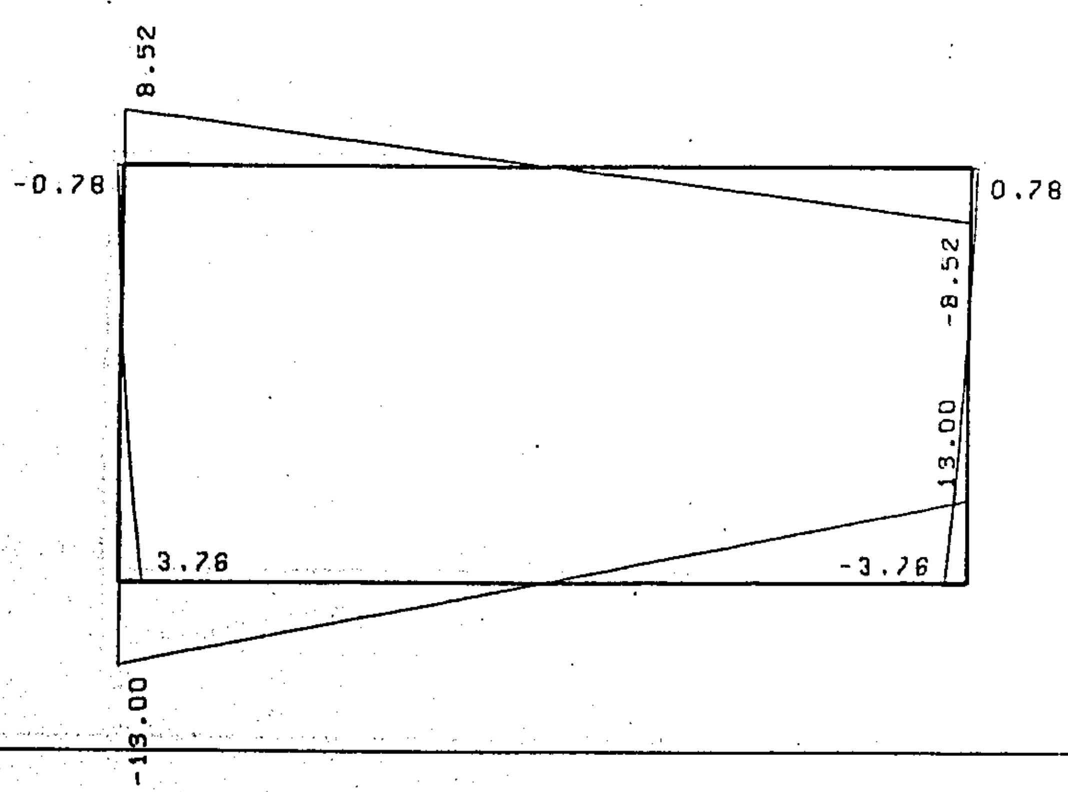

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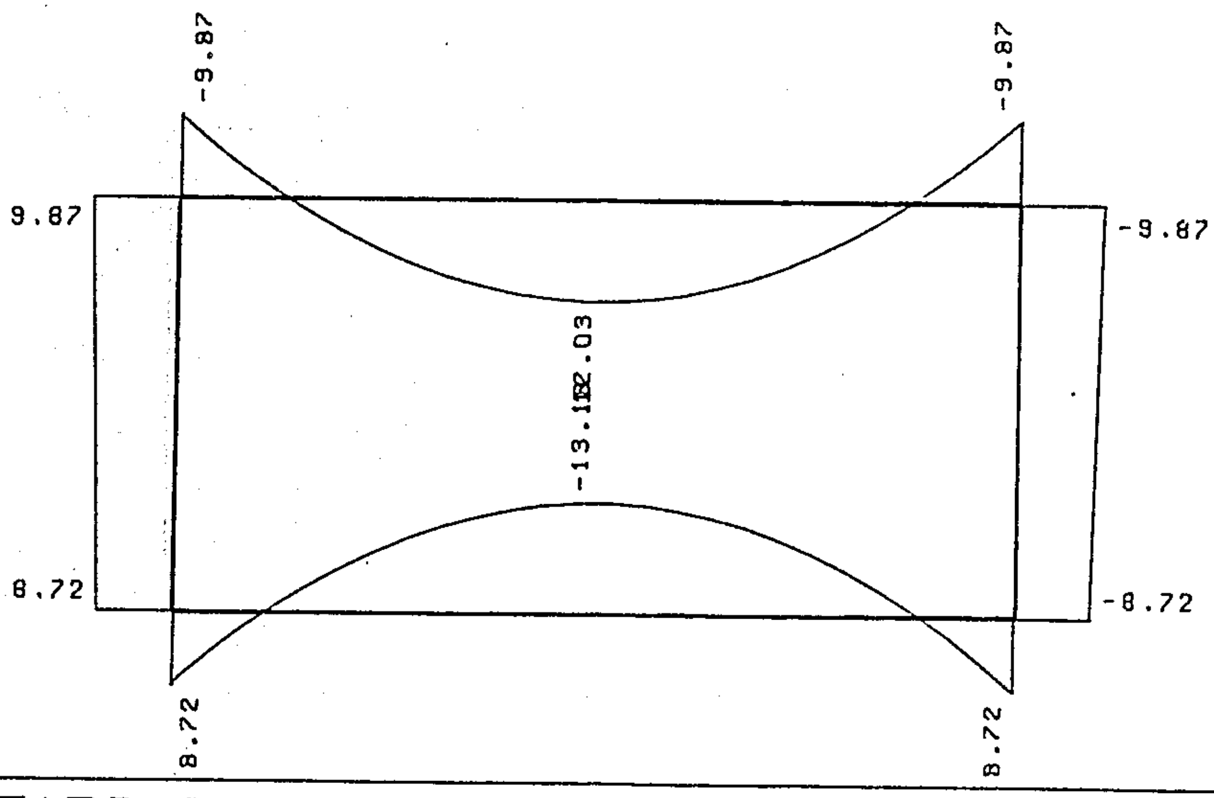
CASE 3

BENDING MOMENT



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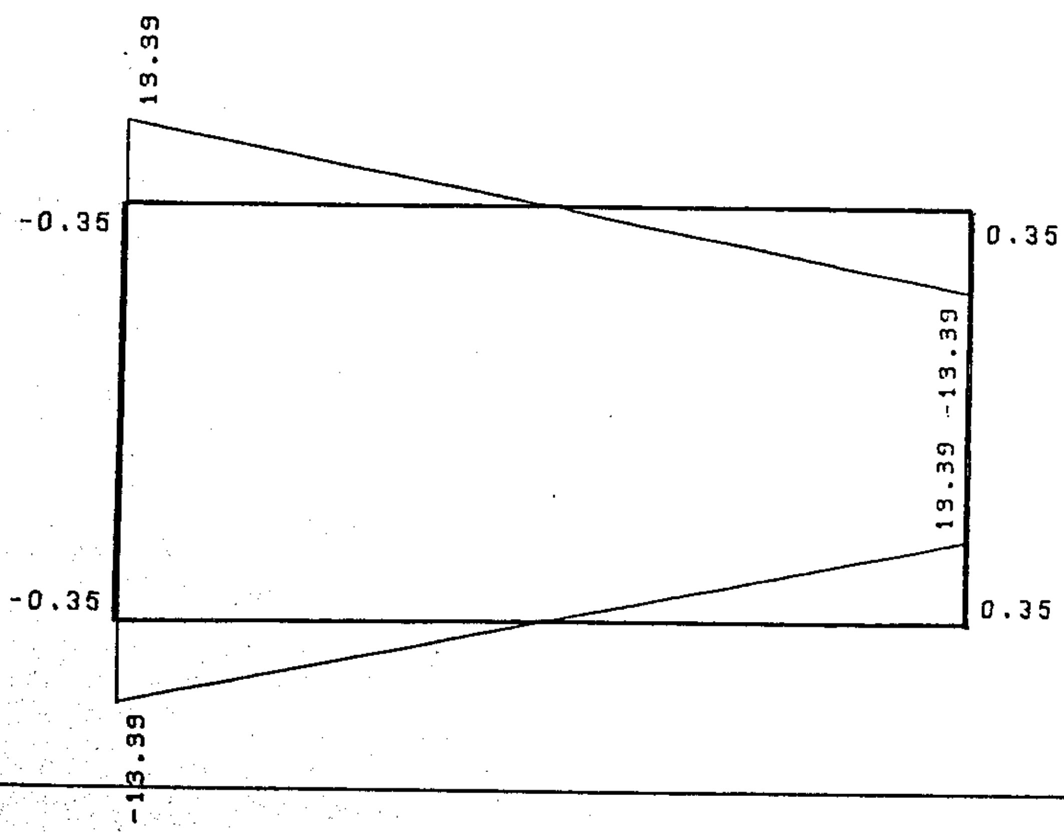
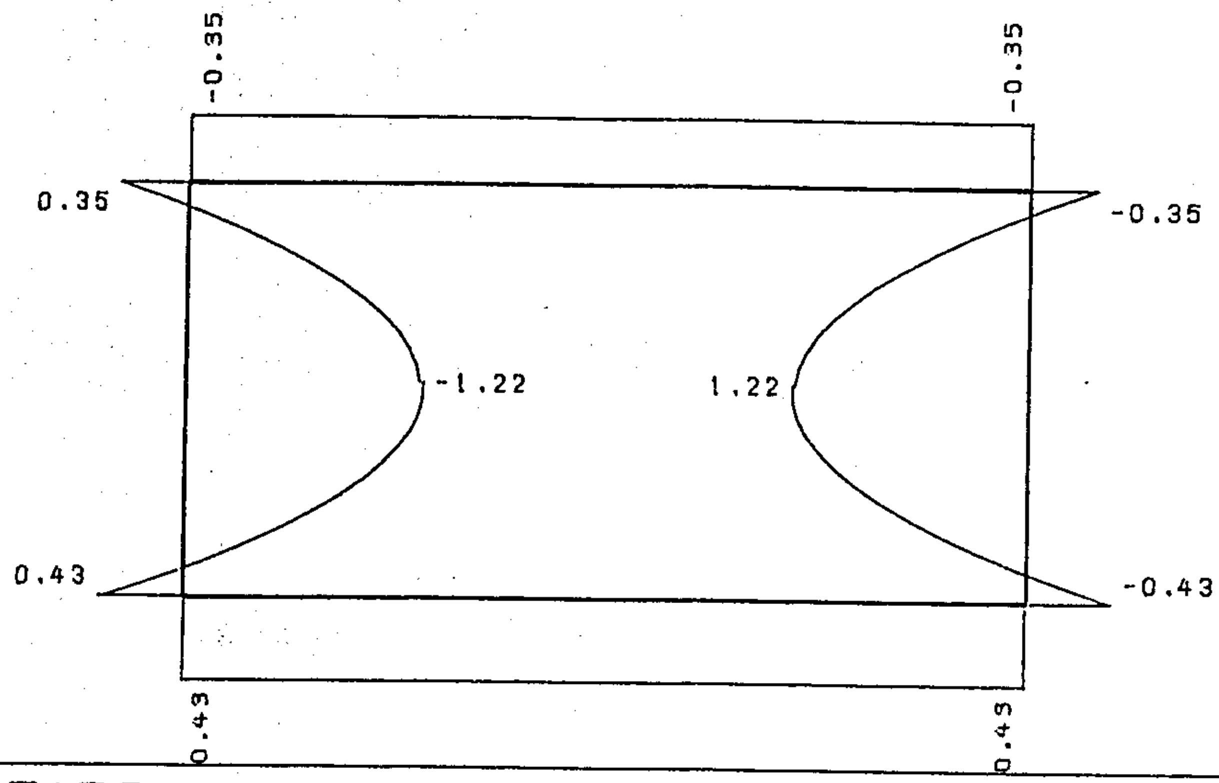


C-29

CASE 4

BENDING MOMENT



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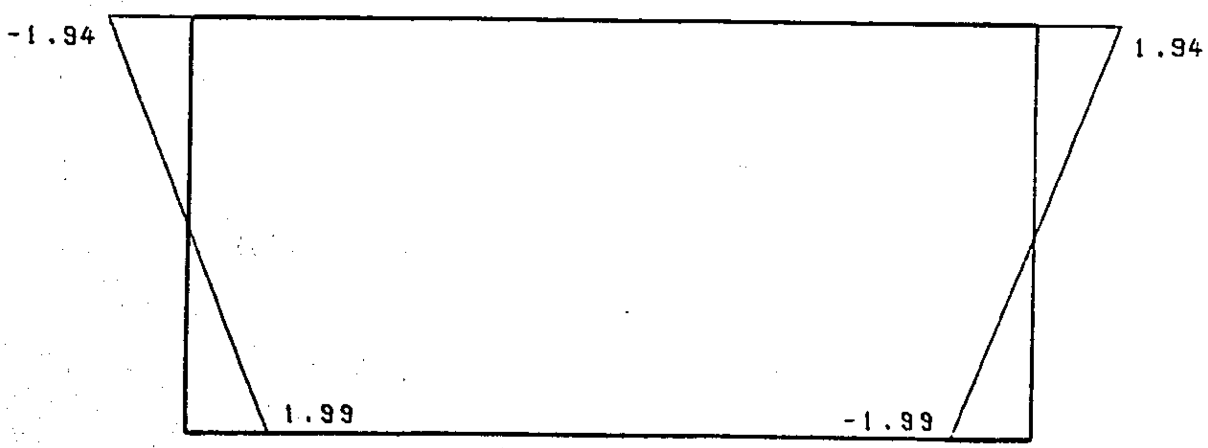
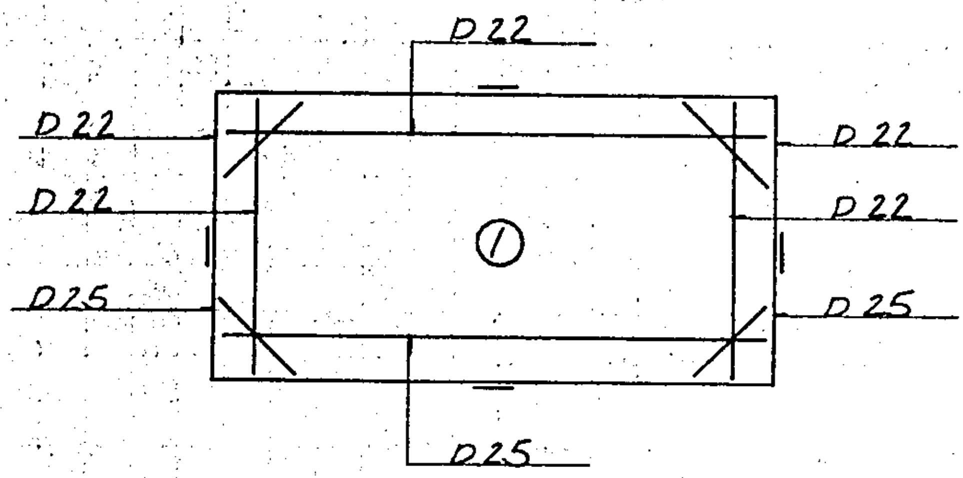
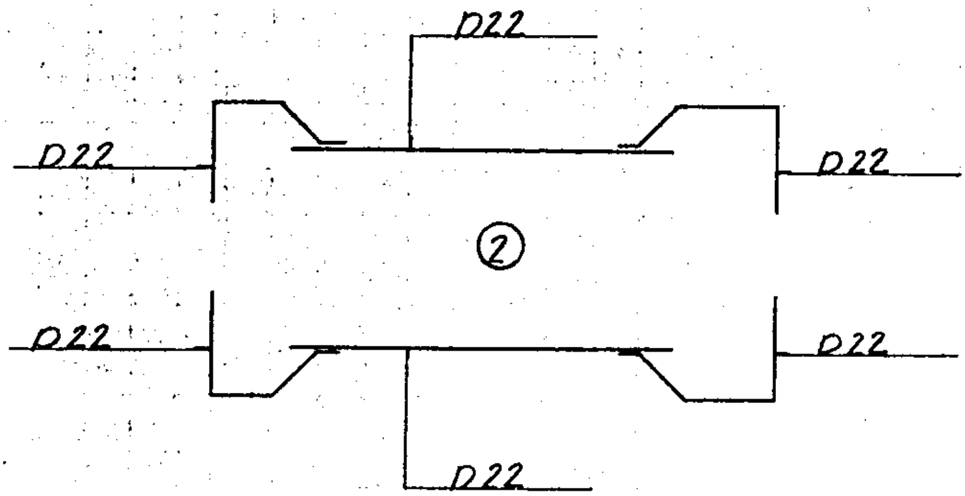
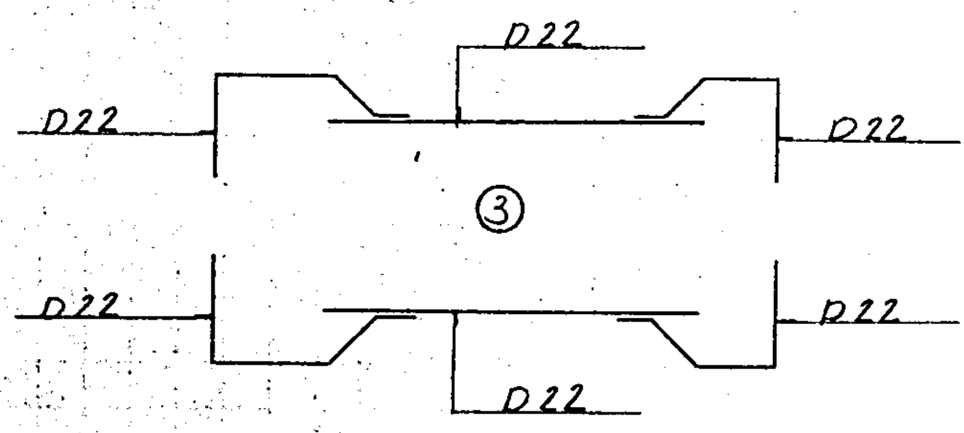


REINFORCEMENT FRAME







C29 CRACKING

STRESS

SGM CA = 0.000 (KG/M2)
SGM SA = 0.000 (KG/M2)
TAU A = 0.000 (KG/M2)

		NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2	NO.(4) 3-4	NO.(5) 3-4
B	(CM)	100.00	100.00	100.00	100.00	100.00
H	(CM)	68.30	55.00	55.00	60.00	60.00
D	(CM)	62.30	49.00	49.00	51.00	53.00
D'	(CM)	0.00	6.00	6.00	0.00	7.00
D''	(CM)	6.00	6.00	6.00	9.00	7.00
		8.00 D-22	6.00 D-22	8.00 D-22	4.00 D-25 2.00 D-22	4.00 D-25 4.00 D-22
AS	(CM2)	30.968	23.226	30.968	28.010	35.752
P		0.00497	0.00474	0.00632	0.00549	0.00674
			4.00 D-22	4.00 D-22		4.00 D-25
AS'	(CM2)	0.000	15.484	15.484	0.000	20.268
P'		0.00000	0.00316	0.00316	0.00000	0.00382
M	(T*M)	6.50	3.30	7.70	6.45	11.76
N	(T)	1.95	1.95	0.78	5.63	3.76
S	(T)	0.00	0.00	0.00	0.00	0.00
EO	(CM)	333.333	169.230	987.179	114.564	312.765
E	(CM)	361.483	190.730	###.###	135.564	335.765
E'	(CM)	299.183	147.730	965.679	84.564	291.765
E'/E		0.827	0.774	0.957	0.623	0.868
D'/D		0.000	0.122	0.122	0.000	0.169
D/E		0.172	0.256	0.048	0.376	0.157
N*E/B*D2		1.816	1.549	3.276	2.934	4.494
K			0.324	0.334		0.358
LC			0.170	0.174		0.183
C		0.150			0.168	0.190
BETA		29.031			23.716	18.395
SGM C	(KG/CM2)	12.02	9.07	18.73	17.39	24.55
SGM S	(KG/CM2)	349.19	283.39	559.43	412.51	657.90
TAU	(KG/CM2)	0.00	0.00	0.00	0.00	0.00

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(6) 1-3.2-4	NO.(7) 1-3.2-4	NO.(8) 1-3.2-4	NO.(9) 1-3.2-4
B	(CM)	100.00	100.00	100.00	100.00
H	(CM)	68.30	55.00	55.00	55.00
D	(CM)	61.30	48.00	48.00	48.00
D'	(CM)	0.00	6.00	6.00	0.00
D''	(CM)	7.00	7.00	7.00	7.00
		8.00 D-22	8.00 D-22	4.00 D-22	4.00 D-25 4.00 D-22
AS	(CM2)	30.968	30.968	15.484	35.752
P		0.00505	0.00645	0.00322	0.00744
			4.00 D-22	4.00 D-22	
AS'	(CM2)	0.000	15.484	15.484	0.000
P'		0.00000	0.00322	0.00322	0.00000
M	(T*M)	6.50	5.97	5.83	8.50
N	(T)	8.89	9.44	9.55	12.61
S	(T)	0.00	0.00	0.00	0.00
EO	(CM)	73.115	63.241	61.047	67.406
E	(CM)	100.265	83.741	81.547	87.906
E'	(CM)	38.965	41.741	39.547	39.906
E'/E		0.388	0.498	0.484	0.453
D'/D		0.000	0.125	0.125	0.000
D/E		0.611	0.573	0.588	0.546
N*E/B*D2		2.372	3.431	3.380	4.811
K			0.432	0.336	
LC			0.215	0.176	
C		0.183			0.197
BETA		20.112			16.981
SGM C	(KG/CM2)	12.94	15.95	19.18	24.31
SGM S	(KG/CM2)	260.44	314.57	566.22	412.94
TAU	(KG/CM2)	0.00	0.00	0.00	0.00

C29 FATIGUE

STRESS

SGM CA = 0.000 (KG/M2)
SGM SA = 0.000 (KG/M2)
TAU A = 0.000 (KG/M2)

	NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2	NO.(4) 3-4	NO.(5) 3-4
B (CM)	100.00	100.00	100.00	100.00	100.00
H (CM)	68.30	55.00	55.00	60.00	60.00
D (CM)	62.30	49.00	49.00	51.00	53.00
D' (CM)	0.00	6.00	6.00	0.00	7.00
D'' (CM)	6.00	6.00	6.00	9.00	7.00
	8.00 D-22	6.00 D-22	8.00 D-22	4.00 D-25 2.00 D-22	4.00 D-25 4.00 D-22
AS (CM2)	30.968	23.226	30.968	28.010	35.752
P	0.00497	0.00474	0.00632	0.00549	0.00674
		4.00 D-22	4.00 D-22		4.00 D-25
AS' (CM2)	0.000	15.484	15.484	0.000	20.268
P'	0.00000	0.00316	0.00316	0.00000	0.00382
M (T*M)	16.72	8.49	19.76	12.08	24.98
N (T)	4.24	4.24	1.13	7.27	3.40
S (T)	0.00	0.00	0.00	0.00	0.00
E0 (CM)	394.339	200.235	###.###	166.162	734.705
E (CM)	422.489	221.735	###.###	187.162	757.705
E' (CM)	360.189	178.735	###.###	136.162	713.705
E'/E	0.852	0.806	0.975	0.727	0.941
D'/D	0.000	0.122	0.122	0.000	0.169
D/E	0.147	0.220	0.027	0.272	0.069
N*E/B*D2	4.615	3.915	8.331	5.231	9.171
K		0.319	0.331		0.347
LC		0.168	0.173		0.177
C	0.149			0.161	
BETA	29.480			25.599	
SGM C(KG/CM2)	30.83	23.27	47.94	32.29	51.59
SGM S(KG/CM2)	909.17	744.48	1448.64	826.74	1456.04
TAU (KG/CM2)	0.00	0.00	0.00	0.00	0.00

STRESS

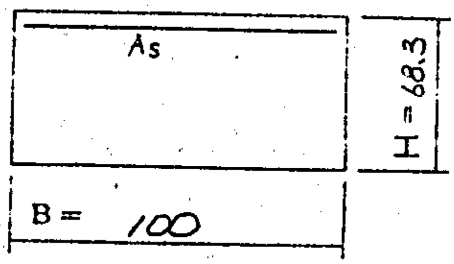
SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

	NO.(6) 1-3.2-4	NO.(7) 1-3.2-4	NO.(8) 1-3.2-4	NO.(9) 1-3.2-4
B (CM)	100.00	100.00	100.00	100.00
H (CM)	68.30	55.00	55.00	55.00
D (CM)	61.30	48.00	48.00	48.00
D' (CM)	0.00	6.00	6.00	0.00
D'' (CM)	7.00	7.00	7.00	7.00
	8.00 D-22	8.00 D-22	4.00 D-22	4.00 D-25 4.00 D-22
AS (CM2)	30.968	30.968	15.484	35.752
P	0.00505	0.00645	0.00322	0.00744
		4.00 D-22	4.00 D-22	
AS' (CM2)	0.000	15.484	15.484	0.000
P'	0.00000	0.00322	0.00322	0.00000
M (T*M)	16.72	15.71	15.26	17.33
N (T)	22.29	22.84	23.83	26.00
S (T)	0.00	0.00	0.00	0.00
EO (CM)	75.011	68.782	64.036	66.653
E (CM)	102.161	89.282	84.536	87.153
E' (CM)	40.861	47.282	42.536	39.153
E'/E	0.399	0.529	0.503	0.449
D'/D	0.000	0.125	0.125	0.000
D/E	0.600	0.537	0.567	0.550
N*E/B*D2	6.060	8.850	8.743	9.835
K		0.423	0.332	
LC		0.211	0.174	
C	0.182			0.198
BETA	20.357			16.903
SGM C(KG/CM2)	33.27	41.83	50.24	49.61
SGM S(KG/CM2)	677.36	855.46	1516.33	838.61
TAU (KG/CM2)	0.00	0.00	0.00	0.00

Stress calculation

Stress calculation of slab

1-2 (1) (for slab calculation)

Section		Standard strength for design σck = 240 kg / cm² Re-bar SD30 AS = 30.97 cm² (8 − D22) AS′ = 〃 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of registing power
Bending moment	Md = 6.50 t m	Mdℓi = t m	M = 16.72 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 12.0 kg / cm² σs = 350 〃 τ = — 〃	σc = kg / cm² σs = 〃 τ = — 〃	σc = 30.8 kg / cm² σs = 910 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{910 - 350}{910} = 0.62 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis KS-16 ℓ = m σrao = kg / cm²

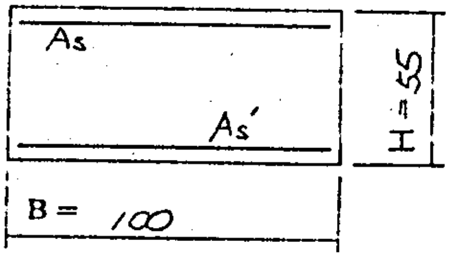
$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= \quad + (1 - \quad / 5000) \times \quad = \quad \text{kg / cm}^2$$

Stress calculation

Stress calculation of slab

1 - 2 (2) (for slab calculation)

Section	 Standard strength for design σck = 240 kg / cm² Re-bar SD30 AS = 23.23 cm² (6 − D22) AS′ = 15.48 〃 (4 − D22)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	M d = 3.30 t m	M d ℓ i = t m	M = 8.49 t m
Shearing force	S d = — t	S d ℓ i = — t	S = — t
Stress	σ c = 9.1 kg / cm² σ s = 280 〃 τ = — 〃	σ c = kg / cm² σ s = 〃 τ = — 〃	σ c = 23.3 kg / cm² σ s = 740 〃 τ = — 〃
Allowable stress	σ ca = 90kg / cm² σ sa = 1,000 〃 τ a = — 〃	σ ca = 90kg / cm² σ sa = 〃 τ a = — 〃	σ ca = 90kg / cm² σ sa = 1800 〃 τ a = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{740 - 280}{740} = 0.62 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = - σrao = kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

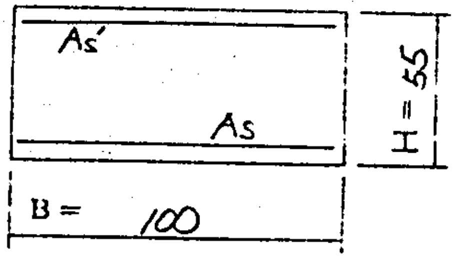
$$= \quad + (1 - \quad / 5000) \times \quad = \quad \text{kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-2 (3)

(for slab calculation)

Section		Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 30.97 cm² (8 − D22) AS' = 15.48 〃 (4 − D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 7.70 t m	Mdℓi = t m	M = 19.76 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 18.7 kg / cm² σs = 560 〃 τ = — 〃	σc = kg / cm² σs = 〃 τ = — 〃	σc = 47.9 kg / cm² σs = 1450 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = — 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1450 - 560}{1450} = 0.61 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = " σrao = kg / cm²

$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$

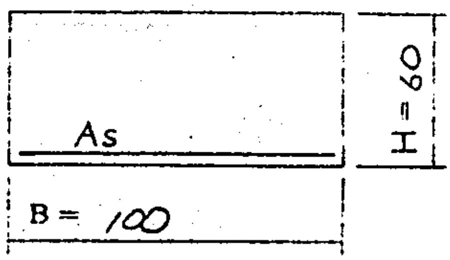
= + (1 − / 5000) × = kg / cm²

Stress calculation

Stress calculation of slab

3 - 4 (4) (for slab calculation)

Section



Standard strength for design $\sigma ck = 240$ kg / cm²

Re-bar SD 3 0

A S = 28.0 / cm² (4 - D25 / 2 - D22)

A S' = 〃 (- D)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	M d = 6.45 t m	M d ℓ i = t m	M = 12.08 t m
Shearing force	S d = — t	S d ℓ i = — t	S = — t
Stress	σ c = 17.4 kg / cm² σ s = 410 〃 τ = — 〃	σ c = kg / cm² σ s = 〃 τ = — 〃	σ c = 32.3 kg / cm² σ s = 830 〃 τ = — 〃
Allowable stress	σ ca = 90kg / cm² σ sa = 1 000 〃 τ a = — 〃	σ ca = 90kg / cm² σ sa = 〃 τ a = — 〃	σ ca = 90kg / cm² σ sa = 1800 〃 τ a = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{830 - 410}{830} = 0.51 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re -bar in terms of fatigue

Span for fatigue analysis Ks-16 ℓ = m σrao = kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= \quad + (1 - \quad / 5000) \times \quad = \quad \text{kg / cm}^2$$

Stress calculation

Stress calculation of slab

3-4 (5) (for slab calculation)

Section	As, As', H = 60, B = 100	Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 35.75 cm² (4-D25 4-D22) AS' = 20.27 〃 (4-D25)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	M d = 11.76 t m	M d ℓ i = t m	M = 24.98 t m
Shearing force	S d = — t	S d ℓ i = — t	S = — t
Stress	σ c = 24.6 kg/cm² σ s = 660 〃 τ = — 〃	σ c = kg/cm² σ s = 〃 τ = — 〃	σ c = 51.6 kg/cm² σ s = 1460 〃 τ = — 〃
Allowable stress	σ ca = 90kg/cm² σ sa = 1000 〃 τ a = — 〃	σ ca = 90kg/cm² σ sa = 〃 τ a = — 〃	σ ca = 90kg/cm² σ sa = 1800 〃 τ a = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1460-660}{1460} = 0.55 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = - σrao = kg/cm²

$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$

= + (1 − / 5000) × = kg/cm²

Stress calculation

Stress calculation of slab

1-3, 2-4 (6) (for slab calculation)

Section	As B = 100 H = 68.3	Standard strength for design σck = 240 kg / cm² Re-bar SD30 AS = 30.97 cm² (8 - D 22) AS′ = 〃 (- D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 6.50 t m	Mdℓi = 16.72 t m	M = 16.72 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 12.9 kg / cm² σs = 260 〃 τ = — 〃	σc = 33.3 kg / cm² σs = 680 〃 τ = — 〃	σc = 33.3 kg / cm² σs = 680 〃 τ = — 〃
Allowable stress	σca = 90 kg / cm² σsa = 1,000 〃 τa = — 〃	σca = 90 kg / cm² σsa = 1,530 〃 τa = — 〃	σca = 90 kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{680 - 260}{680} = 0.62 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000 kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200 kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 3.275 m σrao = 1,350 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 260 + (1 - 260 / 5000) \times 1,350 = 1,530 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (7) (for slab calculation)

Section	As, As′, H = 55, B = 100	Standard strength for design $\sigma ck = 240\ kg/cm^2$ Re-bar SD30 $A_S = 30.97\ cm^2$ (8 - D22) $A_S' = 15.48$ 〃 (4 - D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	$M_d = 5.97$ tm	$M_{d\ell i} = 15.71$ tm	$M = 15.71$ tm
Shearing force	$S_d =$ — t	$S_{d\ell i} =$ — t	$S =$ — t
Stress	$\sigma c = 16.0\ kg/cm^2$ $\sigma s = 310$ 〃 $\tau =$ — 〃	$\sigma c = 41.8\ kg/cm^2$ $\sigma s = 860$ 〃 $\tau =$ — 〃	$\sigma c = 41.8\ kg/cm^2$ $\sigma s = 860$ 〃 $\tau =$ — 〃
Allowable stress	$\sigma ca = 90kg/cm^2$ $\sigma sa = 1000$ 〃 $\tau a =$ — 〃	$\sigma ca = 90kg/cm^2$ $\sigma sa = 1570$ 〃 $\tau a =$ — 〃	$\sigma ca = 90kg/cm^2$ $\sigma sa = 1800$ 〃 $\tau a =$ — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{860 - 310}{860} = 0.64 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000kg/cm^2$,
$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200kg/cm^2$)

2. Allowable stress of re-bar in terms of fatigue

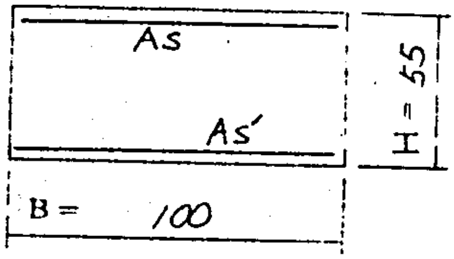
Span for fatigue analysis Ks-16 $\ell = 3.275^m$ $\sigma rao = 1350 kg/cm^2$

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 310 + (1 - 310 / 5000) \times 1350 = 1570\ kg/cm^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (8) (for slab calculation)

Section		Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 15.48 cm² (4 − D22) AS' = 15.48 〃 (4 − D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 5.83 t m	Mdℓi = 15.26 t m	M = 15.26 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 19.2 kg / cm² σs = 570 〃 τ = — 〃	σc = 50.2 kg / cm² σs = 1520 〃 τ = — 〃	σc = 50.2 kg / cm² σs = 1520 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1760 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1520 - 570}{1520} = 0.63 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 $\ell = 3.275$ m σrao = 1350 kg / cm²

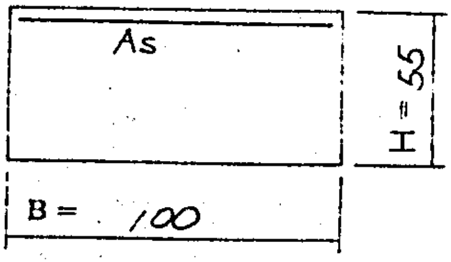
$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 570 + (1 - 570 / 5000) \times 1350 = 1760 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (9) (for slab calculation)

Section		Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 35.75 cm² (4 − D25 / 4 − D22) AS′ = 〃 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 8.50 t m	Mdℓi = 17.33 t m	M = 17.33 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 24.3 kg / cm² σs = 410 〃 τ = — 〃	σc = 49.6 kg / cm² σs = 840 〃 τ = — 〃	σc = 49.6 kg / cm² σs = 840 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1640 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{840 - 410}{840} = 0.51 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

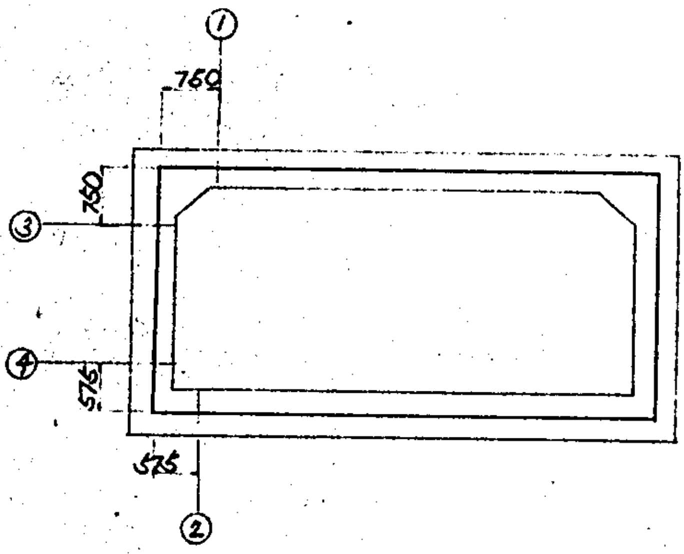
Span for fatigue analysis ks-16 $\ell = 3.275$ m $\sigma rao = 1350$ kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 410 + (1 - 410 / 5000) \times 1350 = 1640 \text{ kg / cm}^2$$

Calculation of shearing force

Sections of calculation of shearing stress



$$\tau = \frac{S}{b \cdot d}$$

b = 100 cm

h = Thickness of member

d ″ = Thickness of concrete cover of tension bar

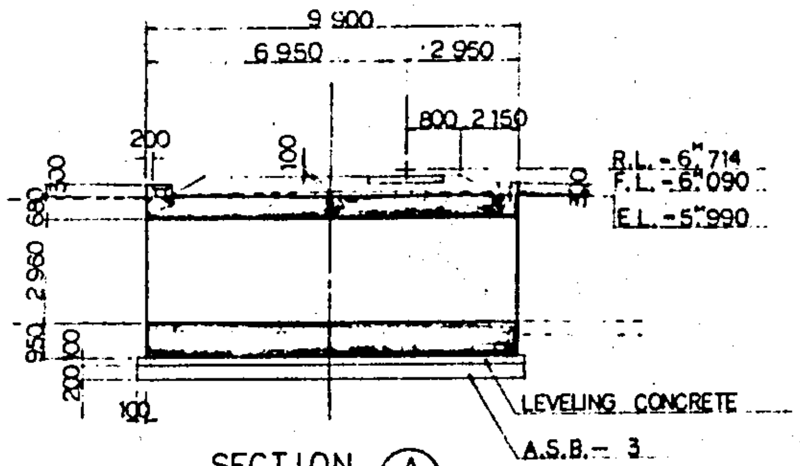
d = Effective height

Sections of calculation	cm h	cm d′	cm d = h-d	kg S	kg / cm² τ	% ρ	kg / cm² τa
1	55	6	49	18960	3.9	0.32	4.7
2	60	9	51	23970	4.7	0.55	5.1
3	55	7	48	2460	0.5	0.32	4.7
4	55	7	48	4900	1.0	0.74	6.2

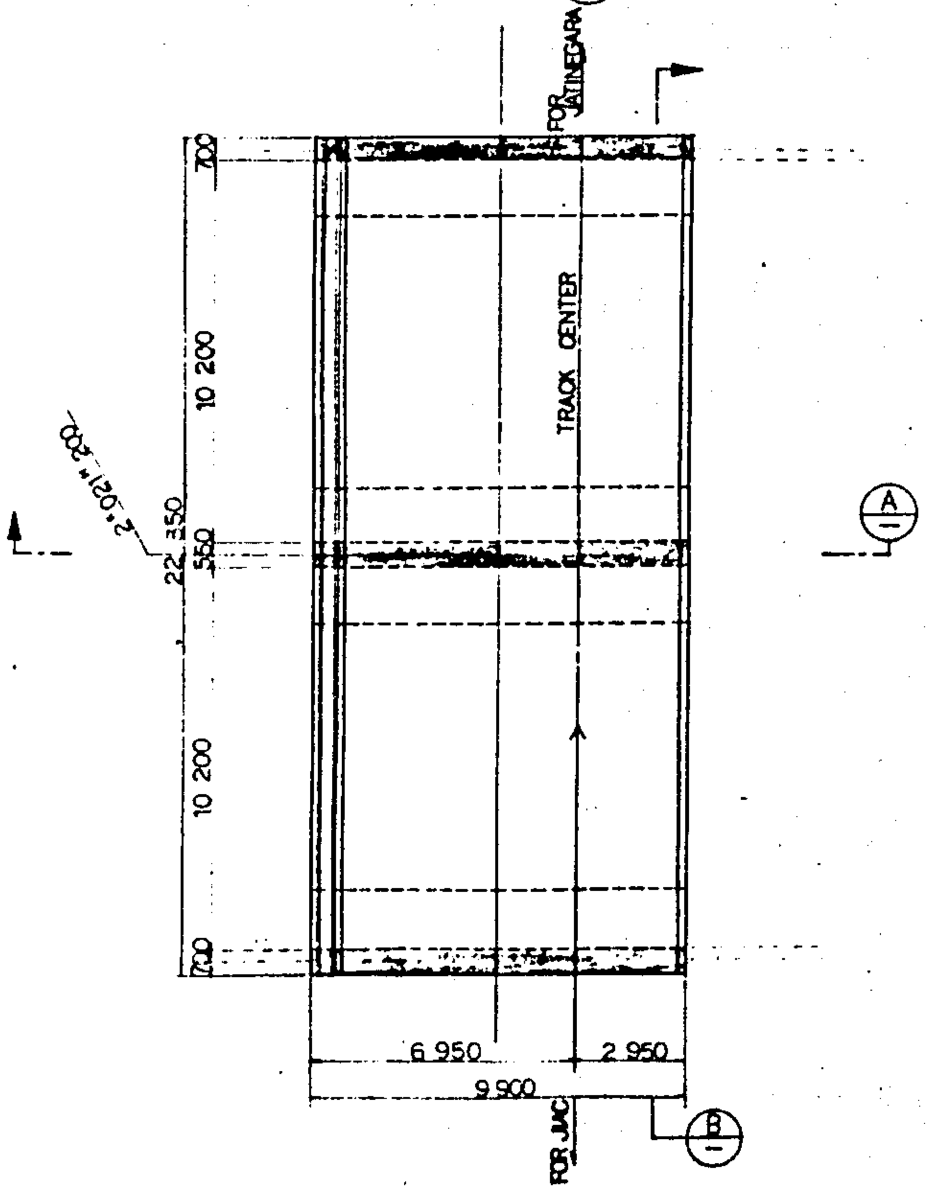
§4. CbO1 BOX CULVERT

$2 \times (10^{m}.20 \times 2^{m}.96)$

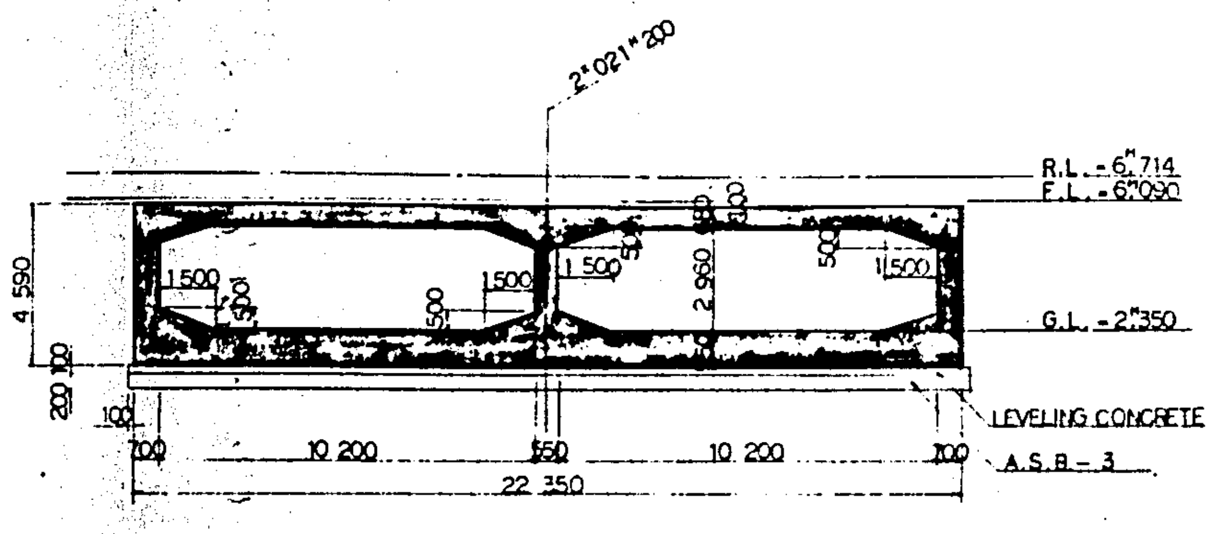
1. Configuration



SECTION A
SCALE 1:100



PLAN SCALE 1:100

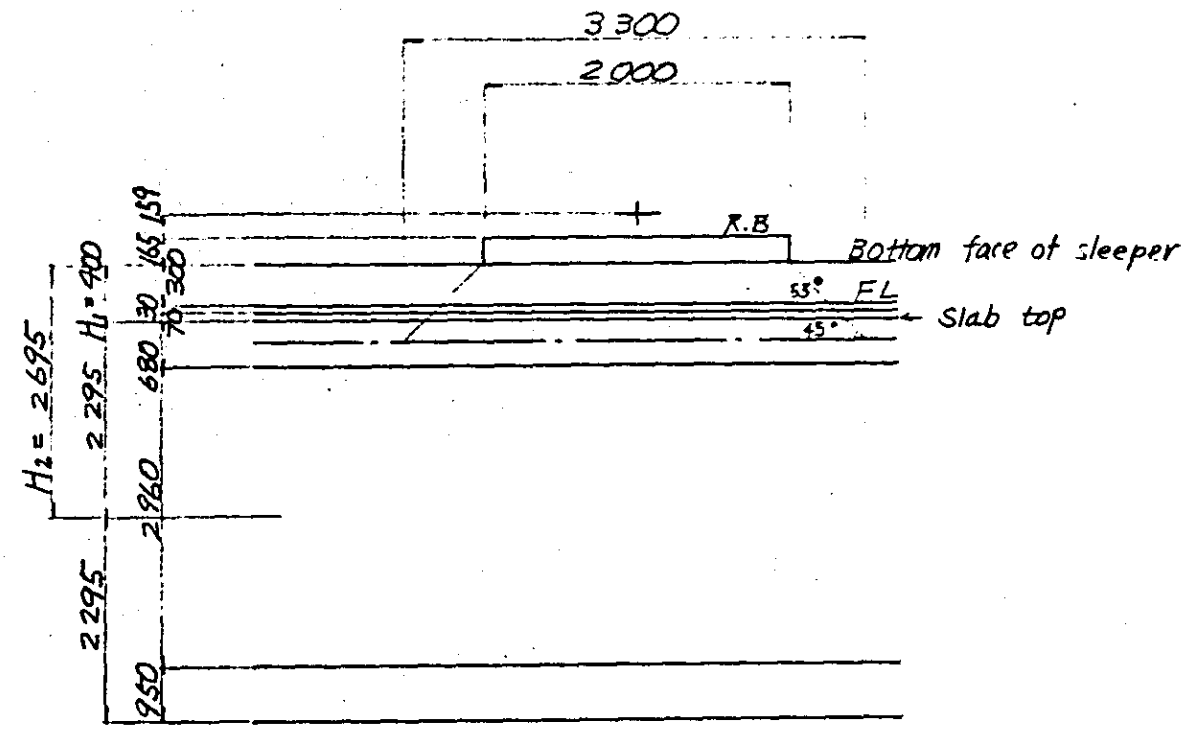


SECTION B
SCALE 1:100

NOTES:

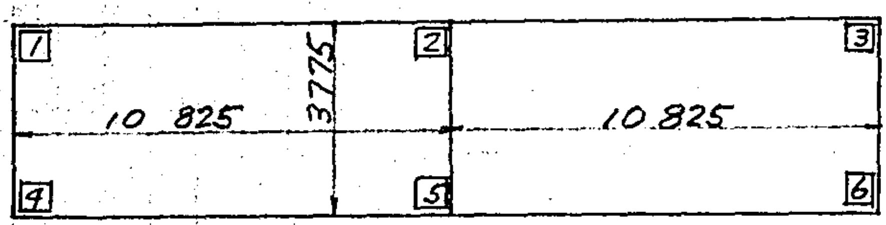
1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE INDICATED
2. REFERENCE DRAWING FOR BAR ARRANGEMENT : CE-013
3. GRADING CONCRETE SHALL BE SIMULTANEOUSLY PLACED WITH SLAB CONCRETE

2. Configuration and dimension: Surcharge earth load



3. cross section

1. Axis of Rahmen(Rigid frame)



2. Cross sectional area: Moment of inertia of the area

1)Top slab

A =	1.00 × 0.68	= 0.680	m^2
I =	$1/12 \times 1.00 \times 0.68^3$	= 0.02620	m^4

2)Bottom slab

A =	1.00 × 0.95	= 0.950	m^2
I =	$1/12 \times 1.00 \times 0.95^3$	= 0.07145	m^4

3)Side wall

A =	1.00 × 0.70	= 0.700	m^2
I =	$1/12 \times 1.00 \times 0.70^3$	= 0.02858	m^4

4)Center wall

A =	1.00 × 0.55	= 0.550	m^2
I =	$1/12 \times 1.00 \times 0.55^3$	= 0.01386	m^4

4. Loads

Calcultaion carried out based on the unit width of Rahmen(Rigid frame).

4.1 Dead load

Weight of track assembly

$0.45\,t/m \div 3.30\,m = 0.14\ t/m^2$

Track ballast

$1.9\,t/m^3 \times 0.47 = 0.89$ 〃

(R.B.~F.L.)

Subgrade material

(upper layer) $1.9\ t/m^3 \times 0.03\,m = 0.06$ 〃

Grading concrete $2.35\,t/m^3 \times 0.07\,m = 0.16$ 〃

Weight of top slab $2.5\ t/m^3 \times 0.68\,m = 1.70$ 〃

$W_d = 2.95\ t/m^2$

Weight of side wall

$2.5\ t/m^3 \times 0.70\,m \times 3.775 = 6.61\ t/m$

Weight of center wall

$2.5\ t/m^3 \times 0.55\,m \times 3.775^m = 5.19\,t/m$

Weight of bottom slab

$2.95 + (6.61 \times 2 + 5.19) \times 1/2 \times 10.825 = 3.80\ t/m^2$

4.2 Train load

Uniformly distributed load. equivalent to KS-16 loading

$\ell = 10.825\,m$ Surcharge earth (Sleeper bottom - Slab top) is assumed as 0.40m, then $P_{m_1} = 3.03\ t/m^2$

$P_s = 3.33\,t/m^2$

$P_{m_1} = 2.48$

4.3 Impact coefficient

$$i = i_o \left\{ \frac{2.5 - H}{1.5} \right\}$$

$= 0.43 \quad (\ell = 10.825\,m)$

$= 0.37 \quad (\ell = 2 \times 10.825)$

$H \leq 1.0^m \quad i = i_o$

$H \geq 2.5^m \quad i = 0$

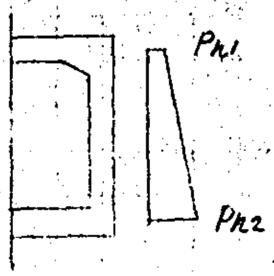
4.4 Earth pressure

1) Ordinary case, earth pressure due to dead load

Horizontal earth pressure acting at the depth of H

Bottom face of sleeper

$$Ph = K \cdot \gamma \cdot H$$



Ph : Horizontal earth pressure per unit area

γ : Unit weight of earth = 1.8 t / m³

H : Depth of earth (depth above slab top is the equivalent value)

K : Coefficient of static earth pressure = 0.5

$K = 0.5$

$H_1 = 1 / 1.8 \times (2.95 - 1.70 - 0.16) = 0.61$ m

$Ph1 = K \cdot \gamma \cdot H_1$

$= 0.5 \times 1.8 \times (0.61 + 0.07 + 0.68 / 2) = 0.92$ t / m²

$Ph2 = Ph1 + K \gamma H_2$

$= 0.92 + 0.5 \times 1.8 \times 3.775 = 4.32$ t / m²

$K = 0.3$

$Ph1 = 0.3 \times 1.8 \times (0.61 + 0.07 + 0.68 / 2) = 0.55$ t / m²

$Ph2 = 0.55 + 0.3 \times 1.8 \times 3.775 = 2.59$ t / m²

2)Horizontal earth pressure caused by train load

$$Ph\ell = K \cdot Pv\ell$$

Bottom face of sleeper

$Ph\ell$: Effect of train load acting at the side. (uniformly distributed load) (t / m²)

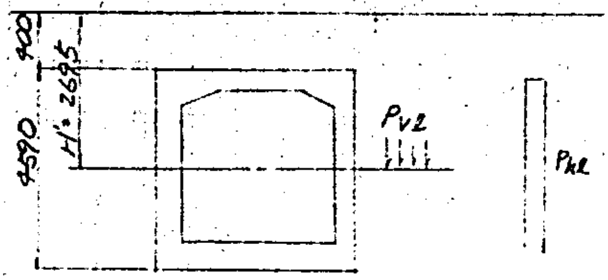
$Pv\ell$: Effect of train load in vertical direction at the depth of the level of culvert center (t / m²)

K : Coefficient of horizontal earth pressure (generally assumed as 0.5)

H' : Depth of the level of culvert center (m)

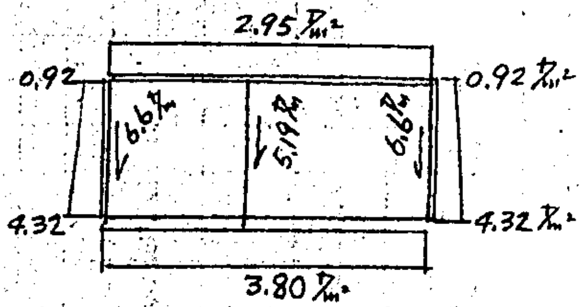
$$Ph\ell = K \cdot Pv\ell$$
$$= 0.5 \times 2.20$$
$$= 1.10 \ t/m^2$$

Bottom face of sleeper

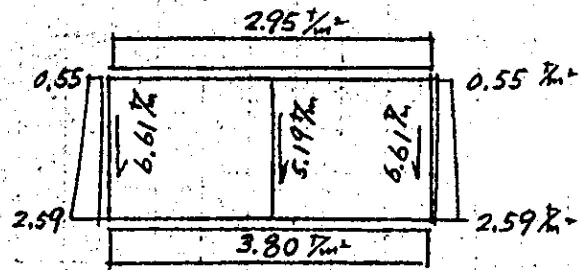


4.5 Loading condition

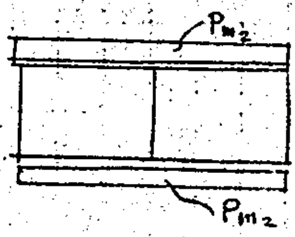
case1 Dead load + Earth pressure (0.5)



case2 Dead load + Earth pressure (0.3)



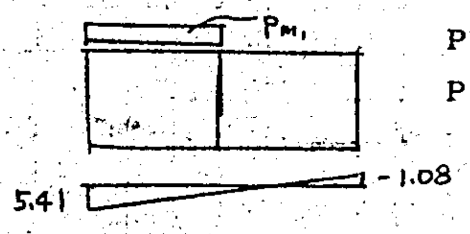
case3 All live load Impact



$P_{m2} = 2.48 \times 1.37 = 3.40\ t/m^2$

$P_{s2} = 3.33 \times 1.37 = 4.56$ 〃

case4 Half live load Impact



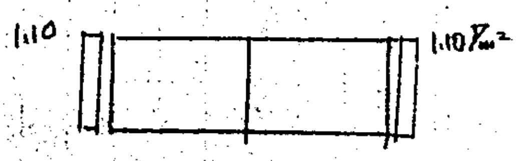
$P_{m1} = 3.03 \times 1.43 = 4.33\ t/m^2$

$P_{s1} = 3.33 \times 1.43 = 4.76$ 〃

Reaction at the bottom slab

$$\frac{4.33 \times 10.825}{2 \times 10.825}\left(1 \pm \frac{3 \times 10.825}{2 \times 10.825}\right) = 5.41,\ -1.08$$

case5 Earth pressure due to live load



Combination of loads

Case	Combination of loads
①	Dead load ＋Surcharge earth load ＋Earth pressure (K = 0.5)
②	Dead load ＋Surcharge earth load ＋Earth pressure (K = 0.3)
③	All live load ＋Impact
④	Half live load＋Impact
⑤	live load, Earth pressure

Difine	Case
1	① ②
2	③ ④
3	⑤

Combine	Difime	Coefficient of increased load
	1	1.00
	1 ＋ 2	1.00
	1 ＋ 3	1.00
	1 ＋ 2 ＋ 3	1.00

Pick up	Combine	
1	1, 2, 3, 4	

REACTION

LOAD	SUPPORT	X (TON)	Y (TON)	Z (TON.M)
LOAD - 1	CASE 1 (SHI+DO (0.5))			
	4	0.000	-0.009	0.000
	6	0.000	-0.009	0.000
LOAD - 3	CASE 3 (KATSU+SYOU 1)			
	4	0.000	0.000	0.000
	6	0.000	0.000	0.000
LOAD - 5	CASE 5 (KATSUDO)			
	4	0.000	0.000	0.000
	6	0.000	0.000	0.000

LOAD	SUPPORT	X (TON)	Y (TON)	Z (TON.M)
LOAD - 2	CASE 2 (SHI+DO (0.3))			
	4	0.000	-0.009	0.000
	6	0.000	-0.009	0.000
LOAD - 4	CASE 4 (KATSU+SYOU 2)			
	4	0.000	0.009	0.000
	6	0.000	-0.009	0.000

DEFLECTION

LOAD	CASE	JOINT	X (MM)	Y (MM)	Z (MMRAD)
LOAD - 1	CASE 1 (SHI+DO (0.5))				
		1	-0.038	-0.033	-0.333
		2	-0.040	2.043	0.000
		3	-0.042	-0.033	0.333
		4	0.000	0.000	0.455
		5	-0.040	2.144	0.000
		6	-0.080	0.000	-0.455
LOAD - 3	CASE 3 (KATSU+SYOU 1)				
		1	0.011	-0.032	-0.430
		2	0.005	0.835	0.000
		3	-0.002	-0.032	0.430
		4	0.000	0.000	0.390
		5	0.005	0.940	0.000
		6	0.009	0.000	-0.390
LOAD - 5	CASE 5 (KATSUDO)				
		1	0.003	0.000	0.016
		2	-0.009	-0.040	0.000
		3	-0.021	0.000	-0.016
		4	0.000	0.000	-0.016
		5	-0.009	-0.041	0.000
		6	-0.016	0.000	0.016

LOAD	CASE	JOINT	X (MM)	Y (MM)	Z (MMRAD)
LOAD - 2	CASE 2 (SHI+DO (0.3))				
		1	-0.037	-0.033	-0.348
		2	-0.030	2.082	0.000
		3	-0.023	-0.033	0.348
		4	0.000	0.000	0.470
		5	-0.030	2.183	0.000
		6	-0.060	0.000	-0.470
LOAD - 4	CASE 4 (KATSU+SYOU 2)				
		1	0.048	-0.046	-0.672
		2	0.028	0.532	0.643
		3	0.039	0.004	-0.125
		4	0.000	0.000	0.546
		5	0.014	0.598	-0.327
		6	0.006	0.000	0.050

98

LOAD 1 CASE 1 (SHI+DO (0.5))

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-12.581		13.371	-0.359
1	0.350	-8.082		12.339	-0.359
2	0.940	-1.315		10.598	-0.359
3	1.850	7.107		7.914	-0.359
4	3.650	16.573		2.604	-0.359
5	5.412	16.580		-2.596	-0.359
6	7.250	6.830		-8.016	-0.359
7	9.050	-12.378		-13.326	-0.359
8	9.960	-25.727		-16.011	-0.359
9	10.550	-35.687		-17.751	-0.359
JTAN	10.825	-40.680		-18.563	-0.359
MAX	4.811	17.606		-0.822	-0.359

= = MEMBER 2 (2 - 3) G = =

	L	M	(M)	Q	N
ITAN	0.000	-40.680		18.563	-0.359
1	0.275	-35.687		17.751	-0.359
2	0.865	-25.727		16.011	-0.359
3	1.775	-12.378		13.326	-0.359
4	3.575	6.830		8.016	-0.359
5	5.412	16.580		2.596	-0.359
6	7.175	16.573		-2.604	-0.359
7	8.975	7.107		-7.914	-0.359
8	9.885	-1.315		-10.598	-0.359
9	10.475	-8.082		-12.339	-0.359
JTAN	10.825	-12.581		-13.371	-0.359
MAX	6.014	17.606		0.822	-0.359

= = MEMBER 3 (4 - 5) G = =

	L	M	(M)	Q	N
ITAN	0.000	25.856		-19.987	-9.531
1	0.350	19.093		-18.657	-9.531
2	0.725	12.364		-17.232	-9.531
3	1.075	6.566		-15.902	-9.531
4	1.850	-4.617		-12.957	-9.531
5	3.650	-21.782		-6.117	-9.531
6	5.412	-26.660		0.581	-9.531
7	7.250	-19.176		7.563	-9.531
8	9.050	0.593		14.403	-9.531
9	9.825	12.896		17.348	-9.531
10	10.550	26.473		20.103	-9.531
JTAN	10.825	32.145		21.148	-9.531
MAX	5.412	-26.660		0.581	-9.531

LOAD 2 CASE 2 (SHI+DO (0.3))

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-12.046		13.291	1.148
1	0.350	-7.575		12.258	1.148
2	0.940	-0.857		10.518	1.148
3	1.850	7.493		7.833	1.148
4	3.650	16.813		2.523	1.148
5	5.412	16.678		-2.676	1.148
6	7.250	6.780		-8.097	1.148
7	9.050	-12.573		-13.407	1.148
8	9.960	-25.995		-16.091	1.148
9	10.550	-36.002		-17.832	1.148
JTAN	10.825	-41.018		-18.643	1.148
MAX	4.811	17.754		-0.902	1.148

= = MEMBER 2 (2 - 3) G = =

	L	M	(M)	Q	N
ITAN	0.000	-41.018		18.643	1.148
1	0.275	-36.002		17.832	1.148
2	0.865	-25.995		16.091	1.148
3	1.775	-12.573		13.407	1.148
4	3.575	6.780		8.097	1.148
5	5.412	16.678		2.676	1.148
6	7.175	16.813		-2.523	1.148
7	8.975	7.493		-7.833	1.148
8	9.885	-0.857		-10.518	1.148
9	10.475	-7.575		-12.258	1.148
JTAN	10.825	-12.046		-13.291	1.148
MAX	6.014	17.754		0.902	1.148

= = MEMBER 3 (4 - 5) G = =

	L	M	(M)	Q	N
ITAN	0.000	25.144		-19.906	-7.075
1	0.350	18.410		-18.576	-7.075
2	0.725	11.711		-17.151	-7.075
3	1.075	5.941		-15.821	-7.075
4	1.850	-5.179		-12.876	-7.075
5	3.650	-22.200		-6.036	-7.075
6	5.412	-26.936		0.662	-7.075
7	7.250	-19.305		7.644	-7.075
8	9.050	0.610		14.484	-7.075
9	9.825	12.977		17.429	-7.075
10	10.550	26.611		20.184	-7.075
JTAN	10.825	32.306		21.229	-7.075
MAX	5.412	-26.936		0.662	-7.075

LOAD 1 CASE 1 (SHI+DO (0.5))

= = MEMBER 4 (5 - 6) G = =

	L	M	(M)	Q	N
ITAN	0.000	32.145		-21.148	-9.531
1	0.275	26.473		-20.103	-9.531
2	1.000	12.896		-17.348	-9.531
3	1.775	0.593		-14.403	-9.531
4	3.575	-15.178		-7.563	-9.531
5	5.412	-26.660		-0.531	-9.531
6	7.175	-21.782		6.117	-9.531
7	8.975	-4.617		12.957	-9.531
8	9.750	6.566		15.902	-9.531
9	10.100	12.364		17.232	-9.531
10	10.475	18.093		18.657	-9.531
JTAN	10.825	25.656		19.987	-9.531
MAX	5.412	-26.660		-0.581	-9.531

= = MEMBER 5 (1 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	12.581		-0.359	-13.371
1	0.340	12.518		0.006	-13.966
2	0.600	12.563		0.355	-14.421
3	0.840	12.693		0.731	-14.841
4	0.940	12.774		0.904	-15.016
5	1.888	14.551		2.982	-16.674
6	2.700	17.919		5.408	-18.096
7	2.800	19.477		5.747	-18.271
8	3.175	20.282		7.101	-18.927
9	3.300	21.800		7.581	-19.146
JTAN	3.775	25.856		9.531	-19.977
MAX	0.340	12.518		0.006	-13.966

= = MEMBER 6 (2 - 5) C = =

	L	M	(M)	Q	N
ITAN	0.000	0.000		0.000	-37.125
1	0.840	0.000		0.000	-38.276
2	2.800	0.000		0.000	-40.961
JTAN	3.775	0.000		0.000	-42.297

LOAD 2 CASE 2 (SHI+DO (0.3))

= = MEMBER 4 (5 - 6) G = =

	L	M	(M)	Q	N
ITAN	0.000	32.306		-21.229	-7.075
1	0.275	26.611		-20.184	-7.075
2	1.000	12.977		-17.429	-7.075
3	1.775	0.610		-14.484	-7.075
4	3.575	-19.305		-7.644	-7.075
5	5.412	-26.936		-0.662	-7.075
6	7.175	-22.200		6.036	-7.075
7	8.975	-5.179		12.876	-7.075
8	9.750	5.941		15.821	-7.075
9	10.100	11.711		17.151	-7.075
10	10.475	18.410		18.576	-7.075
JTAN	10.825	25.144		19.906	-7.075
MAX	5.412	-26.936		-0.662	-7.075

= = MEMBER 5 (1 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	12.046		1.148	-13.291
1	0.340	12.472		1.366	-13.886
2	0.600	12.854		1.575	-14.341
3	0.840	13.258		1.801	-14.761
4	0.940	13.443		1.904	-14.936
5	1.838	15.798		3.149	-16.594
6	2.700	18.923		4.603	-18.016
7	2.800	19.394		4.806	-18.191
8	3.175	21.346		5.618	-18.847
9	3.300	22.066		5.905	-19.066
JTAN	3.775	25.144		7.075	-19.897

= = MEMBER 6 (2 - 5) C = =

	L	M	(M)	Q	N
ITAN	0.000	0.000		0.000	-37.286
1	0.840	0.000		0.000	-38.437
2	2.800	0.000		0.000	-41.122
JTAN	3.775	0.000		0.000	-42.458

100

LOAD 1 CASE 1 (SHI+DO (0.5))

= = MEMBER 7 (3 - 6) C = =

	L	M	(M)	Q	N
ITAN	0.000	-12.581		0.359	-13.371
1	0.340	-12.518		-0.006	-13.966
2	0.600	-12.563		-0.355	-14.421
3	0.640	-12.693		-0.731	-14.841
4	0.940	-12.774		-0.904	-15.016
5	1.888	-14.551		-2.982	-16.674
6	2.700	-17.919		-5.408	-18.096
7	2.800	-18.477		-5.747	-18.271
8	3.175	-20.382		-7.101	-18.927
9	3.300	-21.600		-7.581	-19.146
JTAN	3.775	-25.656		-9.531	-19.977
MAX	0.340	-12.519		-0.006	-13.966

LOAD 2 CASE 2 (SHI+DO (0.3))

= = MEMBER 7 (3 - 6) C = =

	L	M	(M)	Q	N
ITAN	0.000	-12.046		-1.148	-13.291
1	0.340	-12.472		-1.366	-13.886
2	0.600	-12.854		-1.575	-14.341
3	0.840	-13.258		-1.801	-14.761
4	0.940	-13.443		-1.904	-14.936
5	1.888	-15.798		-3.149	-16.594
6	2.700	-18.923		-4.603	-18.016
7	2.800	-19.394		-4.806	-18.191
8	3.175	-21.346		-5.618	-18.847
9	3.300	-22.066		-5.905	-19.066
JTAN	3.775	-25.144		-7.075	-19.897

LOAD 3 CASE 3 (KATSU+SYOU 1)

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-18.626		22.544	-1.097
1	0.350	-13.342		20.948	-1.097
2	0.940	-5.039		18.258	-1.097
3	1.850	5.446		14.108	-1.097
4	3.650	17.894		5.900	-1.097
5	5.412	19.408		-2.137	-1.097
6	7.250	9.742		-10.516	-1.097
7	9.050	-10.859		-18.724	-1.097
8	9.960	-25.466		-22.874	-1.397
9	10.550	-36.441		-25.565	-1.097
JTAN	10.825	-41.960		-26.819	-1.097
MAX	4.811	20.079		0.605	-1.097

= = MEMBER 2 (2 - 3) G = =

	L	M	(M)	Q	N
ITAN	0.000	-41.960		26.819	-1.097
1	0.275	-36.441		25.565	-1.097
2	0.865	-25.466		22.874	-1.097
3	1.775	-10.859		18.724	-1.097
4	3.575	9.742		10.516	-1.097
5	5.412	19.408		2.137	-1.097
6	7.175	17.894		-5.900	-1.097
7	8.975	5.446		-14.108	-1.097
8	9.885	-5.039		-18.258	-1.097
9	10.475	-13.342		-20.948	-1.097
JTAN	10.825	-18.626		-22.544	-1.097
MAX	6.014	20.079		-0.605	-1.097

= = MEMBER 3 (4 - 5) G = =

	L	M	(M)	Q	N
ITAN	0.000	14.684		-22.544	1.097
1	0.350	9.199		-20.948	1.097
2	0.725	3.785		-19.238	1.097
3	1.075	-0.637		-17.642	1.097
4	1.850	-9.589		-14.108	1.097
5	3.650	-22.037		-5.900	1.097
6	5.412	-23.551		2.137	1.097
7	7.250	-13.694		10.516	1.097
8	9.050	6.716		18.724	1.097
9	9.825	18.978		22.258	1.097
10	10.550	32.296		25.565	1.097
JTAN	10.825	37.612		26.819	1.097
MAX	4.811	-24.221		-0.605	1.097

LOAD 4 CASE 4 (KATSU+SYOU 2)

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-31.037		25.273	-3.251
1	0.350	-23.271		23.607	-3.251
2	0.940	-11.381		20.799	-3.251
3	1.850	4.003		16.467	-3.251
4	3.650	23.572		7.899	-3.251
5	5.412	29.734		-0.490	-3.251
6	7.250	21.523		-9.237	-3.251
7	9.050	-0.695		-17.805	-3.251
8	9.960	-17.267		-22.136	-3.251
9	10.550	-29.927		-24.945	-3.251
JTAN	10.625	-36.343		-26.254	-3.251
MAX	5.412	29.734		-0.490	-3.251

= = MEMBER 2 (2 - 3) G = =

	L	M	(M)	Q	N
ITAN	0.000	-17.094		2.231	1.853
1	0.275	-16.460		2.231	1.853
2	0.865	-15.163		2.231	1.853
3	1.775	-13.133		2.231	1.853
4	3.575	-9.117		2.231	1.853
5	5.412	-5.017		2.231	1.853
6	7.175	-1.084		2.231	1.853
7	8.975	2.933		2.231	1.853
8	9.885	4.963		2.231	1.853
9	10.475	6.280		2.231	1.853
JTAN	10.825	7.060		2.231	1.853

= = MEMBER 3 (4 - 5) G = =

	L	M	(M)	Q	N
ITAN	0.000	18.765		-25.321	3.251
1	0.350	11.066		-23.260	3.251
2	0.725	3.539		-21.096	3.251
3	1.075	-2.825		-19.118	3.251
4	1.850	-14.726		-14.883	3.251
5	3.650	-31.346		-5.809	3.251
6	5.412	-34.058		2.041	3.251
7	7.250	-24.384		9.135	3.251
8	9.050	-4.298		15.006	3.251
9	9.825	7.143		17.205	3.251
10	10.550	19.199		19.383	3.251
JTAN	10.825	24.073		19.750	3.251
MAX	4.811	-34.538		-0.522	3.251

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LOAD 3 CASE 3 (KATSU+SYOU 1)

= = MEMBER 4 (5 - 6) G = =

	L	M	(M)	Q	N
ITAN	0.000	37.818		-26.819	1.097
1	0.275	32.298		-25.565	1.097
2	1.000	18.978		-22.258	1.097
3	1.775	6.716		-16.724	1.097
4	3.575	-13.884		-10.516	1.097
5	5.412	-23.551		-2.137	1.097
6	7.175	-22.037		5.900	1.097
7	8.975	-9.589		14.108	1.097
8	9.750	-0.837		17.642	1.097
9	10.100	3.785		19.233	1.097
10	10.475	9.199		20.948	1.097
JTAN	10.825	14.684		22.544	1.097
MAX	6.014	-24.221		3.605	1.097

= = MEMBER 5 (1 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	18.826		-1.097	-16.265
1	0.340	18.453		-1.097	-16.265
2	0.600	18.168		-1.097	-16.265
3	0.840	17.905		-1.097	-16.265
4	0.940	17.795		-1.097	-16.265
5	1.888	16.755		-1.097	-16.265
6	2.700	15.663		-1.097	-16.265
7	2.800	15.754		-1.097	-16.265
8	3.175	15.342		-1.097	-16.265
9	3.300	15.205		-1.097	-16.265
JTAN	3.775	14.684		-1.097	-16.265

= = MEMBER 6 (2 - 5) C = =

	L	M	(M)	Q	N
ITAN	0.000	0.000		0.000	-41.079
1	0.840	0.000		0.000	-41.079
2	2.800	0.000		0.000	-41.079
JTAN	3.775	0.000		0.000	-41.079

LOAD 4 CASE 4 (KATSU+SYOU 2)

= = MEMBER 4 (5 - 6) G = =

	L	M	(M)	Q	N
ITAN	0.000	24.090		-8.735	-1.853
1	0.275	21.945		-8.093	-1.853
2	1.000	17.028		-6.520	-1.853
3	1.775	12.353		-5.030	-1.853
4	3.575	6.703		-2.333	-1.853
5	5.412	4.066		-0.681	-1.853
6	7.175	3.282		-0.142	-1.853
7	8.975	2.514		-0.647	-1.853
8	9.750	1.761		-1.194	-1.853
9	10.100	1.280		-1.506	-1.853
10	10.475	0.648		-1.885	-1.853
JTAN	10.825	-0.066		-2.280	-1.853

= = MEMBER 5 (1 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	31.037		-3.251	-22.946
1	0.340	29.932		-3.251	-22.946
2	0.600	29.087		-3.251	-22.946
3	0.840	28.306		-3.251	-22.946
4	0.940	27.981		-3.251	-22.946
5	1.888	24.901		-3.251	-22.946
6	2.700	22.260		-3.251	-22.946
7	2.800	21.935		-3.251	-22.946
8	3.175	20.715		-3.251	-22.946
9	3.300	20.309		-3.251	-22.946
JTAN	3.775	18.765		-3.251	-22.946

= = MEMBEP 6 (2 - 5) C = =

	L	M	(M)	Q	N
ITAN	0.000	-19.250		5.104	-26.158
1	0.840	-14.963		5.104	-26.158
2	2.800	-4.960		5.104	-26.158
JTAN	3.775	0.016		5.104	-26.158

LOAD 3 CASE 3 (KATSU+SYOU 1)

= = MEMBER 7 (3 - 6) C = =

	L	M	(M)	Q	N
ITAN	0.000	-18.826		1.097	-16.265
1	0.340	-18.453		1.097	-16.265
2	0.600	-18.168		1.097	-16.265
3	0.840	-17.905		1.097	-16.265
4	0.940	-17.795		1.097	-16.265
5	1.888	-16.755		1.097	-16.265
6	2.700	-15.863		1.097	-16.265
7	2.800	-15.754		1.097	-16.265
8	3.175	-15.342		1.097	-16.265
9	3.300	-15.205		1.097	-16.265
JTAN	3.775	-14.684		1.097	-16.265

LOAD 4 CASE 4 (KATSU+SYOU 2)

= = MEMBER 7 (3 - 6) C = =

	L	M	(M)	Q	N
ITAN	0.000	7.060		-1.853	2.231
1	0.340	6.431		-1.853	2.231
2	0.600	5.949		-1.853	2.231
3	0.840	5.504		-1.853	2.231
4	0.940	5.319		-1.853	2.231
5	1.888	3.563		-1.853	2.231
6	2.700	2.058		-1.853	2.231
7	2.800	1.873		-1.853	2.231
8	3.175	1.178		-1.853	2.231
9	3.300	0.946		-1.853	2.231
JTAN	3.775	0.066		-1.853	2.231

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LOAD 5 CASE 5 (KATSUDO)

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-0.561		0.084	-2.028
1	0.350	-0.532		0.084	-2.028
2	0.940	-0.482		0.084	-2.028
3	1.850	-0.405		0.084	-2.028
4	3.650	-0.253		0.084	-2.028
5	5.412	-0.104		0.084	-2.028
6	7.250	0.051		0.084	-2.028
7	9.050	0.203		0.084	-2.028
8	9.960	0.280		0.084	-2.028
9	10.550	0.330		0.084	-2.028
JTAN	10.825	0.353		0.084	-2.028

= = MEMBER 2 (2 - 3) G = =

	L	M	(M)	Q	N
ITAN	0.000	0.353		-0.084	-2.028
1	0.275	0.330		-0.084	-2.028
2	0.865	0.280		-0.084	-2.028
3	1.775	0.203		-0.084	-2.028
4	3.575	0.051		-0.084	-2.028
5	5.412	-0.104		-0.084	-2.028
6	7.175	-0.253		-0.084	-2.028
7	8.975	-0.405		-0.084	-2.028
8	9.885	-0.482		-0.084	-2.028
9	10.475	-0.532		-0.084	-2.028
JTAN	10.825	-0.561		-0.084	-2.028

= = MEMBER 3 (4 - 5) G = =

	L	M	(M)	Q	N
ITAN	0.000	0.743		-0.084	-2.124
1	0.350	0.714		-0.084	-2.124
2	0.725	0.682		-0.084	-2.124
3	1.075	0.652		-0.084	-2.124
4	1.850	0.587		-0.084	-2.124
5	3.650	0.435		-0.084	-2.124
6	5.412	0.286		-0.084	-2.124
7	7.250	0.131		-0.084	-2.124
8	9.050	-0.021		-0.084	-2.124
9	9.825	-0.087		-0.084	-2.124
10	10.550	-0.146		-0.084	-2.124
JTAN	10.825	-0.171		-0.084	-2.124

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LOAD 5 CASE 5 (KATSUDO)

	----L----	----M----	---(M)---	----Q----	----N----
= = MEMBER 4 (5 - 6) G = =					
ITAN	0.000	-0.171		0.084	-2.124
1	0.275	-0.148		0.084	-2.124
2	1.000	-0.087		0.084	-2.124
3	1.775	-0.021		0.084	-2.124
4	3.575	0.131		0.084	-2.124
5	5.412	0.286		0.084	-2.124
6	7.175	0.435		0.084	-2.124
7	8.975	0.587		0.084	-2.124
8	9.750	0.652		0.084	-2.124
9	10.100	0.682		0.084	-2.124
10	10.475	0.714		0.084	-2.124
JTAN	10.825	0.743		0.084	-2.124
= = MEMBER 5 (1 - 4) C = =					
ITAN	0.000	0.561		-2.028	-0.084
1	0.340	-0.064		-1.654	-0.084
2	0.600	-0.457		-1.368	-0.084
3	0.840	-0.754		-1.104	-0.084
4	0.940	-0.859		-0.994	-0.084
5	1.885	-1.307		0.048	-0.084
6	2.700	-0.905		0.942	-0.084
7	2.800	-0.805		1.052	-0.084
8	3.175	-0.333		1.464	-0.084
9	3.300	-0.142		1.602	-0.084
JTAN	3.775	0.743		2.124	-0.084
MAX	1.888	-1.307		0.048	-0.084
= = MEMBER 6 (2 - 5) C = =					
ITAN	0.000	0.000		0.000	0.169
1	0.840	0.000		0.000	0.169
2	2.800	0.000		0.000	0.169
JTAN	3.775	0.000		0.000	0.169

LOAD 5 CASE 5 (KATSUDO)

= = MEMBER 7 (3 - 6) C = =

	----L----	----M----	---(M)---	----Q----	----N----
ITAN	0.000	-0.561		2.028	-0.084
1	0.340	0.064		1.654	-0.084
2	0.600	0.457		1.368	-0.084
3	0.840	0.754		1.104	-0.084
4	0.940	0.859		0.994	-0.084
5	1.888	1.307		-0.048	-0.084
6	2.700	0.905		-0.942	-0.084
7	2.800	0.605		-1.052	-0.084
8	3.175	0.333		-1.464	-0.084
9	3.300	0.142		-1.602	-0.084
JTAN	3.775	-0.743		-2.124	-0.084
MAX	1.888	1.307		-0.048	-0.084

COMBINE 1

	---L---	---M--- (MOMENT MAXIMUM)	---Q---	---N---	---CASE---	---M--- (MOMENT MINIMUM)	---Q---	---N---	---CASE---
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-12.046	13.291	1.148	(2)	-12.581	13.371	-0.359	(1)
1	0.350	-7.575	12.258	1.148	(2)	-8.082	12.339	-0.359	(1)
2	0.940	-0.857	10.518	1.148	(2)	-1.315	10.598	-0.359	(1)
3	1.850	7.493	7.833	1.148	(2)	7.107	7.914	-0.359	(1)
4	3.650	16.813	2.523	1.148	(2)	16.573	2.604	-0.359	(1)
5	5.412	16.678	-2.676	1.148	(2)	16.580	-2.596	-0.359	(1)
6	7.250	6.830	-8.016	-0.359	(1)	6.780	-8.097	1.148	(2)
7	9.050	-12.378	-13.326	-0.359	(1)	-12.573	-13.407	1.148	(2)
8	9.960	-25.727	-16.011	-0.359	(1)	-25.995	-16.091	1.148	(2)
9	10.550	-35.687	-17.751	-0.359	(1)	-36.002	-17.832	1.148	(2)
JTAN	10.825	-40.680	-18.563	-0.359	(1)	-41.018	-18.643	1.148	(2)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-40.680	18.563	-0.359	(1)	-41.018	18.643	1.148	(2)
1	0.275	-35.687	17.751	-0.359	(1)	-36.002	17.832	1.148	(2)
2	0.865	-25.727	16.011	-0.359	(1)	-25.995	16.091	1.148	(2)
3	1.775	-12.378	13.326	-0.359	(1)	-12.573	13.407	1.148	(2)
4	3.575	6.830	8.016	-0.359	(1)	6.780	8.097	1.148	(2)
5	5.412	16.678	2.676	1.148	(2)	16.580	2.596	-0.359	(1)
6	7.175	16.813	-2.523	1.148	(2)	16.573	-2.604	-0.359	(1)
7	8.975	7.493	-7.833	1.148	(2)	7.107	-7.914	-0.359	(1)
8	9.865	-0.857	-10.518	1.148	(2)	-1.315	-10.598	-0.359	(1)
9	10.475	-7.575	-12.258	1.148	(2)	-8.082	-12.339	-0.359	(1)
JTAN	10.825	-12.046	-13.291	1.148	(2)	-12.581	-13.371	-0.359	(1)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	25.856	-19.967	-9.531	(1)	25.144	-19.906	-7.075	(2)
1	0.350	19.093	-18.657	-9.531	(1)	18.410	-18.576	-7.075	(2)
2	0.725	12.364	-17.232	-9.531	(1)	11.711	-17.151	-7.075	(2)
3	1.075	6.566	-15.902	-9.531	(1)	5.941	-15.821	-7.075	(2)
4	1.850	-4.617	-12.957	-9.531	(1)	-5.179	-12.876	-7.075	(2)
5	3.650	-21.782	-6.117	-9.531	(1)	-22.200	-6.036	-7.075	(2)
6	5.412	-26.660	0.531	-9.531	(1)	-26.936	0.662	-7.075	(2)
7	7.250	-19.178	7.563	-9.531	(1)	-19.305	7.644	-7.075	(2)
8	9.050	0.610	14.484	-7.075	(2)	0.593	14.403	-9.531	(1)
9	9.625	12.977	17.429	-7.075	(2)	12.896	17.348	-9.531	(1)
10	10.550	26.611	20.184	-7.075	(2)	26.473	20.103	-9.531	(1)
JTAN	10.825	32.306	21.229	-7.075	(2)	32.145	21.148	-9.531	(1)

COMBINE 1

	L	MOMENT MAXIMUM M	Q	N	CASE	MOMENT MINIMUM M	Q	N	CASE
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	32.306	-21.229	-7.075	(2)	32.145	-21.146	-9.531	(1)
1	0.275	26.611	-20.184	-7.075	(2)	26.473	-20.103	-9.531	(1)
2	1.000	12.977	-17.429	-7.075	(2)	12.896	-17.348	-9.531	(1)
3	1.775	0.610	-14.484	-7.075	(2)	0.593	-14.403	-9.531	(1)
4	3.575	-19.178	-7.563	-9.531	(1)	-19.305	-7.644	-7.075	(2)
5	5.412	-26.660	-0.581	-9.531	(1)	-26.936	-0.662	-7.075	(2)
6	7.175	-21.782	6.117	-9.531	(1)	-22.200	6.036	-7.075	(2)
7	8.975	-4.617	12.957	-9.531	(1)	-5.179	12.876	-7.075	(2)
8	9.750	6.566	15.902	-9.531	(1)	5.941	15.821	-7.075	(2)
9	10.100	12.364	17.232	-9.531	(1)	11.711	17.151	-7.075	(2)
10	10.475	19.093	18.657	-9.531	(1)	18.410	18.576	-7.075	(2)
JTAN	10.825	25.856	19.987	-9.531	(1)	25.144	19.906	-7.075	(2)
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	12.581	-0.359	-13.371	(1)	12.046	1.148	-13.291	(2)
1	0.340	12.518	0.006	-13.966	(1)	12.472	1.366	-13.886	(2)
2	0.600	12.854	1.575	-14.341	(2)	12.563	0.355	-14.421	(1)
3	0.840	13.258	1.601	-14.761	(2)	12.693	0.731	-14.841	(1)
4	0.940	13.443	1.904	-14.936	(2)	12.774	0.904	-15.016	(1)
5	1.888	15.798	3.149	-16.594	(2)	14.551	2.982	-16.674	(1)
6	2.700	18.923	4.603	-18.016	(2)	17.919	5.408	-18.096	(1)
7	2.800	19.394	4.806	-18.191	(2)	18.477	5.747	-18.271	(1)
8	3.175	21.346	5.618	-18.847	(2)	20.882	7.101	-18.927	(1)
9	3.300	22.066	5.905	-19.066	(2)	21.800	7.581	-19.146	(1)
JTAN	3.775	25.856	9.531	-19.977	(1)	25.144	7.075	-19.897	(2)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-37.125	(1)	0.000	0.000	-37.286	(2)
1	0.840	0.000	0.000	-38.276	(1)	0.000	0.000	-38.437	(2)
2	2.800	0.000	0.030	-41.122	(2)	0.000	0.000	-40.961	(1)
JTAN	3.775	0.000	0.000	-42.458	(2)	0.000	0.000	-42.297	(1)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-12.046	-1.148	-13.291	(2)	-12.581	0.359	-13.371	(1)
1	0.340	-12.472	-1.366	-13.886	(2)	-12.518	-0.006	-13.966	(1)
2	0.600	-12.563	-0.355	-14.421	(1)	-12.854	-1.575	-14.341	(2)
3	0.840	-12.693	-0.731	-14.841	(1)	-13.258	-1.801	-14.761	(2)
4	0.940	-12.774	-0.904	-15.016	(1)	-13.443	-1.904	-14.936	(2)
5	1.888	-14.551	-2.982	-16.674	(1)	-15.798	-3.149	-16.594	(2)
6	2.700	-17.919	-5.408	-18.096	(1)	-18.923	-4.603	-18.016	(2)
7	2.800	-18.477	-5.747	-18.271	(1)	-19.394	-4.806	-18.191	(2)
8	3.175	-20.882	-7.101	-18.927	(1)	-21.346	-5.618	-18.847	(2)
9	3.300	-21.800	-7.581	-19.146	(1)	-22.066	-5.905	-19.066	(2)
JTAN	3.775	-25.144	-7.075	-19.897	(2)	-25.856	-9.531	-19.977	(1)

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COMBINE 1

	L	SHEAR MAXIMUM M	Q	N	CASE	SHEAR MINIMUM M	Q	N	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-12.581	13.371	-0.359	(1)	-12.046	13.291	1.148	(2)
1	0.350	-8.082	12.339	-0.359	(1)	-7.575	12.258	1.148	(2)
2	0.940	-1.315	10.598	-0.359	(1)	-0.857	10.518	1.148	(2)
3	1.850	7.107	7.914	-0.359	(1)	7.493	7.833	1.148	(2)
4	3.650	16.573	2.604	-0.359	(1)	16.813	2.523	1.148	(2)
5	5.412	16.580	-2.596	-0.359	(1)	16.678	-2.676	1.148	(2)
6	7.250	6.830	-8.016	-0.359	(1)	6.780	-8.097	1.148	(2)
7	9.050	-12.378	-13.326	-0.359	(1)	-12.573	-13.407	1.148	(2)
8	9.960	-25.727	-16.011	-0.359	(1)	-25.995	-16.091	1.148	(2)
9	10.550	-35.687	-17.751	-0.359	(1)	-36.002	-17.832	1.148	(2)
JTAN	10.825	-40.680	-18.563	-0.359	(1)	-41.018	-18.643	1.148	(2)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-41.018	18.643	1.148	(2)	-40.680	18.563	-0.359	(1)
1	0.275	-36.002	17.232	1.148	(2)	-35.687	17.751	-0.359	(1)
2	0.865	-25.995	16.091	1.148	(2)	-25.727	16.011	-0.359	(1)
3	1.775	-12.573	13.407	1.148	(2)	-12.378	13.326	-0.359	(1)
4	3.575	6.780	8.097	1.148	(2)	6.830	8.016	-0.359	(1)
5	5.412	16.678	2.676	1.148	(2)	16.580	2.596	-0.359	(1)
6	7.175	16.813	-2.523	1.148	(2)	16.573	-2.604	-0.359	(1)
7	8.975	7.493	-7.833	1.148	(2)	7.107	-7.914	-0.359	(1)
8	9.885	-0.857	-10.518	1.148	(2)	-1.315	-10.598	-0.359	(1)
9	10.475	-7.575	-12.258	1.148	(2)	-8.082	-12.339	-0.359	(1)
JTAN	10.825	-12.046	-13.291	1.148	(2)	-12.581	-13.371	-0.359	(1)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	25.144	-19.906	-7.075	(2)	25.656	-19.987	-9.531	(1)
1	0.350	18.410	-18.576	-7.075	(2)	19.093	-18.657	-9.531	(1)
2	0.725	11.711	-17.151	-7.075	(2)	12.364	-17.232	-9.531	(1)
3	1.075	5.941	-15.821	-7.075	(2)	6.566	-15.902	-9.531	(1)
4	1.850	-5.179	-12.876	-7.075	(2)	-4.617	-12.957	-9.531	(1)
5	3.650	-22.200	-6.036	-7.075	(2)	-21.782	-6.117	-9.531	(1)
6	5.412	-26.936	0.662	-7.075	(2)	-26.660	0.581	-9.531	(1)
7	7.250	-19.305	7.644	-7.075	(2)	-19.178	7.563	-9.531	(1)
8	9.050	0.610	14.484	-7.075	(2)	0.593	14.403	-9.531	(1)
9	9.825	12.977	17.429	-7.075	(2)	12.896	17.348	-9.531	(1)
10	10.550	26.611	20.184	-7.075	(2)	26.473	20.103	-9.531	(1)
JTAN	10.825	32.306	21.229	-7.075	(2)	32.145	21.148	-9.531	(1)

COMBINE 1

	L	SHEAR MAXIMUM M	Q	N	CASE	SHEAR MINIMUM M	Q	N	CASE
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	32.145	-21.148	-9.531	(1)	32.306	-21.229	-7.075	(2)
1	0.275	26.473	-20.103	-9.531	(1)	26.611	-20.184	-7.075	(2)
2	1.000	12.896	-17.346	-9.531	(1)	12.977	-17.429	-7.075	(2)
3	1.775	0.593	-14.403	-9.531	(1)	0.610	-14.484	-7.075	(2)
4	3.575	-19.178	-7.563	-9.531	(1)	-19.305	-7.644	-7.075	(2)
5	5.412	-26.660	-0.581	-9.531	(1)	-26.936	-0.662	-7.075	(2)
6	7.175	-21.782	6.117	-9.531	(1)	-22.200	6.036	-7.075	(2)
7	8.975	-4.617	12.957	-9.531	(1)	-5.179	12.876	-7.075	(2)
8	9.750	6.566	15.902	-9.531	(1)	5.941	15.821	-7.075	(2)
9	10.100	12.364	17.232	-9.531	(1)	11.711	17.151	-7.075	(2)
10	10.475	19.093	18.657	-9.531	(1)	18.410	18.576	-7.075	(2)
JTAN	10.825	25.856	19.987	-9.531	(1)	25.144	19.906	-7.075	(2)
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	12.046	1.148	-13.291	(2)	12.581	-0.359	-13.371	(1)
1	0.340	12.472	1.366	-13.886	(2)	12.518	0.006	-13.966	(1)
2	0.600	12.854	1.575	-14.341	(2)	12.563	0.355	-14.421	(1)
3	0.840	13.258	1.801	-14.761	(2)	12.693	0.731	-14.841	(1)
4	0.940	13.443	1.904	-14.936	(2)	12.774	0.904	-15.016	(1)
5	1.888	15.798	3.149	-16.594	(2)	14.551	2.982	-16.674	(1)
6	2.700	17.919	5.406	-18.096	(1)	18.923	4.603	-18.016	(2)
7	2.800	18.477	5.747	-18.271	(1)	19.394	4.806	-18.191	(2)
8	3.175	20.882	7.101	-18.927	(1)	21.346	5.618	-18.847	(2)
9	3.300	21.800	7.581	-19.146	(1)	22.066	5.905	-19.066	(2)
JTAN	3.775	25.856	9.531	-19.977	(1)	25.144	7.075	-19.897	(2)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-37.286	(2)	0.000	0.000	-37.125	(1)
1	0.840	0.000	0.000	-38.437	(2)	0.000	0.000	-38.276	(1)
2	2.800	0.000	0.000	-41.122	(2)	0.000	0.000	-40.961	(1)
JTAN	3.775	0.000	0.000	-42.458	(2)	0.000	0.000	-42.297	(1)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-12.581	0.359	-13.371	(1)	-12.046	-1.148	-13.291	(2)
1	0.340	-12.518	-0.006	-13.966	(1)	-12.472	-1.366	-13.886	(2)
2	0.600	-12.563	-0.355	-14.421	(1)	-12.854	-1.575	-14.341	(2)
3	0.840	-12.693	-0.731	-14.841	(1)	-13.258	-1.801	-14.761	(2)
4	0.940	-12.774	-0.904	-15.016	(1)	-13.443	-1.904	-14.936	(2)
5	1.888	-14.551	-2.982	-16.674	(1)	-15.798	-3.149	-16.594	(2)
6	2.700	-18.923	-4.603	-18.016	(2)	-17.919	-5.406	-18.096	(1)
7	2.800	-19.394	-4.806	-18.191	(2)	-18.477	-5.747	-18.271	(1)
8	3.175	-21.346	-5.618	-18.847	(2)	-20.882	-7.101	-18.927	(1)
9	3.300	-22.066	-5.905	-19.066	(2)	-21.800	-7.581	-19.146	(1)
JTAN	3.775	-25.144	-7.075	-19.897	(2)	-25.856	-9.531	-19.977	(1)

COMBINE 1

		AXIAL MAXIMUM				AXIAL MINIMUM		
---L---	----M---	----Q---	----N---	----CASE----	----M---	----Q---	----N---	----CASE----
= = MEMBER 1 (1 - 2) G = =								
ITAN 0.000	-12.046	13.291	1.148	(2)	-12.581	13.371	-0.359	(1)
1 0.350	-7.575	12.258	1.148	(2)	-6.082	12.339	-0.359	(1)
2 0.940	-0.857	10.518	1.148	(2)	-1.315	10.598	-0.359	(1)
3 1.850	7.493	7.833	1.148	(2)	7.107	7.914	-0.359	(1)
4 3.650	16.813	2.523	1.148	(2)	16.573	2.604	-0.359	(1)
5 5.412	16.678	-2.676	1.148	(2)	16.580	-2.596	-0.359	(1)
6 7.250	6.780	-8.097	1.148	(2)	6.830	-8.016	-0.359	(1)
7 9.050	-12.573	-13.407	1.148	(2)	-12.378	-13.326	-0.359	(1)
8 9.960	-25.995	-16.091	1.148	(2)	-25.727	-16.011	-0.359	(1)
9 10.550	-36.002	-17.632	1.146	(2)	-35.687	-17.751	-0.359	(1)
JTAN 10.825	-41.018	-18.643	1.148	(2)	-40.680	-18.563	-0.359	(1)
= = MEMBER 2 (2 - 3) G = =								
ITAN 0.000	-41.019	18.643	1.148	(2)	-40.680	18.563	-0.359	(1)
1 0.275	-36.002	17.832	1.148	(2)	-35.687	17.751	-0.359	(1)
2 0.865	-25.995	16.091	1.148	(2)	-25.727	16.011	-0.359	(1)
3 1.775	-12.573	13.407	1.148	(2)	-12.378	13.326	-0.359	(1)
4 3.575	6.789	8.097	1.148	(2)	6.830	8.016	-0.359	(1)
5 5.412	16.679	2.676	1.146	(2)	16.580	2.596	-0.359	(1)
6 7.175	16.813	-2.523	1.148	(2)	16.573	-2.604	-0.359	(1)
7 8.975	7.493	-7.333	1.148	(2)	7.107	-7.914	-0.359	(1)
8 9.885	-0.857	-10.516	1.148	(2)	-1.315	-10.598	-0.359	(1)
9 10.475	-7.575	-12.258	1.148	(2)	-8.082	-12.339	-0.359	(1)
JTAN 10.825	-12.046	-13.291	1.148	(2)	-12.581	-13.371	-0.359	(1)
= = MEMBER 3 (4 - 5) G = =								
ITAN 0.000	25.144	-19.936	-7.075	(2)	25.856	-19.987	-9.531	(1)
1 0.350	18.410	-18.576	-7.075	(2)	19.093	-18.657	-9.531	(1)
2 0.725	11.711	-17.151	-7.075	(2)	12.364	-17.232	-9.531	(1)
3 1.075	5.941	-15.821	-7.075	(2)	6.566	-15.902	-9.531	(1)
4 1.850	-5.179	-12.876	-7.075	(2)	-4.617	-12.957	-9.531	(1)
5 3.650	-22.200	-6.036	-7.075	(2)	-21.782	-6.117	-9.531	(1)
6 5.412	-26.936	0.662	-7.075	(2)	-26.660	0.581	-9.531	(1)
7 7.250	-19.305	7.644	-7.075	(2)	-19.178	7.563	-9.531	(1)
8 9.050	0.610	14.484	-7.075	(2)	0.593	14.403	-9.531	(1)
9 9.825	12.977	17.429	-7.075	(2)	12.896	17.348	-9.531	(1)
10 10.550	26.611	20.184	-7.075	(2)	26.473	20.103	-9.531	(1)
JTAN 10.825	32.306	21.229	-7.075	(2)	32.145	21.146	-9.531	(1)

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COMBINE 1

		AXIAL MAXIMUM				AXIAL MINIMUM			
	---L---	----M---	----Q---	----N---	----CASE----	----M---	----Q---	----N---	----CASE----
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	32.306	-21.229	-7.075	(2)	32.145	-21.148	-9.531	(1)
1	0.275	26.611	-20.184	-7.075	(2)	26.473	-20.103	-9.531	(1)
2	1.000	12.977	-17.429	-7.075	(2)	12.896	-17.348	-9.531	(1)
3	1.775	0.610	-14.484	-7.075	(2)	0.593	-14.403	-9.531	(1)
4	3.575	-19.305	-7.644	-7.075	(2)	-19.176	-7.563	-9.531	(1)
5	5.412	-26.936	-0.662	-7.075	(2)	-26.660	-0.581	-9.531	(1)
6	7.175	-22.200	6.036	-7.075	(2)	-21.782	6.117	-9.531	(1)
7	8.975	-5.179	12.876	-7.075	(2)	-4.617	12.957	-9.531	(1)
8	9.750	5.941	15.521	-7.075	(2)	6.566	15.902	-9.531	(1)
9	10.100	11.711	17.151	-7.075	(2)	12.364	17.232	-9.531	(1)
10	10.475	18.410	18.576	-7.075	(2)	19.093	18.657	-9.531	(1)
JTAN	10.825	25.144	19.906	-7.075	(2)	25.356	19.987	-9.531	(1)
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	12.046	1.148	-13.291	(2)	12.581	-0.359	-13.371	(1)
1	0.340	12.472	1.366	-13.886	(2)	12.518	0.006	-13.966	(1)
2	0.600	12.854	1.575	-14.341	(2)	12.563	0.355	-14.421	(1)
3	0.840	13.258	1.801	-14.761	(2)	12.693	0.731	-14.841	(1)
4	0.940	13.443	1.904	-14.936	(2)	12.774	0.904	-15.016	(1)
5	1.888	15.798	3.149	-16.594	(2)	14.551	2.982	-16.674	(1)
6	2.700	18.923	4.603	-18.016	(2)	17.919	5.408	-18.096	(1)
7	2.800	19.394	4.806	-18.191	(2)	18.477	5.747	-18.271	(1)
8	3.175	21.346	5.618	-18.847	(2)	20.882	7.101	-18.927	(1)
9	3.300	22.066	5.905	-19.066	(2)	21.800	7.581	-19.146	(1)
JTAN	3.775	25.144	7.075	-19.897	(2)	25.356	9.531	-19.977	(1)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-37.125	(1)	0.000	0.000	-37.285	(2)
1	0.840	0.000	0.000	-38.276	(1)	0.000	0.000	-38.437	(2)
2	2.800	0.000	0.000	-40.961	(1)	0.000	0.000	-41.122	(2)
JTAN	3.775	0.000	0.000	-42.297	(1)	0.000	0.000	-42.458	(2)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-12.046	-1.148	-13.291	(2)	-12.581	0.359	-13.371	(1)
1	0.340	-12.472	-1.366	-13.886	(2)	-12.518	-0.006	-13.966	(1)
2	0.600	-12.854	-1.575	-14.341	(2)	-12.563	-0.355	-14.421	(1)
3	0.840	-13.258	-1.801	-14.761	(2)	-12.693	-0.731	-14.841	(1)
4	0.940	-13.443	-1.904	-14.936	(2)	-12.774	-0.904	-15.016	(1)
5	1.888	-15.798	-3.149	-16.594	(2)	-14.551	-2.982	-16.674	(1)
6	2.700	-18.923	-4.603	-18.016	(2)	-17.919	-5.408	-18.096	(1)
7	2.800	-19.394	-4.806	-18.191	(2)	-18.477	-5.747	-18.271	(1)
8	3.175	-21.346	-5.618	-18.847	(2)	-20.882	-7.101	-18.927	(1)
9	3.300	-22.066	-5.905	-19.066	(2)	-21.800	-7.581	-19.146	(1)
JTAN	3.775	-25.144	-7.075	-19.897	(2)	-25.856	-9.531	-19.977	(1)

COMBINE 2

	L	MOMENT MAXIMUM M	Q	N	CASE	MOMENT MINIMUM M	Q	N	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-30.873	35.835	0.051	(2 3)	-43.618	38.644	-3.610	(1 4)
1	0.350	-20.917	33.206	0.051	(2 3)	-31.353	35.946	-3.610	(1 4)
2	0.940	-5.895	28.775	0.051	(2 3)	-12.696	31.397	-3.610	(1 4)
3	1.850	12.939	21.941	0.051	(2 3)	11.111	24.391	-3.610	(1 4)
4	3.650	40.686	10.422	-2.103	(2 4)	34.467	8.504	-1.457	(1 3)
5	5.412	46.412	-3.167	-2.103	(2 4)	35.988	-4.733	-1.457	(1 3)
6	7.250	28.353	-17.253	-3.610	(1 4)	16.522	-18.613	0.051	(2 3)
7	9.050	-13.074	-31.131	-3.610	(1 4)	-23.432	-32.131	0.051	(2 3)
8	9.960	-42.994	-36.147	-3.610	(1 4)	-51.461	-38.966	0.051	(2 3)
9	10.550	-65.614	-42.696	-3.610	(1 4)	-72.443	-43.396	0.051	(2 3)
JTAN	10.825	-77.023	-44.816	-3.610	(1 4)	-82.976	-45.462	0.051	(2 3)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-57.773	20.794	1.494	(1 4)	-82.978	45.462	0.051	(2 3)
1	0.275	-52.167	19.983	1.494	(1 4)	-72.443	43.396	0.051	(2 3)
2	0.865	-40.890	18.242	1.494	(1 4)	-51.461	38.966	0.051	(2 3)
3	1.775	-23.237	32.051	-1.457	(1 3)	-25.706	15.638	3.001	(2 4)
4	3.575	16.572	18.533	-1.457	(1 3)	-2.336	10.328	3.001	(2 4)
5	5.412	36.087	4.613	0.051	(2 3)	11.563	4.827	1.494	(1 4)
6	7.175	34.708	-8.423	0.051	(2 3)	15.489	-0.372	1.494	(1 4)
7	8.975	12.939	-21.941	0.051	(2 3)	10.040	-5.682	1.494	(1 4)
8	9.885	4.107	-3.286	3.001	(2 4)	-6.354	-28.856	-1.457	(1 3)
9	10.475	-1.296	-10.027	3.001	(2 4)	-21.423	-33.287	-1.457	(1 3)
JTAN	10.825	-4.986	-11.059	3.001	(2 4)	-31.407	-35.915	-1.457	(1 3)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	44.621	-45.308	-6.280	(1 4)	39.828	-42.450	-5.977	(2 3)
1	0.350	30.159	-41.916	-6.280	(1 4)	27.609	-39.524	-5.977	(2 3)
2	0.725	16.149	-36.470	-8.434	(1 3)	15.249	-38.247	-3.824	(2 4)
3	1.075	5.729	-33.544	-8.434	(1 3)	3.113	-34.939	-3.824	(2 4)
4	1.850	-14.206	-27.065	-8.434	(1 3)	-19.906	-27.759	-3.824	(2 4)
5	3.650	-43.819	-12.017	-8.434	(1 3)	-53.546	-11.845	-3.824	(2 4)
6	5.412	-50.211	2.718	-8.434	(1 3)	-60.994	2.703	-3.824	(2 4)
7	7.250	-33.062	18.080	-8.434	(1 3)	-43.689	16.780	-3.824	(2 4)
8	9.050	7.326	33.208	-5.977	(2 3)	-3.706	29.410	-6.280	(1 4)
9	9.825	31.955	39.688	-5.977	(2 3)	20.040	34.553	-6.280	(1 4)
10	10.550	58.909	45.749	-5.977	(2 3)	45.662	39.186	-6.280	(1 4)
JTAN	10.825	70.124	48.046	-5.977	(2 3)	56.218	40.898	-6.280	(1 4)

COMBINE 2

MOMENT MAXIMUM / MOMENT MINIMUM

= = MEMBER 4 (5 - 6) G = =

	L	Max M	Max Q	Max N	Max CASE	Min M	Min Q	Min N	Min CASE
ITAN	0.000	70.124	-48.048	-5.977	(2 3)	56.235	-29.884	-11.384	(1 4)
1	0.275	58.909	-45.749	-5.977	(2 3)	48.417	-28.197	-11.384	(1 4)
2	1.000	31.955	-39.686	-5.977	(2 3)	29.924	-23.868	-11.384	(1 4)
3	1.775	13.463	-19.514	-8.927	(2 4)	7.309	-33.123	-8.434	(1 3)
4	3.575	-12.475	-9.896	-11.384	(1 4)	-33.189	-18.160	-5.977	(2 3)
5	5.412	-22.594	-1.262	-11.384	(1 4)	-50.487	-2.799	-5.977	(2 3)
6	7.175	-18.501	5.975	-11.384	(1 4)	-44.237	11.936	-5.977	(2 3)
7	8.975	-2.103	12.309	-11.384	(1 4)	-14.768	26.984	-5.977	(2 3)
8	9.750	8.327	14.707	-11.384	(1 4)	5.104	33.463	-5.977	(2 3)
9	10.100	16.149	36.470	-8.434	(1 3)	12.991	15.645	-8.927	(2 4)
10	10.475	28.292	39.605	-8.434	(1 3)	15.057	16.691	-8.927	(2 4)
JTAN	10.825	40.539	42.531	-8.434	(1 3)	25.077	17.626	-8.927	(2 4)

= = MEMBER 5 (1 - 4) C = =

	L	Max M	Max Q	Max N	Max CASE	Min M	Min Q	Min N	Min CASE
ITAN	0.000	43.618	-3.610	-36.317	(1 4)	30.873	0.051	-29.556	(2 3)
1	0.340	42.450	-3.245	-36.912	(1 4)	30.925	0.269	-30.151	(2 3)
2	0.600	41.940	-1.676	-37.286	(2 4)	30.731	-0.742	-30.687	(1 3)
3	0.840	41.564	-1.450	-37.706	(2 4)	30.597	-0.366	-31.107	(1 3)
4	0.940	41.425	-1.347	-37.381	(2 4)	30.569	-0.194	-31.282	(1 3)
5	1.888	40.700	-0.102	-39.540	(2 4)	31.306	1.884	-32.940	(1 3)
6	2.700	41.183	1.352	-40.961	(2 4)	33.783	4.310	-34.362	(1 3)
7	2.800	41.328	1.555	-41.136	(2 4)	34.231	4.650	-34.537	(1 3)
8	3.175	42.061	2.367	-41.793	(2 4)	36.224	6.004	-35.193	(1 3)
9	3.300	42.375	2.654	-42.011	(2 4)	37.005	6.484	-35.412	(1 3)
JTAN	3.775	44.621	6.230	-42.923	(1 4)	39.828	5.977	-36.162	(2 3)

= = MEMBER 6 (2 - 5) C = =

	L	Max M	Max Q	Max N	Max CASE	Min M	Min Q	Min N	Min CASE
ITAN	0.000	0.000	0.000	-78.204	(1 3)	-19.250	5.104	-63.444	(2 4)
1	0.840	0.000	0.000	-79.355	(1 3)	-14.963	5.104	-64.595	(2 4)
2	2.800	0.000	0.000	-82.202	(2 3)	-4.960	5.104	-67.119	(1 4)
JTAN	3.775	0.016	5.104	-68.616	(2 4)	0.000	0.000	-83.376	(1 3)

= = MEMBER 7 (3 - 6) C = =

	L	Max M	Max Q	Max N	Max CASE	Min M	Min Q	Min N	Min CASE
ITAN	0.000	-4.986	-3.001	-11.059	(2 4)	-31.407	1.457	-29.637	(1 3)
1	0.340	-6.041	-3.219	-11.654	(2 4)	-30.971	1.092	-30.232	(1 3)
2	0.600	-6.615	-2.208	-12.190	(1 4)	-31.021	-0.478	-30.606	(2 3)
3	0.840	-7.159	-2.584	-12.610	(1 4)	-31.163	-0.703	-31.026	(2 3)
4	0.940	-7.456	-2.756	-12.785	(1 4)	-31.238	-0.806	-31.201	(2 3)
5	1.888	-10.958	-4.334	-14.443	(1 4)	-32.553	-2.051	-32.859	(2 3)
6	2.700	-15.861	-7.260	-15.865	(1 4)	-34.787	-3.505	-34.281	(2 3)
7	2.800	-16.604	-7.600	-16.040	(1 4)	-35.147	-3.709	-34.456	(2 3)
8	3.175	-19.704	-8.954	-16.696	(1 4)	-36.688	-4.521	-35.112	(2 3)
9	3.300	-20.853	-9.434	-16.915	(1 4)	-37.271	-4.808	-35.331	(2 3)
JTAN	3.775	-25.077	-8.927	-17.665	(2 4)	-40.539	-8.434	-36.243	(1 3)

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COMBINE 2

	L	MAXIMUM M	MAXIMUM Q (SHEAR)	MAXIMUM N	MAXIMUM CASE	MINIMUM M	MINIMUM Q (SHEAR)	MINIMUM N	MINIMUM CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-43.618	38.644	-3.610	(1 4)	-30.873	35.835	0.051	(2 3)
1	0.350	-31.353	35.946	-3.610	(1 4)	-20.917	33.206	0.051	(2 3)
2	0.940	-12.696	31.397	-3.610	(1 4)	-5.895	28.775	0.051	(2 3)
3	1.850	11.111	24.381	-3.610	(1 4)	12.939	21.941	0.051	(2 3)
4	3.650	40.445	10.503	-3.610	(1 4)	34.708	8.423	0.051	(2 3)
5	5.412	46.314	-3.086	-3.610	(1 4)	36.087	-4.813	0.051	(2 3)
6	7.250	28.353	-17.253	-3.610	(1 4)	16.522	-18.613	0.051	(2 3)
7	9.050	-13.074	-31.131	-3.610	(1 4)	-23.432	-32.131	0.051	(2 3)
8	9.960	-42.994	-38.147	-3.610	(1 4)	-51.461	-38.966	0.051	(2 3)
9	10.550	-65.614	-42.696	-3.610	(1 4)	-72.443	-43.396	0.051	(2 3)
JTAN	10.825	-77.023	-44.916	-3.610	(1 4)	-82.978	-45.462	0.051	(2 3)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-82.978	45.462	0.051	(2 3)	-57.773	20.794	1.494	(1 4)
1	0.275	-72.443	43.396	0.051	(2 3)	-52.167	19.983	1.494	(1 4)
2	0.865	-51.461	38.956	0.051	(2 3)	-40.890	18.242	1.494	(1 4)
3	1.775	-23.432	32.131	0.051	(2 3)	-25.511	15.558	1.494	(1 4)
4	3.575	16.522	18.613	0.051	(2 3)	-2.287	10.248	1.494	(1 4)
5	5.412	11.662	4.908	3.001	(2 4)	35.988	4.733	-1.457	(1 3)
6	7.175	15.730	-0.292	3.001	(2 4)	34.467	-8.504	-1.457	(1 3)
7	8.975	10.426	-5.602	3.001	(2 4)	12.554	-22.022	-1.457	(1 3)
8	9.865	4.107	-8.286	3.001	(2 4)	-6.354	-28.856	-1.457	(1 3)
9	10.475	-1.296	-10.027	3.001	(2 4)	-21.423	-33.257	-1.457	(1 3)
JTAN	10.825	-4.986	-11.059	3.001	(2 4)	-31.407	-35.915	-1.457	(1 3)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	39.828	-42.450	-5.977	(2 3)	44.621	-45.308	-6.280	(1 4)
1	0.350	27.609	-39.524	-5.977	(2 3)	30.159	-41.916	-6.280	(1 4)
2	0.725	15.496	-36.389	-5.977	(2 3)	15.903	-38.327	-6.280	(1 4)
3	1.075	5.104	-33.463	-5.977	(2 3)	3.736	-35.020	-6.280	(1 4)
4	1.850	-14.768	-26.984	-5.977	(2 3)	-19.343	-27.839	-6.280	(1 4)
5	3.650	-53.546	-11.645	-3.824	(2 4)	-43.819	-12.017	-8.434	(1 3)
6	5.412	-50.487	2.795	-5.977	(2 3)	-60.719	2.622	-6.280	(1 4)
7	7.250	-33.189	18.160	-5.977	(2 3)	-43.561	16.699	-6.280	(1 4)
8	9.050	7.326	33.208	-5.977	(2 3)	-3.706	29.410	-6.280	(1 4)
9	9.825	31.955	39.688	-5.977	(2 3)	20.040	34.553	-6.280	(1 4)
10	10.550	58.909	45.749	-5.977	(2 3)	45.662	39.186	-6.280	(1 4)
JTAN	10.825	70.124	48.048	-5.977	(2 3)	56.218	40.898	-6.280	(1 4)

COMBINE 2

		SHEAR MAXIMUM				SHEAR MINIMUM			
	L	M	Q	N	CASE	M	Q	N	CASE

= = MEMBER 4 (5 - 6) G = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	56.235	-29.684	-11.384	(1 4)	70.124	-48.048	-5.977	(2 3)
1	0.275	48.417	-28.197	-11.384	(1 4)	58.909	-45.749	-5.977	(2 3)
2	1.000	29.924	-23.868	-11.384	(1 4)	31.955	-39.688	-5.977	(2 3)
3	1.775	13.445	-19.433	-11.384	(1 4)	7.326	-33.208	-5.977	(2 3)
4	3.575	-12.475	-9.696	-11.384	(1 4)	-33.189	-18.160	-5.977	(2 3)
5	5.412	-22.594	-1.262	-11.384	(1 4)	-50.487	-2.799	-5.977	(2 3)
6	7.175	-43.819	12.017	-8.434	(1 3)	-18.916	5.894	-8.927	(2 4)
7	8.975	-14.206	27.065	-8.434	(1 3)	-2.665	12.228	-8.927	(2 4)
8	9.750	5.729	33.544	-8.434	(1 3)	7.702	14.627	-8.927	(2 4)
9	10.100	16.149	36.470	-8.434	(1 3)	12.991	15.645	-8.927	(2 4)
10	10.475	28.292	39.605	-8.434	(1 3)	19.057	16.691	-8.927	(2 4)
JTAN	10.825	40.539	42.531	-8.434	(1 3)	25.077	17.626	-8.927	(2 4)

= = MEMBER 5 (1 - 4) C = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	30.873	0.051	-29.556	(2 3)	43.618	-3.610	-36.317	(1 4)
1	0.340	30.925	0.269	-30.151	(2 3)	42.450	-3.245	-36.912	(1 4)
2	0.600	31.021	0.478	-30.606	(2 3)	41.650	-2.896	-37.367	(1 4)
3	0.840	31.163	0.703	-31.026	(2 3)	40.999	-2.520	-37.787	(1 4)
4	0.940	31.238	0.806	-31.201	(2 3)	40.756	-2.347	-37.962	(1 4)
5	1.868	32.553	2.051	-32.859	(2 3)	39.452	-0.269	-39.620	(1 4)
6	2.700	33.783	4.310	-34.362	(1 3)	41.183	1.352	-40.961	(2 4)
7	2.800	34.231	4.650	-34.537	(1 3)	41.328	1.555	-41.136	(2 4)
8	3.175	36.224	6.004	-35.193	(1 3)	42.061	2.367	-41.793	(2 4)
9	3.300	37.005	6.484	-35.412	(1 3)	42.375	2.654	-42.011	(2 4)
JTAN	3.775	40.539	8.434	-36.243	(1 3)	43.909	3.824	-42.843	(2 4)

= = MEMBER 6 (2 - 5) C = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	-19.250	5.104	-63.444	(2 4)	0.000	0.000	-78.204	(1 3)
1	0.840	-14.963	5.104	-64.595	(2 4)	0.000	0.000	-79.355	(1 3)
2	2.800	-4.960	5.104	-67.280	(2 4)	0.000	0.000	-82.040	(1 3)
JTAN	3.775	0.016	5.104	-68.616	(2 4)	0.000	0.000	-83.376	(1 3)

= = MEMBER 7 (3 - 6) C = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	-31.407	1.457	-29.637	(1 3)	-4.986	-3.001	-11.059	(2 4)
1	0.340	-30.971	1.092	-30.232	(1 3)	-6.041	-3.219	-11.654	(2 4)
2	0.600	-30.731	0.742	-30.687	(1 3)	-6.905	-3.428	-12.109	(2 4)
3	0.840	-30.597	0.366	-31.107	(1 3)	-7.754	-3.653	-12.529	(2 4)
4	0.940	-30.569	0.194	-31.282	(1 3)	-8.124	-3.756	-12.704	(2 4)
5	1.886	-31.306	-1.884	-32.940	(1 3)	-12.235	-5.001	-14.362	(2 4)
6	2.700	-34.787	-3.505	-34.281	(2 3)	-15.861	-7.260	-15.865	(1 4)
7	2.800	-35.147	-3.709	-34.456	(2 3)	-16.604	-7.600	-16.040	(1 4)
8	3.175	-36.688	-4.521	-35.112	(2 3)	-19.704	-8.954	-16.696	(1 4)
9	3.300	-37.271	-4.808	-35.331	(2 3)	-20.853	-9.434	-16.915	(1 4)
JTAN	3.775	-39.829	-5.977	-36.162	(2 3)	-25.789	-11.384	-17.746	(1 4)

COMBINE - 2

	L	M	Q	N	CASE	M	Q	N	CASE
		AXIAL MAXIMUM				AXIAL MINIMUM			
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-30.873	35.835	0.051	(2 3)	-43.618	38.644	-3.610	(1 4)
1	0.350	-20.917	33.206	0.051	(2 3)	-31.353	35.946	-3.610	(1 4)
2	0.940	-5.895	28.775	0.051	(2 3)	-12.696	31.397	-3.610	(1 4)
3	1.850	12.939	21.941	0.051	(2 3)	11.111	24.381	-3.610	(1 4)
4	3.650	34.708	8.423	0.051	(2 3)	40.445	10.503	-3.610	(1 4)
5	5.412	36.087	-4.613	0.051	(2 3)	46.314	-3.086	-3.610	(1 4)
6	7.250	16.522	-18.613	0.051	(2 3)	28.353	-17.253	-3.610	(1 4)
7	9.050	-23.432	-32.131	0.051	(2 3)	-13.074	-31.131	-3.610	(1 4)
8	9.960	-51.461	-38.966	0.051	(2 3)	-42.994	-38.147	-3.610	(1 4)
9	10.550	-72.443	-43.396	0.051	(2 3)	-65.614	-42.696	-3.610	(1 4)
JTAN	10.825	-82.978	-45.462	0.051	(2 3)	-77.023	-44.816	-3.610	(1 4)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-58.111	20.875	3.001	(2 4)	-82.640	45.381	-1.457	(1 3)
1	0.275	-52.482	20.063	3.001	(2 4)	-72.127	43.316	-1.457	(1 3)
2	0.865	-41.158	18.323	3.001	(2 4)	-51.193	38.885	-1.457	(1 3)
3	1.775	-25.706	15.638	3.001	(2 4)	-23.237	32.051	-1.457	(1 3)
4	3.575	-2.336	10.328	3.001	(2 4)	16.572	18.533	-1.457	(1 3)
5	5.412	11.662	4.906	3.001	(2 4)	35.988	4.733	-1.457	(1 3)
6	7.175	15.730	-0.292	3.001	(2 4)	34.467	-8.504	-1.457	(1 3)
7	8.975	10.426	-5.602	3.001	(2 4)	12.554	-22.022	-1.457	(1 3)
8	9.885	4.107	-8.286	3.001	(2 4)	-6.354	-28.856	-1.457	(1 3)
9	10.475	-1.296	-10.027	3.001	(2 4)	-21.423	-33.287	-1.457	(1 3)
JTAN	10.825	-4.986	-11.059	3.001	(2 4)	-31.407	-35.915	-1.457	(1 3)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	43.909	-45.227	-3.824	(2 4)	40.539	-42.531	-8.434	(1 3)
1	0.350	29.476	-41.836	-3.824	(2 4)	28.292	-39.605	-8.434	(1 3)
2	0.725	15.249	-38.247	-3.824	(2 4)	16.149	-36.470	-8.434	(1 3)
3	1.075	3.113	-34.939	-3.824	(2 4)	5.729	-33.544	-8.434	(1 3)
4	1.850	-19.906	-27.759	-3.824	(2 4)	-14.206	-27.065	-8.434	(1 3)
5	3.650	-53.546	-11.845	-3.824	(2 4)	-43.819	-12.017	-8.434	(1 3)
6	5.412	-60.994	2.703	-3.824	(2 4)	-50.211	2.718	-8.434	(1 3)
7	7.250	-43.689	16.780	-3.824	(2 4)	-33.062	18.080	-8.434	(1 3)
8	9.050	-3.688	29.490	-3.824	(2 4)	7.309	33.128	-8.434	(1 3)
9	9.825	20.120	34.634	-3.824	(2 4)	31.875	39.607	-8.434	(1 3)
10	10.550	45.800	39.267	-3.824	(2 4)	56.771	45.668	-8.434	(1 3)
JTAN	10.825	56.379	40.979	-3.824	(2 4)	69.963	47.967	-8.434	(1 3)

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COMBINE 2

= = MEMBER 4 (5 - 6) G = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	70.124	-48.046	-5.977	(2 3)	56.235	-29.884	-11.384	(1 4)
1	0.275	58.909	-45.749	-5.977	(2 3)	46.417	-28.197	-11.384	(1 4)
2	1.000	31.955	-39.686	-5.977	(2 3)	29.924	-23.868	-11.384	(1 4)
3	1.775	7.326	-33.208	-5.977	(2 3)	13.445	-19.433	-11.384	(1 4)
4	3.575	-33.189	-18.160	-5.977	(2 3)	-12.475	-9.896	-11.384	(1 4)
5	5.412	-50.487	-2.799	-5.977	(2 3)	-22.594	-1.262	-11.384	(1 4)
6	7.175	-44.237	11.936	-5.977	(2 3)	-18.501	5.975	-11.384	(1 4)
7	8.975	-14.768	26.984	-5.977	(2 3)	-2.103	12.309	-11.384	(1 4)
8	9.750	5.104	33.463	-5.977	(2 3)	6.327	14.707	-11.384	(1 4)
9	10.100	15.496	36.389	-5.977	(2 3)	13.644	15.726	-11.384	(1 4)
10	10.475	27.609	39.524	-5.977	(2 3)	19.741	16.772	-11.384	(1 4)
JTAN	10.825	39.829	42.450	-5.977	(2 3)	25.789	17.706	-11.384	(1 4)

= = MEMBER 5 (1 - 4) C = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	30.873	0.051	-29.556	(2 3)	43.618	-3.610	-36.317	(1 4)
1	0.340	30.925	0.269	-30.151	(2 3)	42.450	-3.245	-36.912	(1 4)
2	0.600	31.021	0.478	-30.606	(2 3)	41.650	-2.896	-37.367	(1 4)
3	0.840	31.163	0.703	-31.026	(2 3)	40.999	-2.520	-37.787	(1 4)
4	0.940	31.238	0.806	-31.201	(2 3)	40.756	-2.347	-37.962	(1 4)
5	1.868	32.553	2.051	-32.859	(2 3)	39.452	-0.269	-39.620	(1 4)
6	2.700	34.787	3.505	-34.281	(2 3)	40.179	2.157	-41.042	(1 4)
7	2.800	35.147	3.709	-34.456	(2 3)	40.411	2.496	-41.217	(1 4)
8	3.175	36.688	4.521	-35.112	(2 3)	41.598	3.851	-41.873	(1 4)
9	3.300	37.271	4.808	-35.331	(2 3)	42.109	4.330	-42.092	(1 4)
JTAN	3.775	39.828	5.977	-36.162	(2 3)	44.621	6.250	-42.923	(1 4)

= = MEMBER 6 (2 - 5) C = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	-19.250	5.104	-63.283	(1 4)	0.000	0.000	-78.366	(2 3)
1	0.840	-14.963	5.104	-64.434	(1 4)	0.000	0.000	-79.516	(2 3)
2	2.800	-4.960	5.104	-67.119	(1 4)	0.000	0.000	-82.202	(2 3)
JTAN	3.775	0.016	5.104	-68.455	(1 4)	0.000	0.000	-83.537	(2 3)

= = MEMBER 7 (3 - 6) C = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	-4.986	-3.001	-11.059	(2 4)	-31.407	1.457	-29.637	(1 3)
1	0.340	-6.041	-3.219	-11.654	(2 4)	-30.971	1.092	-30.232	(1 3)
2	0.600	-6.905	-3.428	-12.109	(2 4)	-30.731	0.742	-30.687	(1 3)
3	0.840	-7.754	-3.653	-12.529	(2 4)	-30.597	0.366	-31.107	(1 3)
4	0.940	-8.124	-3.756	-12.704	(2 4)	-30.569	0.194	-31.282	(1 3)
5	1.888	-12.235	-5.001	-14.362	(2 4)	-31.306	-1.884	-32.940	(1 3)
6	2.700	-16.865	-6.455	-15.784	(2 4)	-33.783	-4.310	-34.362	(1 3)
7	2.800	-17.521	-6.659	-15.959	(2 4)	-34.231	-4.650	-34.537	(1 3)
8	3.175	-20.168	-7.471	-16.615	(2 4)	-36.224	-6.004	-35.193	(1 3)
9	3.300	-21.120	-7.758	-16.834	(2 4)	-37.005	-6.484	-35.412	(1 3)
JTAN	3.775	-25.077	-8.927	-17.665	(2 4)	-40.539	-8.434	-36.243	(1 3)

COMBINE 3

	MOMENT MAXIMUM					MOMENT MINIMUM			
	---L---	----M---	----Q---	----N---	----CASE----------	----M---	----Q---	----N---	----CASE----------
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-12.608	13.375	-0.880	(2 5)	-13.142	13.456	-2.387	(1 5)
1	0.350	-8.107	12.343	-0.880	(2 5)	-8.614	12.423	-2.387	(1 5)
2	0.940	-1.339	10.602	-0.880	(2 5)	-1.797	10.683	-2.387	(1 5)
3	1.850	7.088	7.918	-0.880	(2 5)	6.702	7.998	-2.387	(1 5)
4	3.650	16.560	2.608	-0.880	(2 5)	16.320	2.688	-2.387	(1 5)
5	5.412	16.574	-2.592	-0.880	(2 5)	16.476	-2.511	-2.387	(1 5)
6	7.250	6.881	-7.932	-2.387	(1 5)	6.831	-8.012	-0.880	(2 5)
7	9.050	-12.175	-13.242	-2.387	(1 5)	-12.370	-13.322	-0.880	(2 5)
8	9.960	-25.447	-15.926	-2.387	(1 5)	-25.715	-16.007	-0.880	(2 5)
9	10.550	-35.357	-17.667	-2.387	(1 5)	-35.673	-17.747	-0.880	(2 5)
JTAN	10.825	-40.327	-18.478	-2.387	(1 5)	-40.665	-18.559	-0.880	(2 5)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-40.327	18.478	-2.387	(1 5)	-40.665	18.559	-0.880	(2 5)
1	0.275	-35.357	17.667	-2.387	(1 5)	-35.673	17.747	-0.880	(2 5)
2	0.865	-25.447	15.926	-2.387	(1 5)	-25.715	16.007	-0.880	(2 5)
3	1.775	-12.175	13.242	-2.387	(1 5)	-12.370	13.322	-0.880	(2 5)
4	3.575	6.881	7.932	-2.387	(1 5)	6.831	8.012	-0.880	(2 5)
5	5.412	16.574	2.592	-0.880	(2 5)	16.476	2.511	-2.387	(1 5)
6	7.175	16.560	-2.608	-0.880	(2 5)	16.320	-2.688	-2.387	(1 5)
7	8.975	7.088	-7.918	-0.880	(2 5)	6.702	-7.998	-2.387	(1 5)
8	9.885	-1.339	-10.602	-0.880	(2 5)	-1.797	-10.683	-2.387	(1 5)
9	10.475	-8.107	-12.343	-0.880	(2 5)	-8.614	-12.423	-2.387	(1 5)
JTAN	10.825	-12.608	-13.375	-0.880	(2 5)	-13.142	-13.456	-2.387	(1 5)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	26.599	-20.071	-11.656	(1 5)	25.887	-19.990	-9.199	(2 5)
1	0.350	19.807	-18.741	-11.656	(1 5)	19.123	-18.660	-9.199	(2 5)
2	0.725	13.046	-17.316	-11.656	(1 5)	12.393	-17.235	-9.199	(2 5)
3	1.075	7.218	-15.986	-11.656	(1 5)	6.593	-15.905	-9.199	(2 5)
4	1.850	-4.030	-13.041	-11.656	(1 5)	-4.592	-12.960	-9.199	(2 5)
5	3.650	-21.347	-6.201	-11.656	(1 5)	-21.765	-6.120	-9.199	(2 5)
6	5.412	-26.374	0.497	-11.656	(1 5)	-26.650	0.577	-9.199	(2 5)
7	7.250	-19.047	7.479	-11.656	(1 5)	-19.174	7.560	-9.199	(2 5)
8	9.050	0.589	14.400	-9.199	(2 5)	0.571	14.319	-11.656	(1 5)
9	9.825	12.890	17.345	-9.199	(2 5)	12.810	17.264	-11.656	(1 5)
10	10.550	26.463	20.100	-9.199	(2 5)	26.325	20.019	-11.656	(1 5)
JTAN	10.825	32.134	21.145	-9.199	(2 5)	31.974	21.064	-11.656	(1 5)

COMBINE 3

= = MEMBER 4 (5 - 6) C = =

	---L---	MOMENT MAXIMUM ---M---	---Q---	---N---	---CASE---	MOMENT MINIMUM ---M---	---Q---	---N---	---CASE---
ITAN	0.000	32.134	-21.145	-9.199	(2 5)	31.974	-21.064	-11.656	(1 5)
1	0.275	26.463	-20.100	-9.199	(2 5)	26.325	-20.019	-11.656	(1 5)
2	1.000	12.890	-17.345	-9.199	(2 5)	12.810	-17.264	-11.656	(1 5)
3	1.775	0.589	-14.400	-9.199	(2 5)	0.571	-14.319	-11.656	(1 5)
4	3.575	-19.047	-7.479	-11.656	(1 5)	-19.174	-7.560	-9.199	(2 5)
5	5.412	-26.374	-0.497	-11.656	(1 5)	-26.650	-0.577	-9.199	(2 5)
6	7.175	-21.347	6.201	-11.656	(1 5)	-21.765	6.120	-9.199	(2 5)
7	8.975	-4.030	13.041	-11.656	(1 5)	-4.592	12.960	-9.199	(2 5)
8	9.750	7.219	15.986	-11.656	(1 5)	6.593	15.905	-9.199	(2 5)
9	10.100	13.046	17.316	-11.656	(1 5)	12.393	17.235	-9.199	(2 5)
10	10.475	19.807	18.741	-11.656	(1 5)	19.123	18.660	-9.199	(2 5)
JTAN	10.825	26.599	20.071	-11.656	(1 5)	25.887	19.990	-9.199	(2 5)

= = MEMBER 5 (1 - 4) C = =

	---L---	MOMENT MAXIMUM ---M---	---Q---	---N---	---CASE---	MOMENT MINIMUM ---M---	---Q---	---N---	---CASE---
ITAN	0.000	13.142	-2.387	-13.456	(1 5)	12.608	-0.880	-13.375	(2 5)
1	0.340	12.453	-1.648	-14.051	(1 5)	12.407	-0.288	-13.970	(2 5)
2	0.600	12.396	0.207	-14.425	(2 5)	12.106	-1.013	-14.506	(1 5)
3	0.840	12.504	0.697	-14.845	(2 5)	11.939	-0.373	-14.926	(1 5)
4	0.940	12.584	0.910	-15.020	(2 5)	11.915	-0.091	-15.101	(1 5)
5	1.888	14.491	3.197	-16.678	(2 5)	13.244	3.030	-16.759	(1 5)
6	2.700	18.018	5.545	-18.100	(2 5)	17.014	6.350	-18.181	(1 5)
7	2.800	18.589	5.858	-18.275	(2 5)	17.672	6.799	-18.356	(1 5)
8	3.175	21.013	7.082	-18.931	(2 5)	20.549	8.566	-19.012	(1 5)
9	3.300	21.924	7.507	-19.150	(2 5)	21.658	9.183	-19.231	(1 5)
JTAN	3.775	26.599	11.656	-20.062	(1 5)	25.887	9.199	-19.981	(2 5)

= = MEMBER 6 (2 - 5) C = =

	---L---	MOMENT MAXIMUM ---M---	---Q---	---N---	---CASE---	MOMENT MINIMUM ---M---	---Q---	---N---	---CASE---
ITAN	0.000	0.000	0.000	-36.956	(1 5)	0.000	0.000	-37.117	(2 5)
1	0.840	0.000	0.000	-38.107	(1 5)	0.000	0.000	-38.268	(2 5)
2	2.800	0.000	0.000	-40.953	(2 5)	0.000	0.000	-40.792	(1 5)
JTAN	3.775	0.000	0.000	-42.289	(2 5)	0.000	0.000	-42.128	(1 5)

= = MEMBER 7 (3 - 6) C = =

	---L---	MOMENT MAXIMUM ---M---	---Q---	---N---	---CASE---	MOMENT MINIMUM ---M---	---Q---	---N---	---CASE---
ITAN	0.000	-12.608	0.880	-13.375	(2 5)	-13.142	2.387	-13.456	(1 5)
1	0.340	-12.407	0.288	-13.970	(2 5)	-12.453	1.648	-14.051	(1 5)
2	0.600	-12.106	1.013	-14.506	(1 5)	-12.396	-0.207	-14.425	(2 5)
3	0.840	-11.939	0.373	-14.926	(1 5)	-12.504	-0.697	-14.845	(2 5)
4	0.940	-11.915	0.091	-15.101	(1 5)	-12.584	-0.910	-15.020	(2 5)
5	1.888	-13.244	-3.030	-16.759	(1 5)	-14.491	-3.197	-16.678	(2 5)
6	2.700	-17.014	-6.350	-18.181	(1 5)	-18.018	-5.545	-18.100	(2 5)
7	2.800	-17.672	-6.799	-18.356	(1 5)	-18.589	-5.858	-18.275	(2 5)
8	3.175	-20.549	-8.566	-19.012	(1 5)	-21.013	-7.082	-18.931	(2 5)
9	3.300	-21.658	-9.183	-19.231	(1 5)	-21.924	-7.507	-19.150	(2 5)
JTAN	3.775	-25.887	-9.199	-19.981	(2 5)	-26.599	-11.656	-20.062	(1 5)

COMBINE 3

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	----CASE----	SHEAR MINIMUM ----M---	----Q---	----N---	----CASE----
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-13.142	13.456	-2.387	(1 5)	-12.608	13.375	-0.880	(2 5)
1	0.350	-8.614	12.423	-2.387	(1 5)	-6.107	12.343	-0.880	(2 5)
2	0.940	-1.797	10.683	-2.387	(1 5)	-1.339	10.602	-0.880	(2 5)
3	1.850	6.702	7.998	-2.387	(1 5)	7.088	7.918	-0.880	(2 5)
4	3.650	16.320	2.688	-2.387	(1 5)	16.560	2.608	-0.880	(2 5)
5	5.412	16.476	-2.511	-2.387	(1 5)	16.574	-2.592	-0.880	(2 5)
6	7.250	6.881	-7.932	-2.387	(1 5)	6.831	-8.012	-0.880	(2 5)
7	9.050	-12.175	-13.242	-2.387	(1 5)	-12.370	-13.322	-0.880	(2 5)
8	9.960	-25.447	-15.926	-2.387	(1 5)	-25.715	-16.007	-0.880	(2 5)
9	10.550	-35.357	-17.667	-2.387	(1 5)	-35.673	-17.747	-0.880	(2 5)
JTAN	10.825	-40.327	-18.478	-2.387	(1 5)	-40.665	-18.559	-0.880	(2 5)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-40.665	18.559	-0.880	(2 5)	-40.327	18.478	-2.387	(1 5)
1	0.275	-35.673	17.747	-0.880	(2 5)	-35.357	17.667	-2.387	(1 5)
2	0.865	-25.715	16.007	-0.880	(2 5)	-25.447	15.926	-2.387	(1 5)
3	1.775	-12.370	13.322	-0.880	(2 5)	-12.175	13.242	-2.387	(1 5)
4	3.575	6.831	8.012	-0.880	(2 5)	6.881	7.932	-2.387	(1 5)
5	5.412	16.574	2.592	-0.880	(2 5)	16.476	2.511	-2.387	(1 5)
6	7.175	16.560	-2.608	-0.880	(2 5)	16.320	-2.688	-2.387	(1 5)
7	8.975	7.088	-7.918	-0.880	(2 5)	6.702	-7.998	-2.387	(1 5)
8	9.885	-1.339	-10.602	-0.880	(2 5)	-1.797	-10.683	-2.387	(1 5)
9	10.475	-6.107	-12.343	-0.880	(2 5)	-8.614	-12.423	-2.387	(1 5)
JTAN	10.825	-12.608	-13.375	-0.880	(2 5)	-13.142	-13.456	-2.387	(1 5)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	25.887	-19.990	-9.199	(2 5)	26.599	-20.071	-11.656	(1 5)
1	0.350	19.123	-18.660	-9.199	(2 5)	19.807	-18.741	-11.656	(1 5)
2	0.725	12.393	-17.235	-9.199	(2 5)	13.046	-17.316	-11.656	(1 5)
3	1.075	6.593	-15.905	-9.199	(2 5)	7.218	-15.986	-11.656	(1 5)
4	1.850	-4.592	-12.960	-9.199	(2 5)	-4.030	-13.041	-11.656	(1 5)
5	3.650	-21.765	-6.120	-9.199	(2 5)	-21.347	-6.201	-11.656	(1 5)
6	5.412	-26.650	0.577	-9.199	(2 5)	-26.374	0.497	-11.656	(1 5)
7	7.250	-19.174	7.560	-9.199	(2 5)	-19.047	7.479	-11.656	(1 5)
8	9.050	0.589	14.400	-9.199	(2 5)	0.571	14.319	-11.656	(1 5)
9	9.825	12.890	17.345	-9.199	(2 5)	12.810	17.264	-11.656	(1 5)
10	10.550	26.463	20.100	-9.199	(2 5)	26.325	20.019	-11.656	(1 5)
JTAN	10.825	32.134	21.145	-9.199	(2 5)	31.974	21.064	-11.656	(1 5)

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COMBINE 3

= = MEMBER 4 (5 - 6) G = =

	L	SHEAR MAXIMUM M	Q	N	CASE	SHEAR MINIMUM M	Q	N	CASE
ITAN	0.000	31.974	-21.064	-11.656	(1 5)	32.134	-21.145	-9.199	(2 5)
1	0.275	26.325	-20.019	-11.656	(1 5)	26.463	-20.100	-9.199	(2 5)
2	1.000	12.810	-17.264	-11.656	(1 5)	12.890	-17.345	-9.199	(2 5)
3	1.775	0.571	-14.319	-11.656	(1 5)	0.589	-14.400	-9.199	(2 5)
4	3.575	-19.047	-7.479	-11.656	(1 5)	-19.174	-7.560	-9.199	(2 5)
5	5.412	-26.374	-0.497	-11.656	(1 5)	-26.650	-0.577	-9.199	(2 5)
6	7.175	-21.347	6.201	-11.656	(1 5)	-21.765	6.120	-9.199	(2 5)
7	8.975	-4.030	13.041	-11.656	(1 5)	-4.592	12.960	-9.199	(2 5)
8	9.750	7.218	15.986	-11.656	(1 5)	6.593	15.905	-9.199	(2 5)
9	10.100	13.046	17.316	-11.656	(1 5)	12.393	17.235	-9.199	(2 5)
10	10.475	19.807	18.741	-11.656	(1 5)	19.123	18.660	-9.199	(2 5)
JTAN	10.825	26.599	20.071	-11.656	(1 5)	25.887	19.990	-9.199	(2 5)

= = MEMBER 5 (1 - 4) C = =

	L	SHEAR MAXIMUM M	Q	N	CASE	SHEAR MINIMUM M	Q	N	CASE
ITAN	0.000	12.605	-0.280	-13.375	(2 5)	13.142	-2.387	-13.456	(1 5)
1	0.340	12.407	-0.236	-13.970	(2 5)	12.453	-1.648	-14.051	(1 5)
2	0.600	12.396	1.207	-14.425	(2 5)	12.106	-1.013	-14.506	(1 5)
3	0.840	12.504	0.697	-14.845	(2 5)	11.939	-0.373	-14.926	(1 5)
4	0.940	12.584	0.910	-15.020	(2 5)	11.915	-0.091	-15.101	(1 5)
5	1.888	14.491	3.197	-16.678	(2 5)	13.244	3.030	-16.759	(1 5)
6	2.700	17.014	6.350	-18.181	(1 5)	18.018	5.545	-18.100	(2 5)
7	2.800	17.672	6.799	-18.356	(1 5)	18.589	5.858	-18.275	(2 5)
8	3.175	20.549	8.566	-19.012	(1 5)	21.013	7.082	-18.931	(2 5)
9	3.300	21.658	9.183	-19.231	(1 5)	21.924	7.507	-19.150	(2 5)
JTAN	3.775	26.599	11.656	-20.062	(1 5)	25.887	9.199	-19.981	(2 5)

= = MEMBER 6 (2 - 5) C = =

	L	SHEAR MAXIMUM M	Q	N	CASE	SHEAR MINIMUM M	Q	N	CASE
ITAN	0.000	0.000	0.000	-37.117	(2 5)	0.000	0.000	-36.956	(1 5)
1	0.840	0.000	0.000	-38.268	(2 5)	0.000	0.000	-38.107	(1 5)
2	2.800	0.000	0.000	-40.953	(2 5)	0.000	0.000	-40.792	(1 5)
JTAN	3.775	0.000	0.000	-42.289	(2 5)	0.000	0.000	-42.128	(1 5)

= = MEMBER 7 (3 - 6) C = =

	L	SHEAR MAXIMUM M	Q	N	CASE	SHEAR MINIMUM M	Q	N	CASE
ITAN	0.000	-13.142	2.387	-13.456	(1 5)	-12.608	0.850	-13.375	(2 5)
1	0.340	-12.453	1.646	-14.051	(1 5)	-12.407	0.288	-13.970	(2 5)
2	0.600	-12.106	1.013	-14.506	(1 5)	-12.396	-0.207	-14.425	(2 5)
3	0.840	-11.939	0.373	-14.926	(1 5)	-12.504	-0.697	-14.845	(2 5)
4	0.940	-11.915	0.091	-15.101	(1 5)	-12.584	-0.910	-15.020	(2 5)
5	1.888	-13.244	-3.030	-16.759	(1 5)	-14.491	-3.197	-16.678	(2 5)
6	2.700	-18.018	-5.545	-18.100	(2 5)	-17.014	-6.350	-18.181	(1 5)
7	2.800	-18.589	-5.856	-18.275	(2 5)	-17.672	-6.799	-18.356	(1 5)
8	3.175	-21.013	-7.082	-18.931	(2 5)	-20.549	-8.566	-19.012	(1 5)
9	3.300	-21.924	-7.507	-19.150	(2 5)	-21.658	-9.183	-19.231	(1 5)
JTAN	3.775	-25.887	-9.199	-19.981	(2 5)	-26.599	-11.656	-20.062	(1 5)

COMBINE 3

	---L---	AXIAL MAXIMUM ----M---	----Q---	----N---	----CASE----------	AXIAL MINIMUM ----M---	----Q---	----N---	----CASE----------
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-12.608	13.375	-0.880	(2 5)	-13.142	13.456	-2.387	(1 5)
1	0.350	-8.107	12.343	-0.880	(2 5)	-6.614	12.423	-2.387	(1 5)
2	0.940	-1.339	10.602	-0.880	(2 5)	-1.797	10.683	-2.387	(1 5)
3	1.850	7.088	7.918	-0.880	(2 5)	6.702	7.998	-2.387	(1 5)
4	3.650	16.560	2.608	-0.880	(2 5)	16.320	2.688	-2.387	(1 5)
5	5.412	16.574	-2.592	-0.880	(2 5)	16.476	-2.511	-2.387	(1 5)
6	7.250	6.831	-8.012	-0.880	(2 5)	6.881	-7.932	-2.387	(1 5)
7	9.050	-12.370	-13.322	-0.880	(2 5)	-12.175	-13.242	-2.387	(1 5)
8	9.960	-25.715	-16.007	-0.880	(2 5)	-25.447	-15.926	-2.387	(1 5)
9	10.550	-35.673	-17.747	-0.880	(2 5)	-35.357	-17.667	-2.387	(1 5)
JTAN	10.825	-40.665	-18.559	-0.880	(2 5)	-40.327	-18.476	-2.387	(1 5)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-40.665	18.559	-0.880	(2 5)	-40.327	18.478	-2.387	(1 5)
1	0.275	-35.673	17.747	-0.880	(2 5)	-35.357	17.667	-2.387	(1 5)
2	0.865	-25.715	16.007	-0.880	(2 5)	-25.447	15.926	-2.387	(1 5)
3	1.775	-12.370	13.322	-0.880	(2 5)	-12.175	13.242	-2.387	(1 5)
4	3.575	6.831	5.012	-0.880	(2 5)	6.881	7.932	-2.387	(1 5)
5	5.412	16.574	2.592	-0.880	(2 5)	16.476	2.511	-2.387	(1 5)
6	7.175	16.560	-2.608	-0.880	(2 5)	16.320	-2.688	-2.387	(1 5)
7	8.975	7.088	-7.918	-0.880	(2 5)	6.702	-7.998	-2.387	(1 5)
8	9.885	-1.339	-10.602	-0.880	(2 5)	-1.797	-10.683	-2.387	(1 5)
9	10.475	-8.107	-12.343	-0.880	(2 5)	-8.614	-12.423	-2.387	(1 5)
JTAN	10.825	-12.608	-13.375	-0.880	(2 5)	-13.142	-13.456	-2.387	(1 5)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	25.887	-19.990	-9.199	(2 5)	26.599	-20.071	-11.656	(1 5)
1	0.350	19.123	-18.660	-9.199	(2 5)	19.807	-18.741	-11.656	(1 5)
2	0.725	12.393	-17.235	-9.199	(2 5)	13.046	-17.316	-11.656	(1 5)
3	1.075	6.593	-15.905	-9.199	(2 5)	7.218	-15.986	-11.656	(1 5)
4	1.850	-4.592	-12.960	-9.199	(2 5)	-4.030	-13.041	-11.656	(1 5)
5	3.650	-21.765	-6.120	-9.199	(2 5)	-21.347	-6.201	-11.656	(1 5)
6	5.412	-26.650	0.577	-9.199	(2 5)	-26.374	0.497	-11.656	(1 5)
7	7.250	-19.174	7.560	-9.199	(2 5)	-19.047	7.479	-11.656	(1 5)
8	9.050	0.589	14.400	-9.199	(2 5)	0.571	14.319	-11.656	(1 5)
9	9.825	12.890	17.345	-9.199	(2 5)	12.810	17.264	-11.656	(1 5)
10	10.550	26.463	20.100	-9.199	(2 5)	26.325	20.019	-11.656	(1 5)
JTAN	10.825	32.134	21.145	-9.199	(2 5)	31.974	21.064	-11.656	(1 5)

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COMBINE 3

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	32.134	-21.145	-9.199	(2 5)	31.974	-21.064	-11.656	(1 5)
1	0.275	26.463	-20.100	-9.199	(2 5)	26.325	-20.019	-11.656	(1 5)
2	1.000	12.890	-17.345	-9.199	(2 5)	12.810	-17.264	-11.656	(1 5)
3	1.775	0.589	-14.400	-9.199	(2 5)	0.571	-14.319	-11.656	(1 5)
4	3.575	-19.174	-7.560	-9.199	(2 5)	-19.047	-7.479	-11.656	(1 5)
5	5.412	-26.650	-0.577	-9.199	(2 5)	-26.374	-0.497	-11.656	(1 5)
6	7.175	-21.765	6.120	-9.199	(2 5)	-21.347	6.201	-11.656	(1 5)
7	8.975	-4.592	12.960	-9.199	(2 5)	-4.030	13.041	-11.656	(1 5)
8	9.750	6.593	15.905	-9.199	(2 5)	7.218	15.986	-11.656	(1 5)
9	10.100	12.393	17.235	-9.199	(2 5)	13.046	17.316	-11.656	(1 5)
10	10.475	19.123	18.660	-9.199	(2 5)	19.807	18.741	-11.656	(1 5)
JTAN	10.825	25.887	19.990	-9.199	(2 5)	26.599	20.071	-11.656	(1 5)
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	12.608	-0.880	-13.375	(2 5)	13.142	-2.387	-13.456	(1 5)
1	0.340	12.407	-0.258	-13.970	(2 5)	12.453	-1.648	-14.051	(1 5)
2	0.600	12.396	0.207	-14.425	(2 5)	12.106	-1.013	-14.506	(1 5)
3	0.840	12.504	0.697	-14.845	(2 5)	11.939	-0.373	-14.926	(1 5)
4	0.940	12.584	0.910	-15.020	(2 5)	11.915	-0.091	-15.101	(1 5)
5	1.888	14.491	3.197	-16.678	(2 5)	13.244	3.030	-16.759	(1 5)
6	2.700	18.018	5.545	-18.100	(2 5)	17.014	6.350	-18.181	(1 5)
7	2.800	18.589	5.658	-18.275	(2 5)	17.672	6.799	-18.356	(1 5)
8	3.175	21.013	7.082	-18.931	(2 5)	20.549	8.566	-19.012	(1 5)
9	3.300	21.924	7.507	-19.150	(2 5)	21.658	9.183	-19.231	(1 5)
JTAN	3.775	25.887	9.199	-19.981	(2 5)	26.599	11.656	-20.062	(1 5)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-36.956	(1 5)	0.000	0.000	-37.117	(2 5)
1	0.840	0.000	0.000	-38.107	(1 5)	0.000	0.000	-38.268	(2 5)
2	2.800	0.000	0.000	-40.792	(1 5)	0.000	0.000	-40.953	(2 5)
JTAN	3.775	0.000	0.000	-42.128	(1 5)	0.000	0.000	-42.289	(2 5)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-12.608	0.680	-13.375	(2 5)	-13.142	2.387	-13.456	(1 5)
1	0.340	-12.407	0.258	-13.970	(2 5)	-12.453	1.648	-14.051	(1 5)
2	0.600	-12.396	-0.207	-14.425	(2 5)	-12.106	1.013	-14.506	(1 5)
3	0.840	-12.504	-0.697	-14.845	(2 5)	-11.939	0.373	-14.926	(1 5)
4	0.940	-12.584	-0.910	-15.020	(2 5)	-11.915	0.091	-15.101	(1 5)
5	1.888	-14.491	-3.197	-16.678	(2 5)	-13.244	-3.030	-16.759	(1 5)
6	2.700	-18.018	-5.545	-18.100	(2 5)	-17.014	-6.350	-18.181	(1 5)
7	2.800	-18.589	-5.658	-18.275	(2 5)	-17.672	-6.799	-18.356	(1 5)
8	3.175	-21.013	-7.082	-18.931	(2 5)	-20.549	-8.566	-19.012	(1 5)
9	3.300	-21.924	-7.507	-19.150	(2 5)	-21.658	-9.183	-19.231	(1 5)
JTAN	3.775	-25.887	-9.199	-19.981	(2 5)	-26.599	-11.656	-20.062	(1 5)

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COMBINE 4

= = MEMBER 1 (1 - 2) G = =

	L	M (MOMENT MAXIMUM)	Q	N	CASE	M (MOMENT MINIMUM)	Q	N	CASE
ITAN	0.000	-31.434	35.919	-1.978	(2 3 5)	-44.180	38.729	-5.638	(1 4 5)
1	0.350	-21.449	33.291	-1.978	(2 3 5)	-31.885	36.030	-5.638	(1 4 5)
2	0.940	-6.378	28.860	-1.978	(2 3 5)	-13.178	31.481	-5.638	(1 4 5)
3	1.850	12.534	22.026	-1.978	(2 3 5)	10.705	24.465	-5.638	(1 4 5)
4	3.650	40.433	10.507	-4.131	(2 4 5)	34.214	8.588	-3.485	(1 3 5)
5	5.412	46.308	-3.082	-4.131	(2 4 5)	35.884	-4.648	-3.485	(1 3 5)
6	7.250	28.404	-17.169	-5.638	(1 4 5)	16.573	-18.529	-1.978	(2 3 5)
7	9.050	-12.871	-31.046	-5.638	(1 4 5)	-23.229	-32.047	-1.978	(2 3 5)
8	9.960	-42.714	-38.063	-5.638	(1 4 5)	-51.181	-38.881	-1.978	(2 3 5)
9	10.550	-65.284	-42.611	-5.638	(1 4 5)	-72.113	-43.312	-1.978	(2 3 5)
JTAN	10.825	-76.670	-44.732	-5.638	(1 4 5)	-82.625	-45.377	-1.978	(2 3 5)

= = MEMBER 2 (2 - 3) G = =

	L	M (MOMENT MAXIMUM)	Q	N	CASE	M (MOMENT MINIMUM)	Q	N	CASE
ITAN	0.000	-57.420	20.709	-0.535	(1 4 5)	-82.625	45.377	-1.978	(2 3 5)
1	0.275	-51.837	19.698	-0.535	(1 4 5)	-72.113	43.312	-1.978	(2 3 5)
2	0.865	-40.610	18.158	-0.535	(1 4 5)	-51.181	38.881	-1.978	(2 3 5)
3	1.775	-23.034	31.966	-3.485	(1 3 5)	-25.503	15.554	0.973	(2 4 5)
4	3.575	16.623	18.448	-3.485	(1 3 5)	-2.285	10.244	0.973	(2 4 5)
5	5.412	35.983	4.729	-1.978	(2 3 5)	11.459	4.743	-0.535	(1 4 5)
6	7.175	34.454	-8.508	-1.978	(2 3 5)	15.236	-0.457	-0.535	(1 4 5)
7	8.975	12.534	-22.026	-1.978	(2 3 5)	9.635	-5.767	-0.535	(1 4 5)
8	9.885	3.624	-6.371	0.973	(2 4 5)	-6.836	-28.940	-3.485	(1 3 5)
9	10.475	-1.828	-10.111	0.973	(2 4 5)	-21.955	-33.371	-3.485	(1 3 5)
JTAN	10.825	-5.547	-11.144	0.973	(2 4 5)	-31.969	-36.000	-3.485	(1 3 5)

= = MEMBER 3 (4 - 5) G = =

	L	M (MOMENT MAXIMUM)	Q	N	CASE	M (MOMENT MINIMUM)	Q	N	CASE
ITAN	0.000	45.364	-45.392	-8.405	(1 4 5)	40.571	-42.535	-8.102	(2 3 5)
1	0.350	30.273	-42.001	-8.405	(1 4 5)	28.322	-39.609	-8.102	(2 3 5)
2	0.725	16.831	-36.554	-10.558	(1 3 5)	15.932	-38.331	-5.948	(2 4 5)
3	1.075	6.381	-33.628	-10.558	(1 3 5)	3.765	-35.024	-5.948	(2 4 5)
4	1.850	-13.619	-27.149	-10.558	(1 3 5)	-19.319	-27.843	-5.948	(2 4 5)
5	3.650	-43.384	-12.101	-10.558	(1 3 5)	-53.111	-11.929	-5.948	(2 4 5)
6	5.412	-49.925	2.634	-10.558	(1 3 5)	-60.708	2.618	-5.948	(2 4 5)
7	7.250	-32.931	17.995	-10.558	(1 3 5)	-43.558	16.695	-5.948	(2 4 5)
8	9.050	7.305	33.124	-8.102	(2 3 5)	-3.727	29.325	-8.405	(1 4 5)
9	9.825	31.868	39.603	-8.102	(2 3 5)	19.953	34.469	-8.405	(1 4 5)
10	10.550	58.761	45.664	-8.102	(2 3 5)	45.514	39.102	-8.405	(1 4 5)
JTAN	10.825	69.952	47.963	-8.102	(2 3 5)	56.047	40.814	-8.405	(1 4 5)

COMBINE 4

= = MEMBER 4 (5 - 6) G = =

	L	MAX M	MAX Q	MAX N	MAX CASE	MIN M	MIN Q	MIN N	MIN CASE
ITAN	0.000	69.952	-47.953	-8.102	(2 3 5)	56.063	-29.799	-13.508	(1 4 5)
1	0.275	58.761	-45.664	-8.102	(2 3 5)	46.269	-28.112	-13.508	(1 4 5)
2	1.000	31.865	-39.603	-8.102	(2 3 5)	29.837	-23.784	-13.508	(1 4 5)
3	1.775	13.442	-19.429	-11.052	(2 4 5)	7.287	-33.043	-10.558	(1 3 5)
4	3.575	-12.344	-9.612	-13.503	(1 4 5)	-33.059	-18.076	-8.102	(2 3 5)
5	5.412	-22.308	-1.177	-13.508	(1 4 5)	-50.201	-2.714	-8.102	(2 3 5)
6	7.175	-18.066	6.059	-13.508	(1 4 5)	-43.802	12.020	-8.102	(2 3 5)
7	8.975	-1.516	12.394	-13.508	(1 4 5)	-14.181	27.069	-8.102	(2 3 5)
8	9.750	8.979	14.792	-13.508	(1 4 5)	5.756	33.548	-8.102	(2 3 5)
9	10.100	16.831	36.554	-10.558	(1 3 5)	13.673	15.730	-11.052	(2 4 5)
10	10.475	29.006	39.689	-10.558	(1 3 5)	19.771	16.776	-11.052	(2 4 5)
JTAN	10.825	41.283	42.615	-10.558	(1 3 5)	25.321	17.710	-11.052	(2 4 5)

= = MEMBER 5 (1 - 4) C = =

	L	MAX M	MAX Q	MAX N	MAX CASE	MIN M	MIN Q	MIN N	MIN CASE
ITAN	0.000	44.180	-5.638	-36.402	(1 4 5)	31.434	-1.978	-29.640	(2 3 5)
1	0.340	42.385	-4.899	-36.997	(1 4 5)	30.861	-1.385	-30.235	(2 3 5)
2	0.600	41.483	-3.044	-37.371	(2 4 5)	30.274	-2.111	-30.771	(1 3 5)
3	0.840	40.810	-2.554	-37.791	(2 4 5)	29.843	-1.470	-31.191	(1 3 5)
4	0.940	40.566	-2.341	-37.966	(2 4 5)	29.710	-1.188	-31.366	(1 3 5)
5	1.888	39.392	-0.054	-39.624	(2 4 5)	29.999	1.932	-33.024	(1 3 5)
6	2.700	40.278	2.294	-41.046	(2 4 5)	32.878	5.252	-34.446	(1 3 5)
7	2.800	40.523	2.607	-41.221	(2 4 5)	33.425	5.702	-34.621	(1 3 5)
8	3.175	41.728	3.531	-41.877	(2 4 5)	35.891	7.468	-35.277	(1 3 5)
9	3.300	42.233	4.256	-42.096	(2 4 5)	36.363	8.085	-35.496	(1 3 5)
JTAN	3.775	45.364	6.405	-43.008	(1 4 5)	40.571	8.102	-36.247	(2 3 5)

= = MEMBER 6 (2 - 5) C = =

	L	MAX M	MAX Q	MAX N	MAX CASE	MIN M	MIN Q	MIN N	MIN CASE
ITAN	0.000	0.000	0.000	-78.035	(1 3 5)	-19.250	5.104	-63.275	(2 4 5)
1	0.840	0.000	0.000	-79.186	(1 3 5)	-14.963	5.104	-64.426	(2 4 5)
2	2.800	0.000	0.000	-82.033	(2 3 5)	-4.960	5.104	-66.950	(1 4 5)
JTAN	3.775	0.016	5.104	-68.447	(2 4 5)	0.000	0.000	-83.207	(1 3 5)

= = MEMBER 7 (3 - 6) C = =

	L	MAX M	MAX Q	MAX N	MAX CASE	MIN M	MIN Q	MIN N	MIN CASE
ITAN	0.000	-5.547	-0.973	-11.144	(2 4 5)	-31.969	3.485	-29.721	(1 3 5)
1	0.340	-5.977	-1.565	-11.739	(2 4 5)	-30.907	2.746	-30.316	(1 3 5)
2	0.600	-6.157	-0.840	-12.274	(1 4 5)	-30.564	0.890	-30.690	(2 3 5)
3	0.840	-6.435	-1.430	-12.694	(1 4 5)	-30.409	0.401	-31.110	(2 3 5)
4	0.940	-6.597	-1.762	-12.869	(1 4 5)	-30.379	0.188	-31.285	(2 3 5)
5	1.888	-9.681	-4.383	-14.527	(1 4 5)	-31.246	-2.099	-32.944	(2 3 5)
6	2.700	-14.956	-8.202	-15.949	(1 4 5)	-33.882	-4.447	-34.365	(2 3 5)
7	2.800	-15.799	-8.652	-16.124	(1 4 5)	-34.342	-4.761	-34.540	(2 3 5)
8	3.175	-19.371	-10.419	-16.781	(1 4 5)	-36.355	-5.985	-35.197	(2 3 5)
9	3.300	-20.711	-11.036	-16.999	(1 4 5)	-37.129	-6.410	-35.415	(2 3 5)
JTAN	3.775	-25.821	-11.052	-17.750	(2 4 5)	-41.283	-10.558	-36.327	(1 3 5)

COMBINE 4

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	----CASE----------	SHEAR MINIMUM ----M---	----Q---	----N---	----CASE----------
= = MEMBER	1 (1 - 2) G = =								
ITAN	0.000	-44.180	38.729	-5.638	(1 4 5)	-31.434	35.919	-1.978	(2 3 5)
1	0.350	-31.885	36.030	-5.638	(1 4 5)	-21.449	33.291	-1.978	(2 3 5)
2	0.940	-13.178	31.481	-5.638	(1 4 5)	-6.378	28.860	-1.978	(2 3 5)
3	1.850	10.705	24.465	-5.638	(1 4 5)	12.534	22.026	-1.978	(2 3 5)
4	3.650	40.192	10.587	-5.638	(1 4 5)	34.454	8.508	-1.978	(2 3 5)
5	5.412	46.209	-3.001	-5.638	(1 4 5)	35.983	-4.729	-1.978	(2 3 5)
6	7.250	28.404	-17.169	-5.638	(1 4 5)	16.573	-18.529	-1.978	(2 3 5)
7	9.050	-12.871	-31.046	-5.638	(1 4 5)	-23.229	-32.047	-1.978	(2 3 5)
8	9.960	-42.714	-38.063	-5.638	(1 4 5)	-51.181	-38.881	-1.978	(2 3 5)
9	10.550	-65.284	-42.611	-5.638	(1 4 5)	-72.113	-43.312	-1.978	(2 3 5)
JTAN	10.825	-76.670	-44.732	-5.638	(1 4 5)	-82.625	-45.377	-1.978	(2 3 5)
= = MEMBER	2 (2 - 3) G = =								
ITAN	0.000	-82.625	45.377	-1.978	(2 3 5)	-57.420	20.709	-0.535	(1 4 5)
1	0.275	-72.113	43.312	-1.978	(2 3 5)	-51.837	19.898	-0.535	(1 4 5)
2	0.865	-51.181	38.281	-1.978	(2 3 5)	-40.610	18.158	-0.535	(1 4 5)
3	1.775	-23.229	32.047	-1.978	(2 3 5)	-25.308	15.473	-0.535	(1 4 5)
4	3.575	16.573	18.529	-1.978	(2 3 5)	-2.235	10.163	-0.535	(1 4 5)
5	5.412	11.558	4.823	0.973	(2 4 5)	35.884	4.648	-3.485	(1 3 5)
6	7.175	15.477	-0.376	0.973	(2 4 5)	34.214	-8.588	-3.485	(1 3 5)
7	8.975	10.020	-5.686	0.973	(2 4 5)	12.149	-22.106	-3.485	(1 3 5)
8	9.885	3.624	-8.371	0.973	(2 4 5)	-6.836	-28.940	-3.485	(1 3 5)
9	10.475	-1.828	-10.111	0.973	(2 4 5)	-21.955	-33.371	-3.485	(1 3 5)
JTAN	10.825	-5.547	-11.144	0.973	(2 4 5)	-31.969	-36.000	-3.485	(1 3 5)
= = MEMBER	3 (4 - 5) G = =								
ITAN	0.000	40.571	-42.535	-8.102	(2 3 5)	45.364	-45.392	-8.405	(1 4 5)
1	0.350	28.322	-39.639	-8.102	(2 3 5)	30.373	-42.001	-8.405	(1 4 5)
2	0.725	16.178	-36.474	-8.102	(2 3 5)	16.585	-38.412	-8.405	(1 4 5)
3	1.075	5.756	-33.548	-8.102	(2 3 5)	4.390	-35.104	-8.405	(1 4 5)
4	1.850	-14.181	-27.069	-8.102	(2 3 5)	-18.756	-27.924	-8.405	(1 4 5)
5	3.650	-53.111	-11.929	-5.948	(2 4 5)	-43.384	-12.101	-10.558	(1 3 5)
6	5.412	-50.201	2.714	-8.102	(2 3 5)	-60.433	2.538	-8.405	(1 4 5)
7	7.250	-33.059	18.076	-8.102	(2 3 5)	-43.431	16.614	-8.405	(1 4 5)
8	9.050	7.305	33.124	-6.102	(2 3 5)	-3.727	29.325	-6.405	(1 4 5)
9	9.825	31.868	39.603	-8.102	(2 3 5)	19.953	34.469	-8.405	(1 4 5)
10	10.550	58.761	45.664	-8.102	(2 3 5)	45.514	39.102	-8.405	(1 4 5)
JTAN	10.825	69.952	47.963	-6.102	(2 3 5)	56.047	40.814	-8.405	(1 4 5)

COMBINE 4

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	----CASE----	SHEAR MINIMUM ----M---	----Q---	----N---	----CASE----
= = MEMBER	4 (5 - 6) G = =								
ITAN	0.000	56.063	-29.799	-13.508	(1 4 5)	69.952	-47.963	-8.102	(2 3 5)
1	0.275	48.269	-28.112	-13.508	(1 4 5)	58.761	-45.664	-8.102	(2 3 5)
2	1.000	29.837	-23.784	-13.508	(1 4 5)	31.868	-39.603	-8.102	(2 3 5)
3	1.775	13.424	-19.349	-13.508	(1 4 5)	7.305	-33.124	-8.102	(2 3 5)
4	3.575	-12.344	-9.812	-13.508	(1 4 5)	-33.059	-18.076	-8.102	(2 3 5)
5	5.412	-22.308	-1.177	-13.508	(1 4 5)	-50.201	-2.714	-8.102	(2 3 5)
6	7.175	-43.384	12.101	-10.558	(1 3 5)	-18.483	5.979	-11.052	(2 4 5)
7	8.975	-13.619	27.149	-10.558	(1 3 5)	-2.078	12.313	-11.052	(2 4 5)
8	9.750	6.381	33.628	-10.558	(1 3 5)	8.354	14.711	-11.052	(2 4 5)
9	10.100	16.831	36.554	-10.558	(1 3 5)	13.673	15.730	-11.052	(2 4 5)
10	10.475	29.006	39.689	-10.558	(1 3 5)	19.771	16.776	-11.052	(2 4 5)
JTAN	10.825	41.283	42.615	-10.558	(1 3 5)	25.821	17.710	-11.052	(2 4 5)
= = MEMBER	5 (1 - 4) C = =								
ITAN	0.000	31.434	-1.976	-29.640	(2 3 5)	44.180	-5.638	-36.402	(1 4 5)
1	0.340	30.861	-1.385	-30.235	(2 3 5)	42.385	-4.899	-36.997	(1 4 5)
2	0.600	30.564	-0.890	-30.690	(2 3 5)	41.193	-4.264	-37.452	(1 4 5)
3	0.840	30.409	-0.401	-31.110	(2 3 5)	40.245	-3.624	-37.872	(1 4 5)
4	0.940	30.379	-0.198	-31.285	(2 3 5)	39.897	-3.341	-38.047	(1 4 5)
5	1.888	31.246	2.099	-32.944	(2 3 5)	38.145	-0.221	-39.705	(1 4 5)
6	2.700	32.878	5.252	-34.446	(1 3 5)	40.278	2.294	-41.046	(2 4 5)
7	2.800	33.425	5.702	-34.621	(1 3 5)	40.523	2.607	-41.221	(2 4 5)
8	3.175	35.891	7.468	-35.277	(1 3 5)	41.728	3.831	-41.877	(2 4 5)
9	3.300	36.863	8.085	-35.496	(1 3 5)	42.233	4.256	-42.096	(2 4 5)
JTAN	3.775	41.283	10.558	-36.327	(1 3 5)	44.652	5.948	-42.927	(2 4 5)
= = MEMBER	6 (2 - 5) C = =								
ITAN	0.000	-19.250	5.104	-63.275	(2 4 5)	0.000	0.000	-78.035	(1 3 5)
1	0.840	-14.963	5.104	-64.426	(2 4 5)	0.000	0.000	-79.186	(1 3 5)
2	2.800	-4.960	5.104	-67.111	(2 4 5)	0.000	0.000	-81.871	(1 3 5)
JTAN	3.775	0.016	5.104	-68.447	(2 4 5)	0.000	0.000	-83.207	(1 3 5)
= = MEMBER	7 (3 - 6) C = =								
ITAN	0.000	-31.969	3.485	-29.721	(1 3 5)	-5.547	-0.973	-11.144	(2 4 5)
1	0.340	-30.907	2.746	-30.316	(1 3 5)	-5.977	-1.565	-11.739	(2 4 5)
2	0.600	-30.274	2.111	-30.771	(1 3 5)	-6.447	-2.060	-12.194	(2 4 5)
3	0.840	-29.843	1.470	-31.191	(1 3 5)	-7.000	-2.549	-12.614	(2 4 5)
4	0.940	-29.710	1.188	-31.366	(1 3 5)	-7.265	-2.752	-12.789	(2 4 5)
5	1.888	-29.999	-1.932	-33.024	(1 3 5)	-10.928	-5.050	-14.447	(2 4 5)
6	2.700	-33.882	-4.447	-34.365	(2 3 5)	-14.956	-8.202	-15.949	(1 4 5)
7	2.800	-34.342	-4.761	-34.540	(2 3 5)	-15.799	-8.652	-16.124	(1 4 5)
8	3.175	-36.355	-5.985	-35.197	(2 3 5)	-19.371	-10.419	-16.781	(1 4 5)
9	3.300	-37.129	-6.410	-35.415	(2 3 5)	-20.711	-11.036	-16.999	(1 4 5)
JTAN	3.775	-40.571	-8.102	-36.247	(2 3 5)	-26.532	-13.508	-17.831	(1 4 5)

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COMBINE 4

= = MEMBER 1 (1 - 2) G = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	-31.434	35.919	-1.978	(2 3 5)	-44.180	38.729	-5.638	(1 4 5)
1	0.350	-21.449	33.291	-1.978	(2 3 5)	-31.385	36.030	-5.638	(1 4 5)
2	0.940	-6.378	28.860	-1.978	(2 3 5)	-13.178	31.461	-5.638	(1 4 5)
3	1.850	12.534	22.026	-1.978	(2 3 5)	10.705	24.465	-5.638	(1 4 5)
4	3.650	34.454	2.508	-1.978	(2 3 5)	40.192	10.587	-5.638	(1 4 5)
5	5.412	35.983	-4.729	-1.978	(2 3 5)	46.209	-3.001	-5.638	(1 4 5)
6	7.250	16.573	-18.529	-1.978	(2 3 5)	28.404	-17.169	-5.638	(1 4 5)
7	9.050	-23.229	-32.047	-1.978	(2 3 5)	-12.871	-31.046	-5.638	(1 4 5)
8	9.960	-51.181	-38.881	-1.978	(2 3 5)	-42.714	-38.063	-5.638	(1 4 5)
9	10.550	-72.113	-43.312	-1.978	(2 3 5)	-65.284	-42.611	-5.638	(1 4 5)
JTAN	10.825	-82.625	-45.377	-1.978	(2 3 5)	-76.670	-44.732	-5.638	(1 4 5)

= = MEMBER 2 (2 - 3) G = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	-57.758	20.790	0.973	(2 4 5)	-82.287	45.297	-3.485	(1 3 5)
1	0.275	-52.152	19.979	0.973	(2 4 5)	-71.798	43.231	-3.485	(1 3 5)
2	0.865	-40.878	18.238	0.973	(2 4 5)	-50.913	38.900	-3.485	(1 3 5)
3	1.775	-25.503	15.554	0.973	(2 4 5)	-23.034	31.966	-3.485	(1 3 5)
4	3.575	-2.285	10.244	0.973	(2 4 5)	16.623	18.448	-3.485	(1 3 5)
5	5.412	11.558	4.823	0.973	(2 4 5)	35.384	4.648	-3.485	(1 3 5)
6	7.175	15.477	-0.376	0.973	(2 4 5)	34.214	-8.588	-3.485	(1 3 5)
7	8.975	10.020	-5.686	0.973	(2 4 5)	12.149	-22.106	-3.485	(1 3 5)
8	9.885	3.624	-8.371	0.973	(2 4 5)	-6.836	-28.940	-3.485	(1 3 5)
9	10.475	-1.828	-10.111	0.973	(2 4 5)	-21.955	-33.371	-3.485	(1 3 5)
JTAN	10.825	-5.547	-11.144	0.973	(2 4 5)	-31.969	-36.000	-3.485	(1 3 5)

= = MEMBER 3 (4 - 5) G = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	44.652	-45.311	-5.948	(2 4 5)	41.283	-42.615	-10.558	(1 3 5)
1	0.350	30.190	-41.920	-5.948	(2 4 5)	29.006	-39.639	-10.558	(1 3 5)
2	0.725	15.932	-38.331	-5.948	(2 4 5)	16.831	-36.554	-10.558	(1 3 5)
3	1.075	3.765	-35.024	-5.948	(2 4 5)	6.391	-33.628	-10.558	(1 3 5)
4	1.850	-19.319	-27.843	-5.948	(2 4 5)	-13.619	-27.149	-10.558	(1 3 5)
5	3.650	-53.111	-11.929	-5.948	(2 4 5)	-43.384	-12.101	-10.558	(1 3 5)
6	5.412	-60.708	2.618	-5.948	(2 4 5)	-49.925	2.634	-10.558	(1 3 5)
7	7.250	-43.558	16.695	-5.948	(2 4 5)	-32.931	17.995	-10.558	(1 3 5)
8	9.050	-3.709	29.406	-5.948	(2 4 5)	7.287	33.043	-10.558	(1 3 5)
9	9.825	20.033	34.550	-5.948	(2 4 5)	31.788	39.522	-10.558	(1 3 5)
10	10.550	45.652	39.182	-5.948	(2 4 5)	58.623	45.584	-10.558	(1 3 5)
JTAN	10.825	56.208	40.894	-5.948	(2 4 5)	69.792	47.383	-10.558	(1 3 5)

COMBINE 4

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
= = MEMBER	4 (5 - 6) G = =								
ITAN	0.000	69.952	-47.963	-8.102	(2 3 5)	56.063	-29.799	-13.508	(1 4 5)
1	0.275	58.761	-45.664	-8.102	(2 3 5)	48.269	-28.112	-13.508	(1 4 5)
2	1.000	31.868	-39.603	-8.102	(2 3 5)	29.837	-23.784	-13.508	(1 4 5)
3	1.775	7.305	-33.124	-8.102	(2 3 5)	13.424	-19.349	-13.508	(1 4 5)
4	3.575	-33.059	-18.076	-8.102	(2 3 5)	-12.344	-9.812	-13.508	(1 4 5)
5	5.412	-50.201	-2.714	-8.102	(2 3 5)	-22.308	-1.177	-13.508	(1 4 5)
6	7.175	-43.802	12.020	-8.102	(2 3 5)	-16.066	6.059	-13.508	(1 4 5)
7	8.975	-14.191	27.069	-8.102	(2 3 5)	-1.516	12.394	-13.508	(1 4 5)
8	9.750	5.756	33.548	-8.102	(2 3 5)	6.979	14.792	-13.508	(1 4 5)
9	10.100	16.178	36.474	-8.102	(2 3 5)	14.326	15.810	-13.508	(1 4 5)
10	10.475	28.322	39.609	-8.102	(2 3 5)	20.454	16.856	-13.508	(1 4 5)
JTAN	10.825	40.571	42.535	-8.102	(2 3 5)	26.532	17.791	-13.508	(1 4 5)
= = MEMBER	5 (1 - 4) C = =								
ITAN	0.000	31.434	-1.978	-29.640	(2 3 5)	44.180	-5.638	-36.402	(1 4 5)
1	0.340	30.861	-1.385	-30.235	(2 3 5)	42.385	-4.899	-36.997	(1 4 5)
2	0.600	30.564	-0.890	-30.690	(2 3 5)	41.193	-4.264	-37.452	(1 4 5)
3	0.840	30.409	-0.401	-31.110	(2 3 5)	40.245	-3.624	-37.872	(1 4 5)
4	0.940	30.379	-0.198	-31.285	(2 3 5)	39.897	-3.341	-38.047	(1 4 5)
5	1.888	31.246	2.099	-32.944	(2 3 5)	38.145	-0.221	-39.705	(1 4 5)
6	2.700	33.882	4.447	-34.365	(2 3 5)	39.274	3.099	-41.127	(1 4 5)
7	2.800	34.342	4.761	-34.540	(2 3 5)	39.606	3.548	-41.302	(1 4 5)
8	3.175	36.355	5.985	-35.197	(2 3 5)	41.264	5.315	-41.958	(1 4 5)
9	3.300	37.129	6.410	-35.415	(2 3 5)	41.967	5.932	-42.177	(1 4 5)
JTAN	3.775	40.571	8.102	-36.247	(2 3 5)	45.364	8.405	-43.008	(1 4 5)
= = MEMBER	6 (2 - 5) C = =								
ITAN	0.000	-19.250	5.104	-63.114	(1 4 5)	0.000	0.000	-78.197	(2 3 5)
1	0.840	-14.963	5.104	-64.255	(1 4 5)	0.000	0.000	-79.347	(2 3 5)
2	2.800	-4.960	5.104	-66.950	(1 4 5)	0.000	0.000	-82.033	(2 3 5)
JTAN	3.775	0.016	5.104	-68.286	(1 4 5)	0.000	0.000	-83.368	(2 3 5)
= = MEMBER	7 (3 - 6) C = =								
ITAN	0.000	-5.547	-0.973	-11.144	(2 4 5)	-31.969	3.485	-29.721	(1 3 5)
1	0.340	-5.977	-1.565	-11.739	(2 4 5)	-30.907	2.746	-30.316	(1 3 5)
2	0.600	-6.447	-2.060	-12.194	(2 4 5)	-30.274	2.111	-30.771	(1 3 5)
3	0.840	-7.000	-2.549	-12.614	(2 4 5)	-29.843	1.470	-31.191	(1 3 5)
4	0.940	-7.265	-2.762	-12.789	(2 4 5)	-29.710	1.188	-31.366	(1 3 5)
5	1.888	-10.928	-5.050	-14.447	(2 4 5)	-29.999	-1.932	-33.024	(1 3 5)
6	2.700	-15.960	-7.397	-15.869	(2 4 5)	-32.878	-5.252	-34.446	(1 3 5)
7	2.800	-16.716	-7.711	-16.044	(2 4 5)	-33.425	-5.702	-34.621	(1 3 5)
8	3.175	-19.834	-8.935	-16.700	(2 4 5)	-35.891	-7.468	-35.277	(1 3 5)
9	3.300	-20.979	-9.360	-16.919	(2 4 5)	-36.863	-8.085	-35.496	(1 3 5)
JTAN	3.775	-25.821	-11.052	-17.750	(2 4 5)	-41.283	-10.558	-36.327	(1 3 5)

TITLE..C01

PICK UP 1

	---L---	MOMENT MAXIMUM ----M---	----Q---	----N---	-COM- ----CASE-----	MOMENT MINIMUM ----M---	----Q---	----N---	-COM- ----CASE-----
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-12.046	13.291	1.148	(1; 2)	-44.180	38.729	-5.638	(4; 1 4 5)
1	0.350	-7.575	12.258	1.148	(1; 2)	-31.885	36.030	-5.638	(4; 1 4 5)
2	0.940	-0.857	10.516	1.148	(1; 2)	-13.178	31.481	-5.638	(4; 1 4 5)
3	1.850	12.939	21.941	0.051	(2; 2 3)	6.702	7.998	-2.387	(3; 1 5)
4	3.650	40.686	10.422	-2.103	(2; 2 4)	16.320	2.688	-2.387	(3; 1 5)
5	5.412	46.412	-3.167	-2.103	(2; 2 4)	16.476	-2.511	-2.387	(3; 1 5)
6	7.250	28.404	-17.169	-5.638	(4; 1 4 5)	6.780	-8.097	1.148	(1; 2)
7	9.050	-12.175	-13.242	-2.387	(3; 1 5)	-23.432	-32.131	0.051	(2; 2 3)
8	9.960	-25.447	-15.926	-2.387	(3; 1 5)	-51.461	-38.966	0.051	(2; 2 3)
9	10.550	-35.357	-17.667	-2.387	(3; 1 5)	-72.443	-43.396	0.051	(2; 2 3)
JTAN	10.825	-40.327	-18.478	-2.387	(3; 1 5)	-82.978	-45.462	0.051	(2; 2 3)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-40.327	18.478	-2.387	(3; 1 5)	-82.978	45.462	0.051	(2; 2 3)
1	0.275	-35.357	17.667	-2.387	(3; 1 5)	-72.443	43.396	0.051	(2; 2 3)
2	0.865	-25.447	15.926	-2.387	(3; 1 5)	-51.461	38.966	0.051	(2; 2 3)
3	1.775	-12.175	13.242	-2.387	(3; 1 5)	-25.706	15.638	3.001	(2; 2 4)
4	3.575	16.623	18.448	-3.485	(4; 1 3 5)	-2.336	10.328	3.001	(2; 2 4)
5	5.412	36.087	4.613	0.051	(2; 2 3)	11.459	4.743	-0.535	(4; 1 4 5)
6	7.175	34.708	-5.423	0.051	(2; 2 3)	15.236	-0.457	-0.535	(4; 1 4 5)
7	8.975	12.939	-21.941	0.051	(2; 2 3)	6.702	-7.998	-2.387	(3; 1 5)
8	9.885	4.107	-8.286	3.001	(2; 2 4)	-6.836	-28.940	-3.485	(4; 1 3 5)
9	10.475	-1.296	-10.027	3.001	(2; 2 4)	-21.955	-33.371	-3.485	(4; 1 3 5)
JTAN	10.825	-4.986	-11.059	3.001	(2; 2 4)	-31.969	-36.000	-3.485	(4; 1 3 5)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	45.364	-45.392	-8.405	(4; 1 4 5)	25.144	-19.906	-7.075	(1; 2)
1	0.350	30.873	-42.001	-8.405	(4; 1 4 5)	18.410	-18.576	-7.075	(1; 2)
2	0.725	16.831	-36.554	-10.558	(4; 1 3 5)	11.711	-17.151	-7.075	(1; 2)
3	1.075	7.218	-15.986	-11.656	(3; 1 5)	3.113	-34.939	-3.824	(2; 2 4)
4	1.850	-4.030	-13.041	-11.656	(3; 1 5)	-19.906	-27.759	-3.824	(2; 2 4)
5	3.650	-21.347	-6.201	-11.656	(3; 1 5)	-53.546	-11.845	-3.824	(2; 2 4)
6	5.412	-26.374	0.497	-11.656	(3; 1 5)	-60.994	2.703	-3.824	(2; 2 4)
7	7.250	-19.047	7.479	-11.656	(3; 1 5)	-43.689	16.780	-3.324	(2; 2 4)
8	9.050	7.325	33.208	-5.977	(2; 2 3)	-3.727	29.325	-8.405	(4; 1 4 5)
9	9.825	31.955	39.688	-5.977	(2; 2 3)	12.810	17.264	-11.656	(3; 1 5)
10	10.550	58.909	45.749	-5.977	(2; 2 3)	26.325	20.019	-11.656	(3; 1 5)
JTAN	10.825	70.124	48.048	-5.977	(2; 2 3)	31.974	21.064	-11.656	(3; 1 5)

TITLE..C01

PICK UP 1

	MOMENT MAXIMUM					MOMENT MINIMUM				
---L---	----M---	----Q---	----N---	-COM-	----CASE-----	----M---	----Q---	----N---	-COM-	----CASE-----

= = MEMBER 4 (5 - 6) G = =

	---L---	----M---	----Q---	----N---	-COM-	----CASE-----	----M---	----Q---	----N---	-COM-	----CASE-----
ITAN	0.000	70.124	-48.046	-5.977	(2:	2 3)	31.974	-21.064	-11.656	(3:	1 5)
1	0.275	58.909	-45.749	-5.977	(2:	2 3)	26.325	-20.019	-11.656	(3:	1 5)
2	1.000	31.955	-39.686	-5.977	(2:	2 3)	12.810	-17.264	-11.656	(3:	1 5)
3	1.775	13.463	-19.514	-8.927	(2:	2 4)	0.571	-14.319	-11.656	(3:	1 5)
4	3.575	-12.344	-9.912	-13.508	(4:	1 4 5)	-33.189	-18.160	-5.977	(2:	2 3)
5	5.412	-22.308	-1.177	-13.508	(4:	1 4 5)	-50.487	-2.799	-5.977	(2:	2 3)
6	7.175	-18.066	6.059	-13.508	(4:	1 4 5)	-44.237	11.936	-5.977	(2:	2 3)
7	8.975	-1.516	12.394	-13.508	(4:	1 4 5)	-14.768	26.984	-5.977	(2:	2 3)
8	9.750	6.979	14.792	-13.508	(4:	1 4 5)	5.104	33.463	-5.977	(2:	2 3)
9	10.100	16.831	36.554	-10.558	(4:	1 3 5)	11.711	17.151	-7.075	(1:	2)
10	10.475	29.006	39.689	-10.558	(4:	1 3 5)	18.410	18.576	-7.075	(1:	2)
JTAN	10.825	41.283	42.615	-10.558	(4:	1 3 5)	25.077	17.626	-8.927	(2:	2 4)

= = MEMBER 5 (1 - 4) C = =

	---L---	----M---	----Q---	----N---	-COM-	----CASE-----	----M---	----Q---	----N---	-COM-	----CASE-----
ITAN	0.000	44.180	-5.636	-36.402	(4:	1 4 5)	12.046	1.148	-13.291	(1:	2)
1	0.340	42.450	-3.245	-36.912	(2:	1 4)	12.407	-0.288	-13.970	(3:	2 5)
2	0.600	41.940	-1.676	-37.286	(2:	2 4)	12.106	-1.013	-14.506	(3:	1 5)
3	0.840	41.564	-1.450	-37.706	(2:	2 4)	11.939	-0.373	-14.926	(3:	1 5)
4	0.940	41.425	-1.347	-37.381	(2:	2 4)	11.915	-0.091	-15.101	(3:	1 5)
5	1.888	40.700	-0.102	-39.540	(2:	2 4)	13.244	3.030	-16.759	(3:	1 5)
6	2.700	41.183	1.352	-40.961	(2:	2 4)	17.014	6.350	-18.181	(3:	1 5)
7	2.800	41.328	1.555	-41.136	(2:	2 4)	17.672	6.799	-18.356	(3:	1 5)
8	3.175	42.061	2.367	-41.793	(2:	2 4)	20.549	8.566	-19.012	(3:	1 5)
9	3.300	42.375	2.654	-42.011	(2:	2 4)	21.658	9.183	-19.231	(3:	1 5)
JTAN	3.775	45.364	6.405	-43.008	(4:	1 4 5)	25.144	7.075	-19.897	(1:	2)

= = MEMBER 6 (2 - 5) C = =

	---L---	----M---	----Q---	----N---	-COM-	----CASE-----	----M---	----Q---	----N---	-COM-	----CASE-----
ITAN	0.000	0.000	0.000	-37.125	(1:	1)	-19.250	5.104	-63.444	(2:	2 4)
1	0.840	0.000	0.000	-38.276	(1:	1)	-14.963	5.104	-64.595	(2:	2 4)
2	2.800	0.000	0.000	-40.953	(3:	2 5)	-4.960	5.104	-67.119	(2:	1 4)
JTAN	3.775	0.016	5.104	-68.447	(4:	2 4 5)	0.000	0.000	-83.376	(2:	1 3)

= = MEMBER 7 (3 - 6) C = =

	---L---	----M---	----Q---	----N---	-COM-	----CASE-----	----M---	----Q---	----N---	-COM-	----CASE-----
ITAN	0.000	-4.986	-3.001	-11.059	(2:	2 4)	-31.969	3.485	-29.721	(4:	1 3 5)
1	0.340	-5.977	-1.565	-11.739	(4:	2 4 5)	-30.971	1.092	-30.232	(2:	1 3)
2	0.600	-6.157	-0.640	-12.274	(4:	1 4 5)	-31.021	-0.478	-30.606	(2:	2 3)
3	0.840	-6.435	-1.480	-12.694	(4:	1 4 5)	-31.163	-0.703	-31.026	(2:	2 3)
4	0.940	-6.597	-1.762	-12.369	(4:	1 4 5)	-31.238	-0.806	-31.201	(2:	2 3)
5	1.858	-9.681	-4.383	-14.527	(4:	1 4 5)	-32.553	-2.051	-32.859	(2:	2 3)
6	2.700	-14.956	-8.202	-15.949	(4:	1 4 5)	-34.787	-3.505	-34.281	(2:	2 3)
7	2.800	-15.799	-8.652	-16.124	(4:	1 4 5)	-35.147	-3.709	-34.456	(2:	2 3)
8	3.175	-19.371	-10.419	-16.781	(4:	1 4 5)	-36.689	-4.521	-35.112	(2:	2 3)
9	3.300	-20.711	-11.036	-16.999	(4:	1 4 5)	-37.271	-4.808	-35.331	(2:	2 3)
JTAN	3.775	-25.077	-8.927	-17.665	(2:	2 4)	-41.283	-10.558	-36.327	(4:	1 3 5)

TITLE..C01

PICK UP 1

	SHEAR MAXIMUM						SHEAR MINIMUM				
	---L---	----M---	----Q---	----N---	-COM-	----CASE-----	----M---	----Q---	----N---	-COM-	----CASE-----
= = MEMBER 1 (1 - 2) G = =											
ITAN	0.000	-44.180	38.729	-5.638	(4;	1 4 5)	-12.046	13.291	1.148	(1;	2)
1	0.350	-31.885	36.030	-5.638	(4;	1 4 5)	-7.575	12.258	1.148	(1;	2)
2	0.940	-13.178	*31.481	-5.638	(4;	1 4 5)	-0.857	10.518	1.148	(1;	2)
3	1.850	10.705	24.465	-5.638	(4;	1 4 5)	7.493	7.833	1.148	(1;	2)
4	3.650	40.192	10.587	-5.638	(4;	1 4 5)	16.813	2.523	1.148	(1;	2)
5	5.412	16.476	-2.511	-2.387	(3;	1 5)	36.087	-4.813	0.051	(2;	2 3)
6	7.250	6.881	-7.932	-2.387	(3;	1 5)	16.522	-18.613	0.051	(2;	2 3)
7	9.050	-12.175	-13.242	-2.387	(3;	1 5)	-23.432	-32.131	0.051	(2;	2 3)
8	9.960	-25.447	-15.926	-2.387	(3;	1 5)	-51.461	*-38.966	0.051	(2;	2 3)
9	10.550	-35.357	-17.667	-2.387	(3;	1 5)	-72.443	-43.396	0.051	(2;	2 3)
JTAN	10.825	-40.327	-18.478	-2.387	(3;	1 5)	-82.978	-45.462	0.051	(2;	2 3)
= = MEMBER 2 (2 - 3) G = =											
ITAN	0.000	-82.978	45.462	0.051	(2;	2 3)	-40.327	18.478	-2.387	(3;	1 5)
1	0.275	-72.443	43.396	0.051	(2;	2 3)	-35.357	17.667	-2.387	(3;	1 5)
2	0.865	-51.461	38.966	0.051	(2;	2 3)	-25.447	15.926	-2.387	(3;	1 5)
3	1.775	-23.432	32.131	0.051	(2;	2 3)	-12.175	13.242	-2.387	(3;	1 5)
4	3.575	16.522	18.613	0.051	(2;	2 3)	6.881	7.932	-2.387	(3;	1 5)
5	5.412	11.662	4.906	0.051	(2;	2 3)	16.476	2.511	-2.387	(3;	1 5)
6	7.175	15.730	-0.292	3.001	(2;	2 4)	34.214	-8.588	-3.485	(4;	1 3 5)
7	8.975	10.426	-5.602	3.001	(2;	2 4)	12.149	-22.106	-3.485	(4;	1 3 5)
8	9.885	4.107	-8.286	3.001	(2;	2 4)	-6.836	-28.940	-3.485	(4;	1 3 5)
9	10.475	-1.296	-10.027	3.001	(2;	2 4)	-21.955	-33.371	-3.485	(4;	1 3 5)
JTAN	10.825	-4.986	-11.059	3.001	(2;	2 4)	-31.969	-36.000	-3.485	(4;	1 3 5)
= = MEMBER 3 (4 - 5) G = =											
ITAN	0.000	25.144	-19.906	-7.075	(1;	2)	45.364	-45.392	-8.405	(4;	1 4 5)
1	0.350	18.419	-18.576	-7.075	(1;	2)	30.873	-42.001	-8.405	(4;	1 4 5)
2	0.725	11.711	-17.151	-7.075	(1;	2)	16.585	-38.412	-8.405	(4;	1 4 5)
3	1.075	5.941	-15.821	-7.075	(1;	2)	4.390	*-35.104	-8.405	(4;	1 4 5)
4	1.850	-5.179	-12.876	-7.075	(1;	2)	-18.756	-27.924	-8.405	(4;	1 4 5)
5	3.650	-22.200	-6.036	-7.075	(1;	2)	-43.384	-12.101	-10.558	(4;	1 3 5)
6	5.412	-50.487	2.799	-5.977	(2;	2 3)	-26.374	0.497	-11.656	(3;	1 5)
7	7.250	-33.189	18.160	-5.977	(2;	2 3)	-19.047	7.479	-11.656	(3;	1 5)
8	9.050	7.326	33.208	-5.977	(2;	2 3)	0.571	14.319	-11.656	(3;	1 5)
9	9.825	31.955	*39.688	-5.977	(2;	2 3)	12.810	17.264	-11.656	(3;	1 5)
10	10.550	58.909	45.749	-5.977	(2;	2 3)	26.325	20.019	-11.656	(3;	1 5)
JTAN	10.825	70.124	48.048	-5.977	(2;	2 3)	31.974	21.064	-11.656	(3;	1 5)

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PICK UP 1

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	-COM- ----CASE-----	SHEAR MINIMUM ----M---	----Q---	----N---	-COM- ----CASE-----
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	31.974	-21.064	-11.656	(3; 1 5)	70.124	-48.048	-5.977	(2; 2 3)
1	0.275	26.325	-20.019	-11.656	(3; 1 5)	58.909	-45.749	-5.977	(2; 2 3)
2	1.800	12.810	-17.264	-11.656	(3; 1 5)	31.955	-39.688	-5.977	(2; 2 3)
3	1.775	0.571	-14.319	-11.656	(3; 1 5)	7.326	-33.208	-5.977	(2; 2 3)
4	3.575	-19.047	-7.479	-11.656	(3; 1 5)	-33.189	-18.160	-5.977	(2; 2 3)
5	5.412	-26.374	-0.497	-11.656	(3; 1 5)	-50.487	-2.799	-5.977	(2; 2 3)
6	7.175	-43.384	12.101	-10.558	(4; 1 3 5)	-18.918	5.894	-8.927	(2; 2 4)
7	8.975	-13.619	27.149	-10.558	(4; 1 3 5)	-2.665	12.228	-8.927	(2; 2 4)
8	9.750	6.381	33.628	-10.558	(4; 1 3 5)	7.702	14.627	-8.927	(2; 2 4)
9	10.100	16.831	36.554	-10.558	(4; 1 3 5)	12.991	15.645	-8.927	(2; 2 4)
10	10.475	29.006	35.689	-10.558	(4; 1 3 5)	19.057	16.691	-8.927	(2; 2 4)
JTAN	10.825	41.283	42.615	-10.555	(4; 1 3 5)	25.077	17.626	-8.927	(2; 2 4)
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	12.046	1.146	-13.291	(1; 2)	44.180	-5.638	-36.402	(4; 1 4 5)
1	0.340	12.472	1.366	-13.886	(1; 2)	42.385	-4.899	-36.397	(4; 1 4 5)
2	0.600	12.854	1.575	-14.341	(1; 2)	41.193	-4.264	-37.452	(4; 1 4 5)
3	0.840	13.258	1.601	-14.761	(1; 2)	40.245	-3.624	-37.872	(4; 1 4 5)
4	0.940	13.443	1.904	-14.936	(1; 2)	39.897	-3.341	-38.047	(4; 1 4 5)
5	1.888	14.491	3.197	-16.678	(3; 2 5)	39.452	-0.269	-39.620	(2; 1 4)
6	2.700	17.014	6.350	-18.181	(3; 1 5)	41.183	1.352	-40.961	(2; 2 4)
7	2.800	17.672	6.799	-18.356	(3; 1 5)	41.328	1.555	-41.136	(2; 2 4)
8	3.175	20.549	8.566	-19.012	(3; 1 5)	42.061	2.367	-41.793	(2; 2 4)
9	3.300	21.658	9.183	-19.231	(3; 1 5)	42.375	2.654	-42.011	(2; 2 4)
JTAN	3.775	26.599	11.656	-20.062	(3; 1 5)	43.909	3.824	-42.843	(2; 2 4)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	-19.250	5.104	-63.444	(2; 2 4)	0.000	0.000	-37.125	(1; 1)
1	0.840	-14.963	5.104	-64.595	(2; 2 4)	0.000	0.000	-38.276	(1; 1)
2	2.800	-4.960	5.104	-67.280	(2; 2 4)	0.000	0.000	-40.961	(1; 1)
JTAN	3.775	0.016	5.104	-68.616	(2; 2 4)	0.000	0.000	-42.297	(1; 1)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-31.969	3.485	-29.721	(4; 1 3 5)	-4.986	-3.001	-11.059	(2; 2 4)
1	0.340	-30.907	2.746	-30.316	(4; 1 3 5)	-6.041	-3.219	-11.654	(2; 2 4)
2	0.600	-30.274	2.111	-30.771	(4; 1 3 5)	-6.905	-3.428	-12.109	(2; 2 4)
3	0.840	-29.843	1.470	-31.191	(4; 1 3 5)	-7.754	-3.653	-12.529	(2; 2 4)
4	0.940	-29.710	1.138	-31.366	(4; 1 3 5)	-8.124	-3.756	-12.704	(2; 2 4)
5	1.888	-31.306	-1.834	-32.940	(2; 1 3)	-10.928	-5.050	-14.447	(4; 2 4 5)
6	2.700	-34.787	-3.505	-34.281	(2; 2 3)	-14.956	-8.202	-15.949	(4; 1 4 5)
7	2.800	-35.147	-3.709	-34.456	(2; 2 3)	-15.799	-8.652	-16.124	(4; 1 4 5)
8	3.175	-36.688	-4.521	-35.112	(2; 2 3)	-19.371	-10.419	-16.781	(4; 1 4 5)
9	3.300	-37.271	-4.808	-35.331	(2; 2 3)	-20.711	-11.036	-16.999	(4; 1 4 5)
JTAN	3.775	-39.828	-5.977	-36.162	(2; 2 3)	-26.532	-13.508	-17.831	(4; 1 4 5)

PICK UP 1

	---L---	AXIAL MAXIMUM ----M---	----Q---	----N---	-COM- ----CASE-----	AXIAL MINIMUM ----M---	----Q---	----N---	-COM- ----CASE-----
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-12.046	13.291	1.148	(1: 2)	-44.180	38.729	-5.638	(4: 1 4 5)
1	0.350	-7.575	12.258	1.148	(1: 2)	-31.885	36.030	-5.638	(4: 1 4 5)
2	0.940	-0.857	10.518	1.148	(1: 2)	-13.178	31.481	-5.638	(4: 1 4 5)
3	1.850	7.493	7.533	1.148	(1: 2)	10.705	24.465	-5.638	(4: 1 4 5)
4	3.650	16.813	2.523	1.148	(1: 2)	40.192	10.587	-5.638	(4: 1 4 5)
5	5.412	16.678	-2.676	1.148	(1: 2)	46.209	-3.001	-5.638	(4: 1 4 5)
6	7.250	6.780	-8.097	1.148	(1: 2)	28.404	-17.169	-5.638	(4: 1 4 5)
7	9.050	-12.573	-13.407	1.148	(1: 2)	-12.871	-31.046	-5.638	(4: 1 4 5)
8	9.960	-25.995	-16.091	1.148	(1: 2)	-42.714	-38.063	-5.638	(4: 1 4 5)
9	10.550	-36.002	-17.832	1.148	(1: 2)	-65.284	-42.611	-5.638	(4: 1 4 5)
JTAN	10.825	-41.018	-19.643	1.143	(1: 2)	-76.670	-44.732	-5.638	(4: 1 4 5)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-56.111	20.875	3.001	(2: 2 4)	-82.287	45.297	-3.485	(4: 1 3 5)
1	0.275	-52.482	23.063	3.001	(2: 2 4)	-71.798	43.231	-3.485	(4: 1 3 5)
2	0.865	-41.158	18.323	3.001	(2: 2 4)	-50.913	38.800	-3.485	(4: 1 3 5)
3	1.775	-25.706	15.638	3.001	(2: 2 4)	-23.034	31.966	-3.485	(4: 1 3 5)
4	3.575	-2.336	10.328	3.001	(2: 2 4)	16.623	18.448	-3.485	(4: 1 3 5)
5	5.412	11.662	4.908	3.001	(2: 2 4)	35.884	4.648	-3.485	(4: 1 3 5)
6	7.175	15.730	-0.292	3.001	(2: 2 4)	34.214	-8.588	-3.485	(4: 1 3 5)
7	8.975	10.426	-5.602	3.001	(2: 2 4)	12.149	-22.106	-3.485	(4: 1 3 5)
8	9.885	4.107	-8.286	3.001	(2: 2 4)	-6.836	-28.940	-3.485	(4: 1 3 5)
9	10.475	-1.296	-10.027	3.001	(2: 2 4)	-21.955	-33.371	-3.485	(4: 1 3 5)
JTAN	10.825	-4.986	-11.059	3.001	(2: 2 4)	-31.969	-36.000	-3.485	(4: 1 3 5)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	43.909	-45.227	-3.824	(2: 2 4)	26.599	-20.071	-11.656	(3: 1 5)
1	0.350	29.476	-41.836	-3.824	(2: 2 4)	19.807	-18.741	-11.656	(3: 1 5)
2	0.725	15.249	-38.247	-3.824	(2: 2 4)	13.046	-17.316	-11.656	(3: 1 5)
3	1.075	3.113	-34.939	-3.824	(2: 2 4)	7.218	-15.986	-11.656	(3: 1 5)
4	1.850	-19.906	-27.759	-3.824	(2: 2 4)	-4.030	-13.041	-11.656	(3: 1 5)
5	3.650	-53.546	-11.845	-3.824	(2: 2 4)	-21.347	-6.201	-11.656	(3: 1 5)
6	5.412	-60.994	2.703	-3.824	(2: 2 4)	-26.374	0.497	-11.656	(3: 1 5)
7	7.250	-43.689	16.780	-3.824	(2: 2 4)	-19.047	7.479	-11.656	(3: 1 5)
8	9.050	-3.668	29.490	-3.824	(2: 2 4)	0.571	14.319	-11.656	(3: 1 5)
9	9.825	20.120	34.634	-3.824	(2: 2 4)	12.910	17.264	-11.656	(3: 1 5)
10	10.550	45.800	39.267	-3.824	(2: 2 4)	26.325	20.019	-11.656	(3: 1 5)
JTAN	10.825	56.379	40.979	-3.824	(2: 2 4)	31.974	21.064	-11.656	(3: 1 5)

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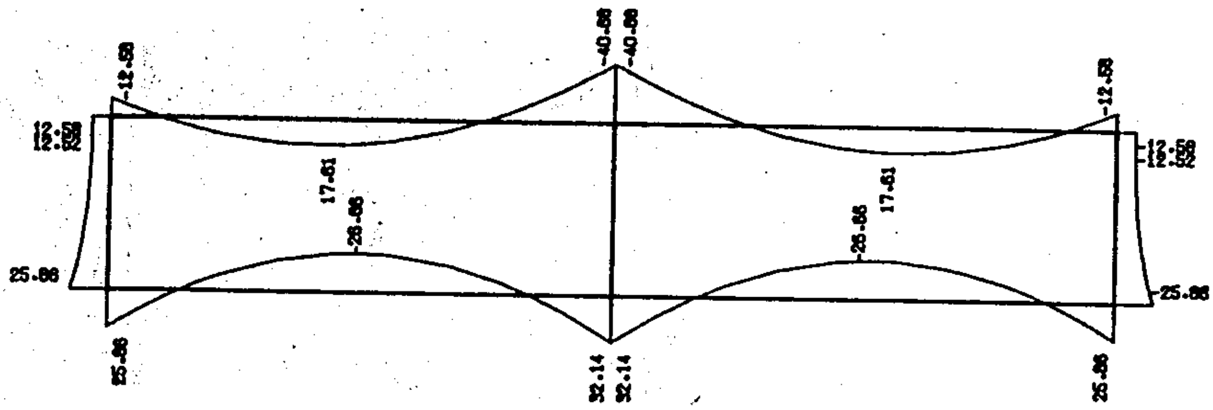
PICK UP 1

	---L---	AXIAL MAXIMUM ----M---	----Q---	----N---	-COM- ----CASE----	AXIAL MINIMUM ----M---	----Q---	----N---	-COM- ----CASE----
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	70.124	-48.048	-5.977	(2: 2 3)	56.063	-29.799	-13.508	(4: 1 4 5)
1	0.275	58.909	-45.749	-5.977	(2: 2 3)	48.269	-28.112	-13.508	(4: 1 4 5)
2	1.000	31.955	-39.688	-5.977	(2: 2 3)	29.837	-23.784	-13.508	(4: 1 4 5)
3	1.775	7.326	-33.208	-5.977	(2: 2 3)	13.424	-19.349	-13.508	(4: 1 4 5)
4	3.575	-33.189	-18.160	-5.977	(2: 2 3)	-12.344	-9.812	-13.508	(4: 1 4 5)
5	5.412	-50.487	-2.799	-5.977	(2: 2 3)	-22.308	-1.177	-13.508	(4: 1 4 5)
6	7.175	-44.237	11.936	-5.977	(2: 2 3)	-18.066	6.059	-13.508	(4: 1 4 5)
7	8.975	-14.768	26.984	-5.977	(2: 2 3)	-1.516	12.394	-13.508	(4: 1 4 5)
8	9.750	5.104	33.463	-5.977	(2: 2 3)	8.979	14.792	-13.508	(4: 1 4 5)
9	10.100	15.496	36.389	-5.977	(2: 2 3)	14.326	15.810	-13.508	(4: 1 4 5)
10	10.475	27.609	39.524	-5.977	(2: 2 3)	20.454	16.856	-13.508	(4: 1 4 5)
JTAN	10.825	39.828	42.450	-5.977	(2: 2 3)	26.532	17.791	-13.508	(4: 1 4 5)
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	12.046	1.146	-13.291	(1: 2)	44.180	-5.638	-36.402	(4: 1 4 5)
1	0.340	12.472	1.366	-13.886	(1: 2)	42.385	-4.899	-36.997	(4: 1 4 5)
2	0.600	12.854	1.575	-14.341	(1: 2)	41.193	-4.264	-37.452	(4: 1 4 5)
3	0.840	13.258	1.801	-14.761	(1: 2)	40.245	-3.624	-37.872	(4: 1 4 5)
4	0.940	13.443	1.904	-14.936	(1: 2)	39.897	-3.341	-38.047	(4: 1 4 5)
5	1.888	15.798	3.149	-16.594	(1: 2)	38.145	-0.221	-39.705	(4: 1 4 5)
6	2.700	18.923	4.603	-18.016	(1: 2)	39.274	3.099	-41.127	(4: 1 4 5)
7	2.800	19.394	4.606	-18.191	(1: 2)	39.606	3.548	-41.302	(4: 1 4 5)
8	3.175	21.346	5.618	-18.847	(1: 2)	41.264	5.315	-41.958	(4: 1 4 5)
9	3.300	22.066	5.905	-19.066	(1: 2)	41.967	5.932	-42.177	(4: 1 4 5)
JTAN	3.775	25.144	7.075	-19.897	(1: 2)	45.364	8.405	-43.008	(4: 1 4 5)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-36.956	(3: 1 5)	0.000	0.000	-78.366	(2: 2 3)
1	0.840	0.000	0.000	-38.107	(3: 1 5)	0.000	0.000	-79.516	(2: 2 3)
2	2.800	0.000	0.000	-40.792	(3: 1 5)	0.000	0.000	-82.202	(2: 2 3)
JTAN	3.775	0.000	0.000	-42.128	(3: 1 5)	0.000	0.000	-83.537	(2: 2 3)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-4.986	-3.001	-11.059	(2: 2 4)	-31.969	3.485	-29.721	(4: 1 3 5)
1	0.340	-6.041	-3.219	-11.654	(2: 2 4)	-30.907	2.746	-30.316	(4: 1 3 5)
2	0.600	-6.905	-3.428	-12.109	(2: 2 4)	-30.274	2.111	-30.771	(4: 1 3 5)
3	0.840	-7.754	-3.653	-12.529	(2: 2 4)	-29.843	1.470	-31.191	(4: 1 3 5)
4	0.940	-8.124	-3.756	-12.704	(2: 2 4)	-29.710	1.188	-31.366	(4: 1 3 5)
5	1.888	-12.235	-5.001	-14.362	(2: 2 4)	-29.999	-1.932	-33.024	(4: 1 3 5)
6	2.700	-16.865	-6.455	-15.784	(2: 2 4)	-32.878	-5.252	-34.446	(4: 1 3 5)
7	2.800	-17.521	-6.659	-15.959	(2: 2 4)	-33.425	-5.702	-34.621	(4: 1 3 5)
8	3.175	-20.168	-7.471	-16.615	(2: 2 4)	-35.891	-7.468	-35.277	(4: 1 3 5)
9	3.300	-21.120	-7.758	-16.834	(2: 2 4)	-36.863	-8.085	-35.496	(4: 1 3 5)
JTAN	3.775	-25.077	-8.927	-17.665	(2: 2 4)	-41.283	-10.558	-36.327	(4: 1 3 5)

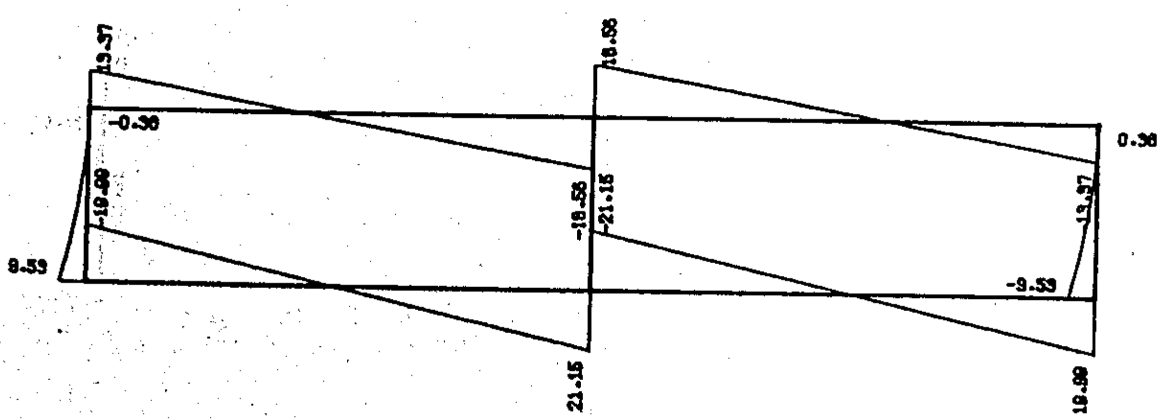
C01

CASE 1 (SHI+DO (0.5))

BENDING MOMENT



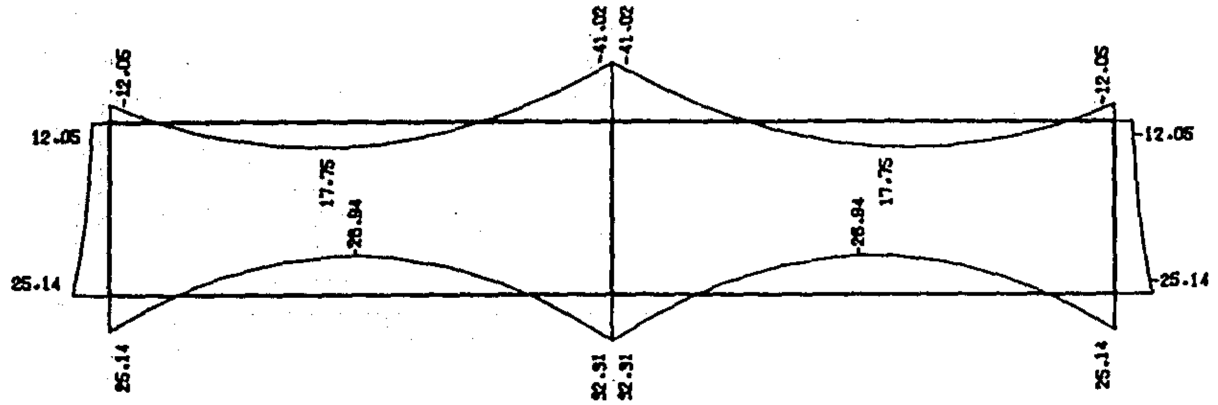
SHEARING FORCE



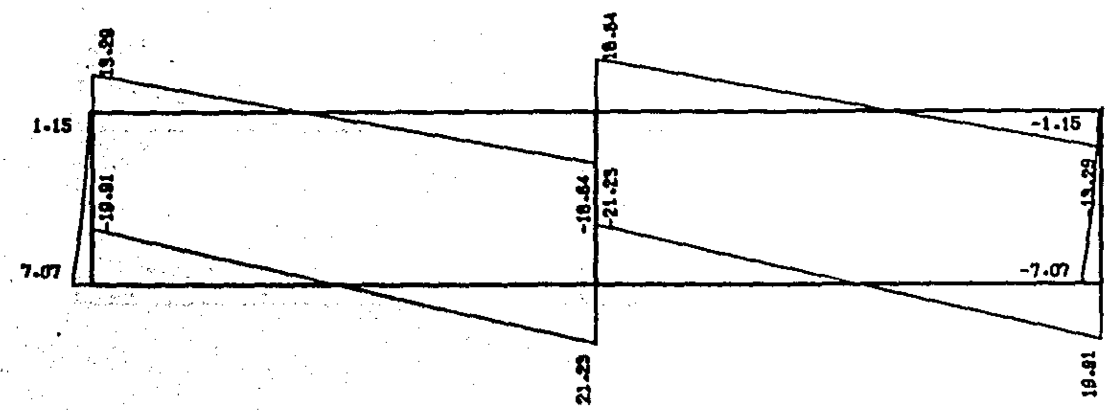
C01

CASE 2 (SHI+DO (0.3))

BENDING MOMENT



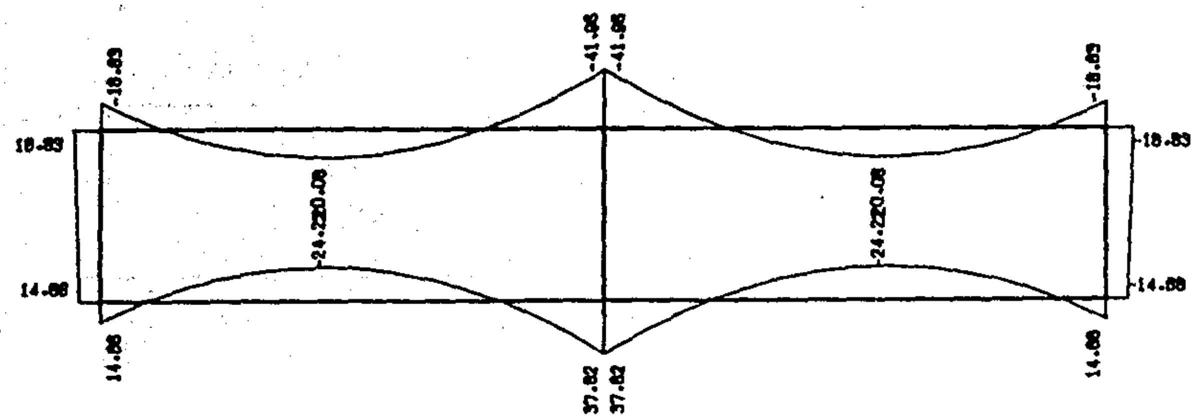
SHEARING FORCE



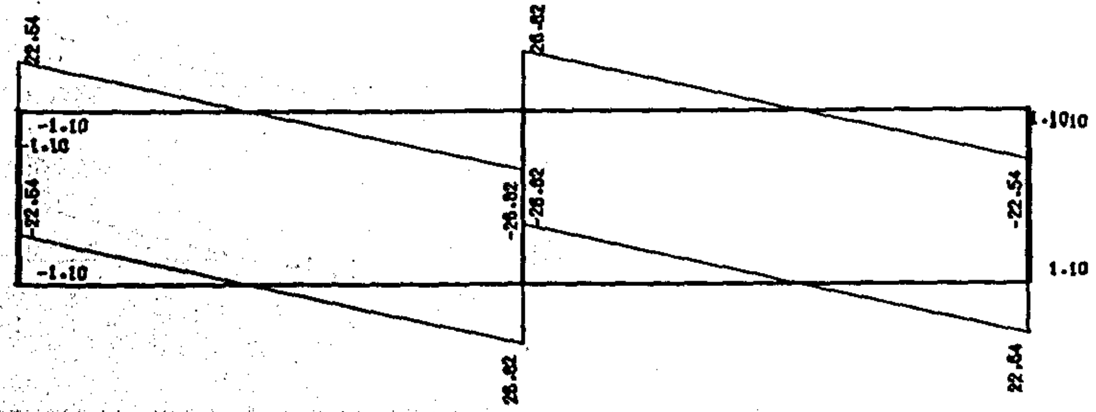
C01

CASE 3 (KATSU+SYOU 1)

BENDING MOMENT



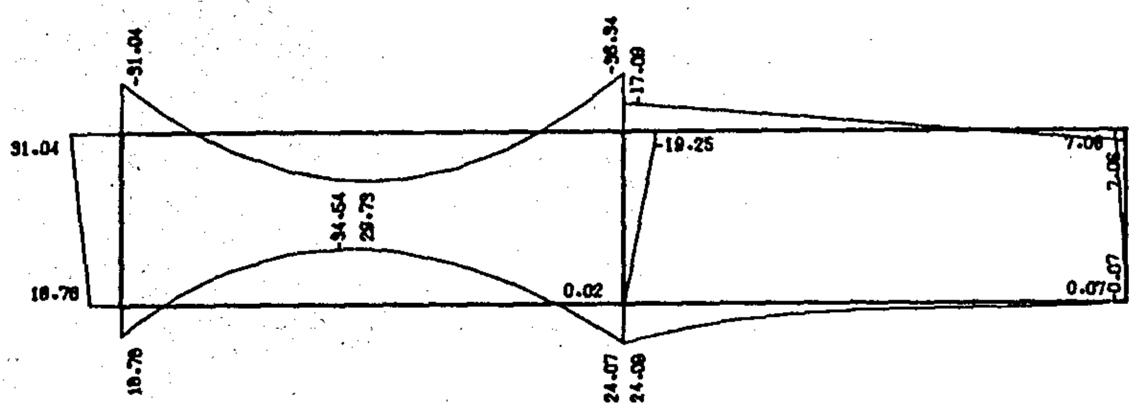
SHEARING FORCE



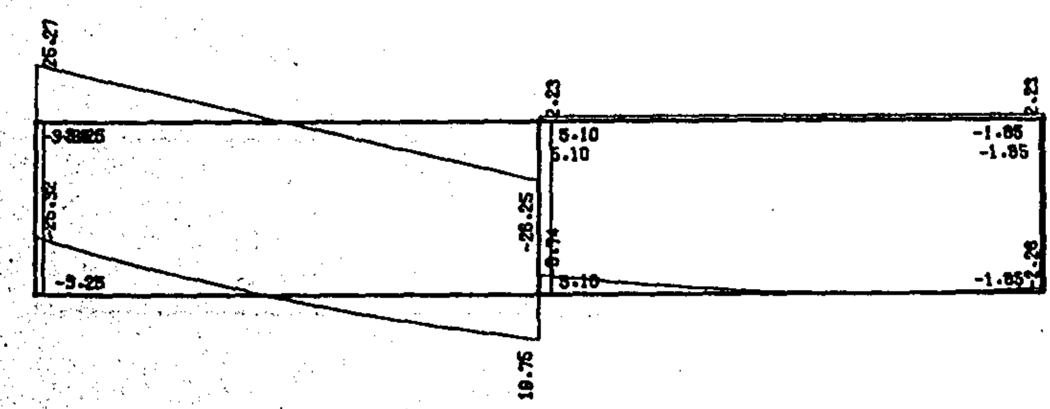
C01

CASE 4 (KATSU+SYOU 2)

BENDING MOMENT



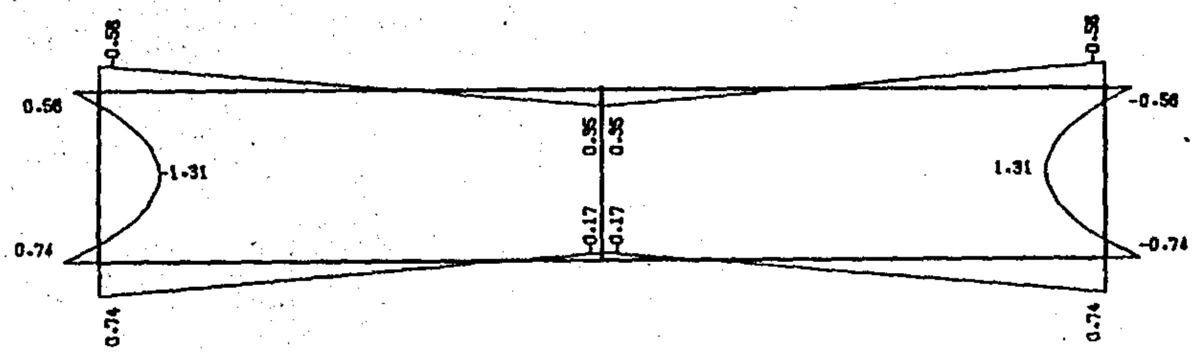
SHEARING FORCE



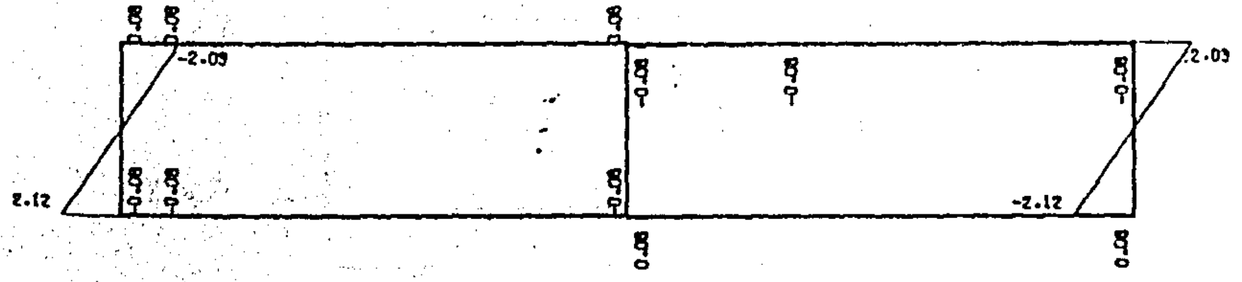
C01

CASE 5 (KATSUDO)

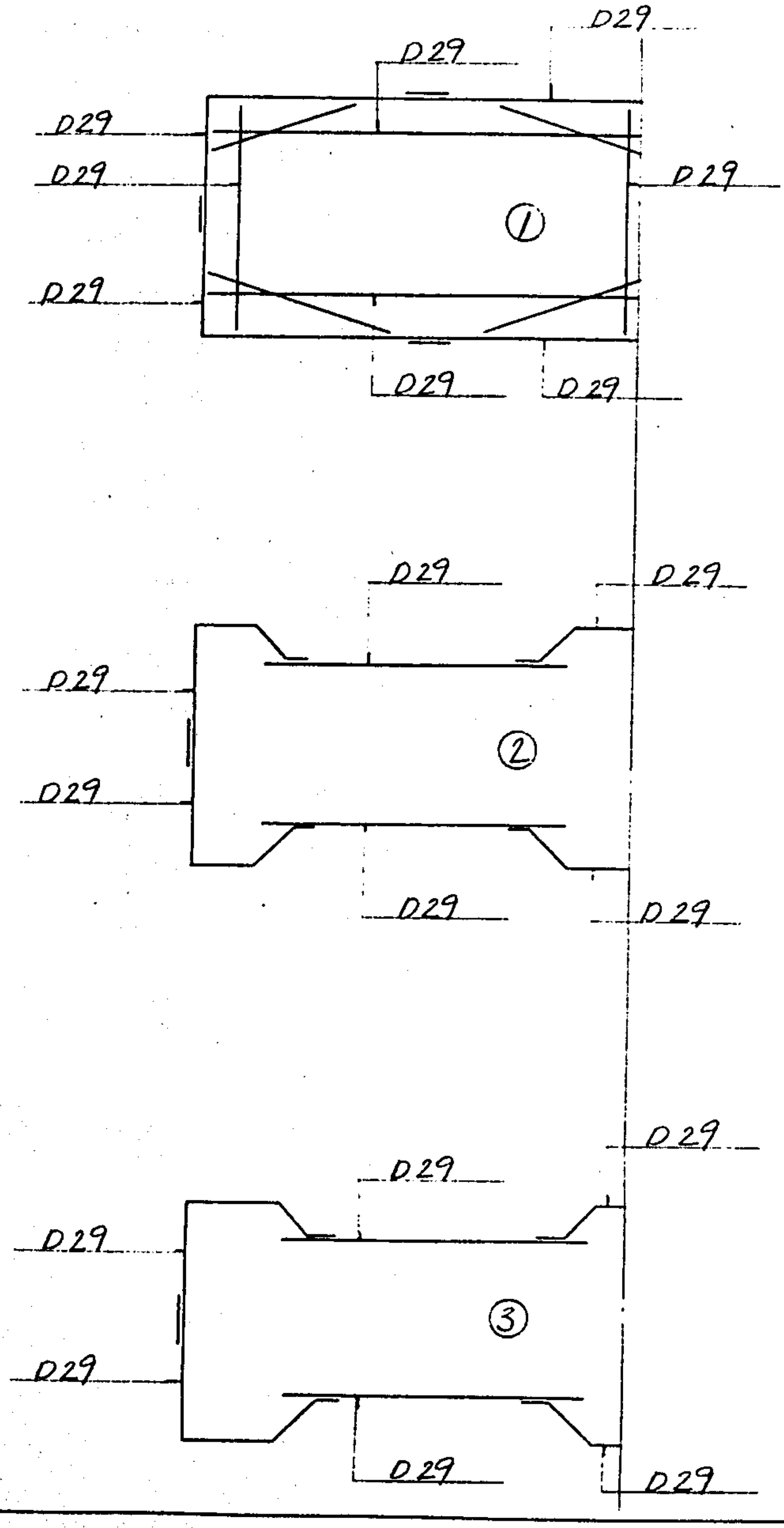
BENDING MOMENT



SHEARING FORCE



REINFORCEMENT FRAME



C01 CRACKING

STRESS

SGM CA = 0.000 (KG/M2)
SGM SA = 0.000 (KG/M2)
TAU A = 0.000 (KG/M2)

		NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2	NO.(4) 1-2	NO.(5) 1-2
B	(CM)	100.00	100.00	100.00	100.00	100.00
H	(CM)	118.00	68.00	68.00	68.00	118.00
D	(CM)	111.00	61.00	61.00	61.00	111.00
D'	(CM)	0.00	7.00	7.00	7.00	0.00
D''	(CM)	7.00	7.00	7.00	7.00	7.00
		8.00 D-29	6.00 D-29	8.00 D-29	6.00 D-29	8.00 D-29
AS	(CM2)	51.392	38.544	51.392	38.544	51.392
P		0.00462	0.00631	0.00842	0.00631	0.00462
			4.00 D-29	4.00 D-29	4.00 D-29	
AS'	(CM2)	0.000	25.696	25.696	25.696	0.000
P'		0.00000	0.00421	0.00421	0.00421	0.00000
M	(T*M)	12.58	7.49	16.68	12.57	41.02
N	(T)	0.36	1.15	1.15	1.15	1.15
S	(T)	0.00	0.00	0.00	0.00	0.00
EO	(CM)	###.###	651.304	###.###	###.###	###.###
E	(CM)	###.###	678.304	###.###	###.###	###.###
E'	(CM)	###.###	624.304	###.###	###.###	###.###
E'/E		0.968	0.920	0.963	0.951	0.969
D'/D		0.000	0.114	0.114	0.114	0.000
D/E		0.031	0.089	0.041	0.054	0.030
N*E/B*D2		1.036	2.096	4.566	3.461	3.377
K			0.331	0.366	0.327	
LC			0.184	0.199	0.182	
C		0.140				0.140
BETA		32.882				32.893
SGM C	(KG/CM2)	7.38	11.38	27.91	19.00	24.08
SGM S	(KG/CM2)	242.89	343.55	594.03	585.87	792.22
TAU	(KG/CM2)	0.00	0.00	0.00	0.00	0.00

C01 CRACKING

* STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

	NO.(6) 4-5	NO.(7) 4-5	NO.(8) 4-5	NO.(9) 4-5	NO.(10) 4-5
B (CM)	100.00	100.00	100.00	100.00	100.00
H (CM)	145.00	95.00	95.00	95.00	145.00
D (CM)	136.00	88.00	88.00	88.00	136.00
D' (CM)	0.00	9.00	9.00	9.00	0.00
D'' (CM)	9.00	7.00	7.00	7.00	9.00
	8.00 D-29	6.00 D-29	8.00 D-29	6.00 D-29	8.00 D-29
AS (CM2)	51.392	38.544	51.392	38.544	51.392
P	0.00377	0.00438	0.00584	0.00438	0.00377
		4.00 D-29	4.00 D-29	4.00 D-29	
AS' (CM2)	0.000	25.696	25.696	25.696	0.000
P'	0.00000	0.00292	0.00292	0.00292	0.00000
M (T*M)	25.86	5.18	26.94	12.90	32.31
N (T)	9.53	7.08	7.08	9.53	7.08
S (T)	0.00	0.00	0.00	0.00	0.00
E0 (CM)	271.353	73.163	380.508	135.362	456.355
E (CM)	334.853	113.663	421.008	175.862	519.855
E' (CM)	198.853	34.663	342.008	96.862	383.855
E'/E	0.593	0.304	0.812	0.550	0.738
D'/D	0.000	0.102	0.102	0.102	0.000
D/E	0.406	0.774	0.209	0.500	0.261
N*E/B*D2	1.725	1.039	3.849	2.164	1.989
K		0.437	0.345	0.358	
LC		0.217	0.180	0.185	
C	0.151				0.142
BETA	28.923				32.208
SGM C (KG/CM2)	11.40	4.78	21.31	11.63	14.00
SGM S (KG/CM2)	329.79	92.22	605.49	312.30	451.21
TAU (KG/CM2)	0.00	0.00	0.00	0.00	0.00

C01 CRACKING

STRESS

SGM CA =		0.000	(KG/M2)
SGM SA =		0.000	(KG/M2)
TAU A =		0.000	(KG/M2)

		NO.(11) 1-4.3-6	NO.(12) 1-4.3-6	NO.(13) 1-4.3-6	NO.(14) 1-4.3-6	NO.(15) 1-4.3-6
B	(CM)	100.00	100.00	100.00	100.00	100.00
H	(CM)	120.00	70.00	70.00	70.00	120.00
D	(CM)	113.00	63.00	63.00	63.00	113.00
D'	(CM)	0.00	7.00	7.00	7.00	0.00
D''	(CM)	7.00	7.00	7.00	7.00	7.00
		8.00 D-29	8.00 D-29	8.00 D-29	8.00 D-29	8.00 D-29
AS	(CM2)	51.392	51.392	51.392	51.392	51.392
P		0.00454	0.00815	0.00815	0.00815	0.00454
			4.00 D-29	4.00 D-29	4.00 D-29	
AS'	(CM2)	0.000	25.696	25.696	25.696	0.000
P'		0.00000	0.00407	0.00407	0.00407	0.00000
M	(T*M)	12.52	13.26	15.80	19.39	22.07
N	(T)	13.97	14.76	16.59	18.19	19.07
S	(T)	0.00	0.00	0.00	0.00	0.00
EO	(CM)	89.620	89.837	95.238	106.597	115.731
E	(CM)	142.620	117.837	123.238	134.597	168.731
E'	(CM)	29.620	61.837	67.238	78.597	55.731
E'/E		0.207	0.524	0.545	0.583	0.330
D'/D		0.000	0.111	0.111	0.111	0.000
D/E		0.792	0.534	0.511	0.468	0.669
N*E/B*D2		1.560	4.382	5.151	6.168	2.519
K			0.452	0.447	0.436	
LC			0.233	0.231	0.227	
C		0.197				0.183
BETA		17.047				20.041
SGM C	(KG/CM2)	7.90	18.78	22.29	27.15	13.73
SGM S	(KG/CM2)	134.67	340.50	413.63	525.00	275.23
TAU	(KG/CM2)	0.00	0.00	0.00	0.00	0.00

C01 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(16) 2-5	NO.(17) 2-5
B	(CM)	100.00	100.00
H	(CM)	55.00	55.00
D	(CM)	48.00	48.00
D'	(CM)	0.00	0.00
D''	(CM)	7.00	7.00
		4.00 D-29	4.00 D-29
AS	(CM2)	25.696	25.696
P		0.00535	0.00535
AS'	(CM2)	0.000	0.000
P'		0.00000	0.00000
M	(T*M)	0.00	0.00
N	(T)	38.44	41.12
S	(T)	0.00	0.00
E0	(CM)	0.002	0.002
E	(CM)	20.502	20.502
E'	(CM)	-27.497	-27.497
E'/E		-1.341	-1.341
D'/D		0.000	0.000
D/E		2.341	2.341
N*E/B*D2		3.420	3.659
K			
LC			
C		1.073	1.073
BETA		-11.301	-11.302
SGM C	(KG/CM2)	7.50	8.02
SGM S	(KG/CM2)	-84.77	-90.69
TAU	(KG/CM2)	0.00	0.00

C01 FATIGUE

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2	NO.(4) 1-2	NO.(5) 1-2
B	(CM)	100.00	100.00	100.00	100.00	100.00
H	(CM)	118.00	68.00	68.00	68.00	118.00
D	(CM)	111.00	61.00	61.00	61.00	111.00
D'	(CM)	0.00	7.00	7.00	7.00	0.00
D''	(CM)	7.00	7.00	7.00	7.00	7.00
		8.00 D-29	6.00 D-29	8.00 D-29	6.00 D-29	8.00 D-29
AS	(CM2)	51.392	38.544	51.392	38.544	51.392
P		0.00462	0.00631	0.00842	0.00631	0.00462
			4.00 D-29	4.00 D-29	4.00 D-29	
AS'	(CM2)	0.000	25.696	25.696	25.696	0.000
P'		0.00000	0.00421	0.00421	0.00421	0.00000
M	(T*M)	44.18	10.71	36.09	23.43	82.98
N	(T)	5.64	5.64	0.05	0.05	0.05
S	(T)	0.00	0.00	0.00	0.00	0.00
EO	(CM)	783.333	189.893	###.###	###.###	###.###
E	(CM)	835.333	216.893	###.###	###.###	###.###
E'	(CM)	724.333	162.893	###.###	###.###	###.###
E'/E		0.867	0.751	0.999	0.998	0.999
D'/D		0.000	0.114	0.114	0.114	0.000
D/E		0.132	0.281	0.000	0.001	0.000
N*E/B*D2		3.823	3.287	9.702	6.300	6.736
K			0.360	0.361	0.320	
LC			0.196	0.197	0.179	
C		0.145				0.138
BETA		31.026				33.428
SGM C	(KG/CM2)	26.32	16.70	49.25	35.16	48.51
SGM S	(KG/CM2)	816.79	444.33	1306.69	1117.14	1621.64
TAU	(KG/CM2)	0.00	0.00	0.00	0.00	0.00

C01 FATIGUE

STRESS

SGM CA	=	0.000	(KG/M2)
SGM SA	=	0.000	(KG/M2)
TAU A	=	0.000	(KG/M2)

		NO.(6) 4-5	NO.(7) 4-5	NO.(8) 4-5	NO.(9) 4-5	NO.(10) 4-5
B	(CM)	100.00	100.00	100.00	100.00	100.00
H	(CM)	145.00	95.00	95.00	95.00	145.00
D	(CM)	136.00	88.00	88.00	88.00	136.00
D'	(CM)	0.00	9.00	9.00	9.00	0.00
D''	(CM)	9.00	7.00	7.00	7.00	9.00
		8.00 D-29	6.00 D-29	8.00 D-29	6.00 D-29	8.00 D-29
AS	(CM2)	51.392	38.544	51.392	38.544	51.392
P		0.00377	0.00438	0.00584	0.00438	0.00377
			4.00 D-29	4.00 D-29	4.00 D-29	
AS'	(CM2)	0.000	25.696	25.696	25.696	0.000
P'		0.00000	0.00292	0.00292	0.00292	0.00000
M	(T*M)	45.36	18.76	50.49	31.93	70.12
N	(T)	8.41	8.41	5.98	5.98	5.98
S	(T)	0.00	0.00	0.00	0.00	0.00
E0	(CM)	539.357	223.067	844.314	533.946	###.###
E	(CM)	602.857	263.567	884.814	574.446	###.###
E'	(CM)	466.857	184.567	805.814	495.446	###.###
E'/E		0.774	0.700	0.910	0.862	0.889
D'/D		0.000	0.102	0.102	0.102	0.000
D/E		0.225	0.333	0.099	0.153	0.110
N*E/B*D2		2.741	2.862	6.832	4.435	3.996
K			0.326	0.329	0.299	
LC			0.172	0.173	0.160	
C		0.139				0.133
BETA		32.995				35.444
SGM C	(KG/CM2)	19.58	16.60	39.27	27.62	29.83
SGM S	(KG/CM2)	646.11	514.23	1196.42	970.34	1057.57
TAU	(KG/CM2)	0.00	0.00	0.00	0.00	0.00

C01 FATIGUE

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(11) 1-4.3-6	NO.(12) 1-4.3-6	NO.(13) 1-4.3-6	NO.(14) 1-4.3-6	NO.(15) 1-4.3-6
B	(CM)	100.00	100.00	100.00	100.00	100.00
H	(CM)	120.00	70.00	70.00	70.00	120.00
D	(CM)	113.00	63.00	63.00	63.00	113.00
D'	(CM)	0.00	7.00	7.00	7.00	0.00
D''	(CM)	7.00	7.00	7.00	7.00	7.00
		8.00 D-29	8.00 D-29	8.00 D-29	8.00 D-29	8.00 D-29
AS	(CM2)	51.392	51.392	51.392	51.392	51.392
P		0.00454	0.00815	0.00815	0.00815	0.00454
			4.00 D-29	4.00 D-29	4.00 D-29	
AS'	(CM2)	0.000	25.696	25.696	25.696	0.000
P'		0.00000	0.00407	0.00407	0.00407	0.00000
M	(T*M)	42.39	40.25	39.45	41.33	42.38
N	(T)	37.00	37.87	39.62	41.14	42.01
S	(T)	0.00	0.00	0.00	0.00	0.00
E0	(CM)	114.567	106.284	99.570	100.461	100.880
E	(CM)	167.567	134.284	127.570	128.461	153.880
E'	(CM)	54.567	78.284	71.570	72.461	40.880
E'/E		0.325	0.582	0.561	0.564	0.265
D'/D		0.000	0.111	0.111	0.111	0.000
D/E		0.674	0.469	0.493	0.490	0.734
N*E/B*D2		4.835	12.812	12.734	13.315	5.062
K			0.437	0.442	0.442	
LC			0.227	0.229	0.229	
C		0.183				0.190
BETA		19.930				18.434
SGM C	(KG/CM2)	26.39	56.37	55.49	58.10	26.57
SGM S	(KG/CM2)	526.01	1088.91	1047.16	1100.01	491.13
TAU	(KG/CM2)	0.00	0.00	0.00	0.00	0.00

C01 FATIGUE

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(16) 2-5	NO.(17) 2-5
B	(CM)	100.00	100.00
H	(CM)	55.00	55.00
D	(CM)	48.00	48.00
D'	(CM)	0.00	0.00
D''	(CM)	7.00	7.00
		4.00 D-29	4.00 D-29
AS	(CM2)	25.696	25.696
P		0.00535	0.00535
AS'	(CM2)	0.000	0.000
P'		0.00000	0.00000
M	(T*M)	14.96	4.96
N	(T)	64.60	67.28
S	(T)	0.00	0.00
E0	(CM)	23.157	7.372
E	(CM)	43.657	27.872
E'	(CM)	-4.342	-20.127
E'/E		-0.099	-0.722
D'/D		0.000	0.000
D/E		1.099	1.722
N*E/B*D2		12.240	8.139
K			
LC			
C		0.253	1.833
BETA		8.252	-0.975
SGM C	(KG/CM2)	48.34	22.42
SGM S	(KG/CM2)	398.96	-21.87
TAU	(KG/CM2)	0.00	0.00

Stress calculation

Stress calculation of slab

1-2 (1)

(for slab calculation)

Section	H = 90, B = 100	Standard strength for design σck = 240 kg / cm² Re-bar SD30 AS = 30.968 cm² (8 - D22) AS' = 0 〃 (- D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 3.67 t m	Mdℓi = 15.37 t m	M = 15.37 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 4.2 kg / cm² σs = 143 〃 τ = — 〃	σc = 17.4 kg / cm² σs = 603 〃 τ = — 〃	σc = 17.4 kg / cm² σs = 603 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{603 - 143}{603} = 0.76 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 6.550 σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 143 + (1 - 143 / 5000) \times 1800 = 1890 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1 − 2 (2) (for slab calculation)

Section	B = 100, H = 60	Standard strength for design σck = 240 kg / cm² Re-bar SD30 AS = 23.226 cm² (6 − D22) AS' = 15.484 (4 − D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 4.13 tm	Mdℓi = 8.07 tm	M = 8.07 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 9.5 kg / cm² σs = 357 〃 τ = — 〃	σc = 18.5 kg / cm² σs = 701 〃 τ = — 〃	σc = 18.5 kg / cm² σs = 701 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{701 - 357}{701} = 0.49 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ts-16 ℓ = 6.550 σrao = 1800kg / cm²

$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$

$= 357 + (1 - 357 / 5000) \times 1800 = 2030$ kg / cm²

Stress calculation

Stress calculation of slab

1-2(3)

(for slab calculation)

Section	B = 100, H = 60	Standard strength for design σck = 240 kg/cm²	Re-bar SD30 AS = cm² (8-D22) AS' = 〃 (4-D22)
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 6.49 tm	Mdℓi = 20.18 tm	M = 20.18 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 13.4 kg/cm² σs = 429 〃 τ = — 〃	σc = 41.7 kg/cm² σs = 1342 〃 τ = — 〃	σc = 41.7 kg/cm² σs = 1342 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1342-429}{1342} = 0.68 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis KS-16 ℓ = 6.550 m σrao = 1800kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 429 + (1 - 429/5000) \times 1800 = 2070 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1−2 (4) (for slab calculation)

Section	B = 100, H = 60	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = cm² (6−D22) AS′ = 〃 (4−D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 5.18 tm	Mdℓi = 9.61 tm	M = 9.61 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 11.9 kg / cm² σs = 450 〃 τ = — 〃	σc = 22 kg / cm² σs = 846 〃 τ = — 〃	σc = 22 kg / cm² σs = 846 〃 τ = — 〃
Allowable stress	σca = 90 kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90 kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90 kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{846 - 450}{846} = 0.47 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 $\ell = 6.550$ $\sigma rao = 1800$ kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 450 + (1 - 450 / 5000) \times 1800 = 2090 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-2(5)

(for slab calculation)

Section	B = 100, H = 90. Standard strength for design $\sigma ck = 240$ kg / cm² ; Re-bar SD30 ; AS = cm² (8-D22) ; AS' = 0 〃 (-D)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 16.59 t m	Md ℓ i = 34.97 t m	M = 34.97 t m
Shearing force	Sd = — t	Sd ℓ i = — t	S = — t
Stress	σc = 18.5 kg / cm² σs = 699 〃 τ = — 〃	σc = 22.0 kg / cm² σs = 846 〃 τ = — 〃	σc = 22.0 kg / cm² σs = 846 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1200 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{846-699}{846} = 0.17 < 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 ℓ = 6.^{m}550 σrao = 1800kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 699 + (1 - 699 / 5000) \times 1800 = 2240 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

4-5 (6) (for slab calculation)

Section	H = 70 B = 100	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = cm² (8 - D22) AS' = 〃 (- D)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 10.71 tm	Mdℓi = 19.69 tm	M = 19.69 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 20.8 kg / cm² σs = 533 〃 τ = — 〃	σc = 37.7 kg / cm² σs = 1051 〃 τ = — 〃	σc = 37.7 kg / cm² σs = 1051 〃 τ = — 〃
Allowable stress	σca = 90 kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90 kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90 kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1051 - 533}{1051} = 0.49 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 ℓ = 6.m550 σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 533 + (1 - 533 / 5000) \times 1800 = 2140 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

4-5(7)

(for slab calculation)

Section	B = 100, H = 70	Standard strength for design $\sigma ck = 240$ kg/cm²	Re-bar SD30; AS = cm² (8-D22); AS' = 〃 (4-D22)
	Analysis of cracking	Analysis of fatigue	Analysis of registing power
Bending moment	Md = 9.79 t m	Mdℓi = 23.00 t m	M = 23.00 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 16.7 kg/cm² σs = 488 〃 τ = — 〃	σc = 38.5 kg/cm² σs = 1257 〃 τ = — 〃	σc = 38.5 kg/cm² σs = 1257 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1257 - 488}{1257} = 0.61 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 6.550 σrao = 1800kg/cm²

$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$

$= 488 + (1 - 488/5000) \times 1800 = 2110$ kg/cm²

Stress calculation

Stress calculation of slab

4-5(8)

(for slab calculation)

Section	H = 70 B = 100	Standard strength for design σck = 240 kg/cm² Re-bar SD30 AS = cm² (8 - D22) AS' = 0 〃 (- D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 13.30 tm	Mdℓi = 30.83 tm	M = 30.83 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 25.5 kg/cm² σs = 713 〃 τ = — 〃	σc = 58.3 kg/cm² σs = 1756 〃 τ = — 〃	σc = 58.3 kg/cm² σs = 1756 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1756 - 713}{1756} = 0.59 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis cs-16 ℓ = 6.550 m σrao = 1800 kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 713 + (1 - 713 / 5000) \times 1800 = 2260 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-4,3-6(9)

(for slab calculation)

Section	B = 100; H = 60	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = cm² (8 − D22) AS' = 0 〃 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 3.45 tm	Mdℓi = 14.42 tm	M = 14.42 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 10.4 kg / cm² σs = 214 〃 τ = — 〃	σc = 35.9 kg / cm² σs = 646 〃 τ = — 〃	σc = 35.9 kg / cm² σs = 646 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{646 - 214}{646} = 0.67 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ES-16 ℓ = 6.550 σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 214 + (1 - 214 / 5000) \times 1800 = 1940 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-4,3-6 (10)

(for slab calculation)

Section	B = 100, H = 60	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = cm² (4 − D22) AS′ = 〃 (4 − D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 3.59 tm	Mdℓi = 14.30 tm	M = 14.30 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 9.7 kg / cm² σs = 214 〃 τ = — 〃	σc = 39.2 kg / cm² σs = 1140 〃 τ = — 〃	σc = 39.2 kg / cm² σs = 1140 〃 τ = — 〃
Allowable stress	σca = 90 kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90 kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90 kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1140 - 214}{1140} = 0.81 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 6.550 m σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 214 + (1 - 214 / 5000) \times 1800 = 1940 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-4, 3-6 (11) (for slab calculation)

Section	H = 60 B = 100	Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = cm² (4-D22) AS' = 〃 (4-D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 4.92 tm	Mdℓi = 14.76 tm	M = 14.76 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 13.4 kg/cm² σs = 340 〃 τ = — 〃	σc = 40.4 kg/cm² σs = 1159 〃 τ = — 〃	σc = 40.4 kg/cm² σs = 1159 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1159 - 340}{1159} = 0.71 > 0.25$$

($\alpha \geqq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leqq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ES-16 ℓ = 6.550 σrao = 1800 kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 340 + (1 - 340 / 5000) \times 1800 = 2020 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-4, 3-6 (12) (for slab calculation)

Section	B = 100, H = 60	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = cm² (4 - D22) AS' = 0 〃 (- D)	
	Analysis of cracking	Analysis of fatigue	Analysis of registing power
Bending moment	Md = 8.63 t m	Mdℓi = 17.40 t m	M = 17.40 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 26.4 kg / cm² σs = 771 〃 τ = — 〃	σc = 53.1 kg / cm² σs = 1468 〃 τ = — 〃	σc = 53.1 kg / cm² σs = 1468 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1468 - 771}{1468} = 0.47 \quad 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Es-16 ℓ = 6.550 σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 771 + (1 - 771 / 5000) \times 1800 = 2300 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

2-5 (13) (for slab calculation)

Section	B = 100, H = 40		Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 A S = 15.484 cm² (4 - D22) A S' = 〃 (- D)
	Analysis of cracking	Analysis of fatigue	Analysis of registing power
Bending moment	M d = 0.0 t m	M d ℓ i = 3.76 t m	M = 3.76 t m
Shearing force	S d = — t	S d ℓ i = — t	S = — t
Stress	σc = 6.5 kg / cm² σs = -78 〃 τ = — 〃	σc = 25.4 kg / cm² σs = 5 〃 τ = — 〃	σc = 25.4 kg / cm² σs = 5 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1200 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{5-78}{5} = -14 < 0.25$$

($\alpha \gtrsim 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg / cm²,

$\alpha \lesssim 0.25 \rightarrow$ Static $\sigma sa = 1200$kg / cm²)

2. Allowable stress of re -bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 6.550 σrao = 1800kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= (-78) + (1 - (-78) / 5000) \times 1800 = 1850 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

2-5 (14) (for slab calculation)

Section	B = 100 H = 40	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = cm² (4 − D22) AS′ = 〃 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of registing power
Bending moment	M d = 0 t m	M d ℓ i = 0.60 t m	M = 0.60 t m
Shearing force	S d = — t	S d ℓ i = — t	S = — t
Stress	σ c = 7.1 kg / cm² σ s = −84 〃 τ = — 〃	σ c = 14.0 kg / cm² σ s = −112 〃 τ = — 〃	σ c = 14.0 kg / cm² σ s = −112 〃 τ = — 〃
Allowable stress	σ ca = 90kg / cm² σ sa = 1200 〃 τ a = — 〃	σ ca = 90kg / cm² σ sa = 1800 〃 τ a = — 〃	σ ca = 90kg / cm² σ sa = 1800 〃 τ a = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{112 - 84}{112} = 0.25 = 0.25$$

($\alpha \geqq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg / cm²,

$\alpha \leqq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

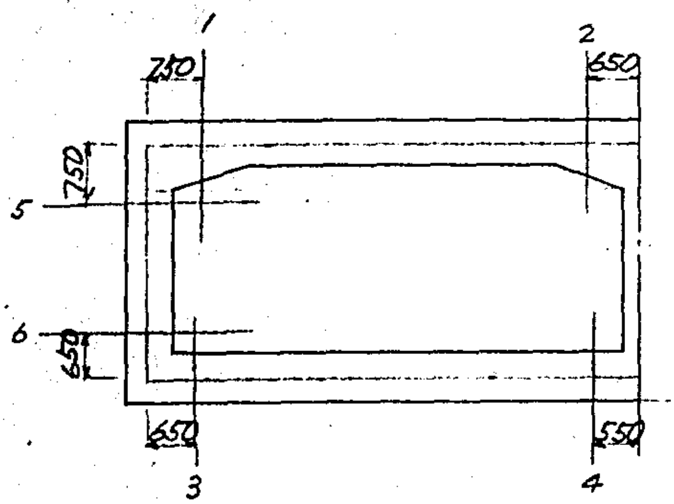
Span for fatigue analysis Ls-16 ℓ = 6.550 σ rao = 1800kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 84 + (1 - 84 / 5000) \times 1800 = 1850 \text{ kg / cm}^2$$

Calculation of shearing force

Sections of calculation of shearing stress



$$\tau = \frac{S}{b \cdot d}$$

b = 100 cm

h = Thickness of member

d″ = Thickness of concrete cover of tension bar

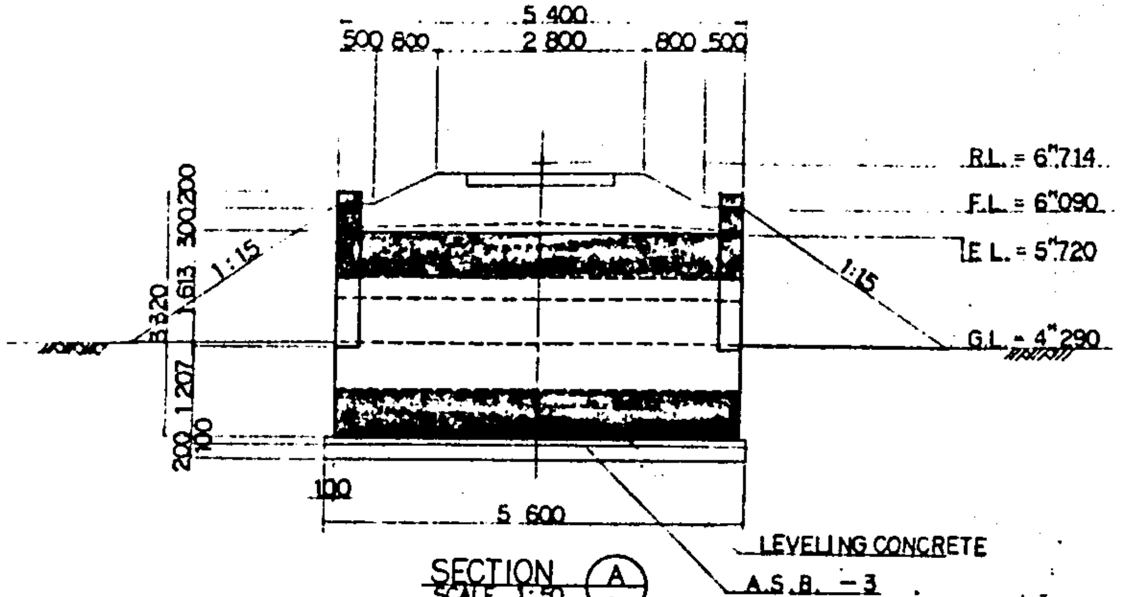
d = Effective height

Sections of calculation	cm h	cm d′	cm d = h-d′	kg S	kg / cm² τ	% ρ	kg / cm² τa
1	75	6	69	19861	2.9	0.45	4.7
2	75	6	69	26152	3.8	0.45	4.7
3	70	9	61	24102	4.0	0.51	4.7
4	70	9	61	28052	4.5	0.51	4.7
5	60	6	51	4131	0.8	0.30	4.7
6	60	6	51	6648	1.3	0.30	4.7

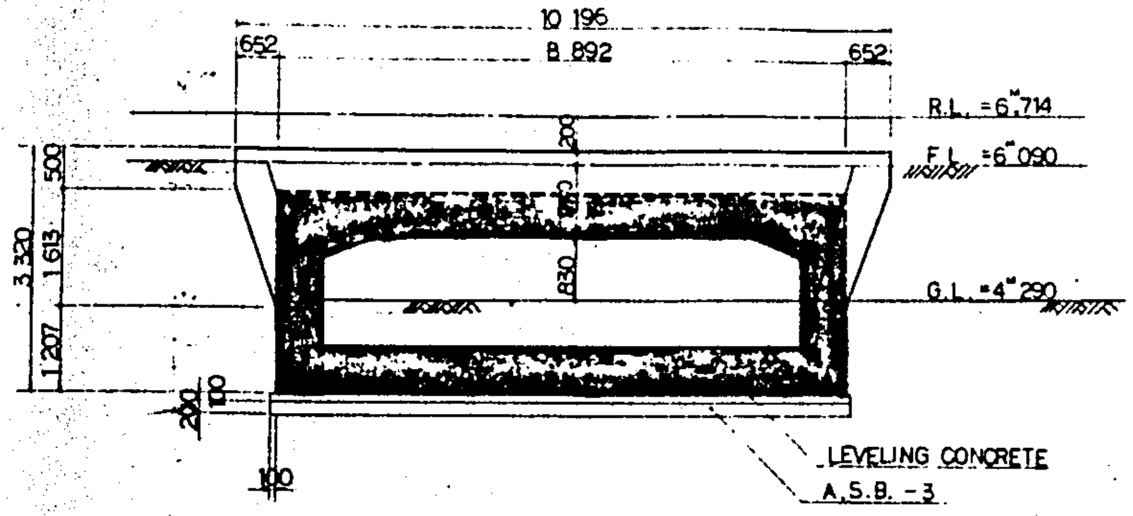
§5. Cb04 BOX CULVERT

$(6^{m}.50 \times 1^{m}.50)$

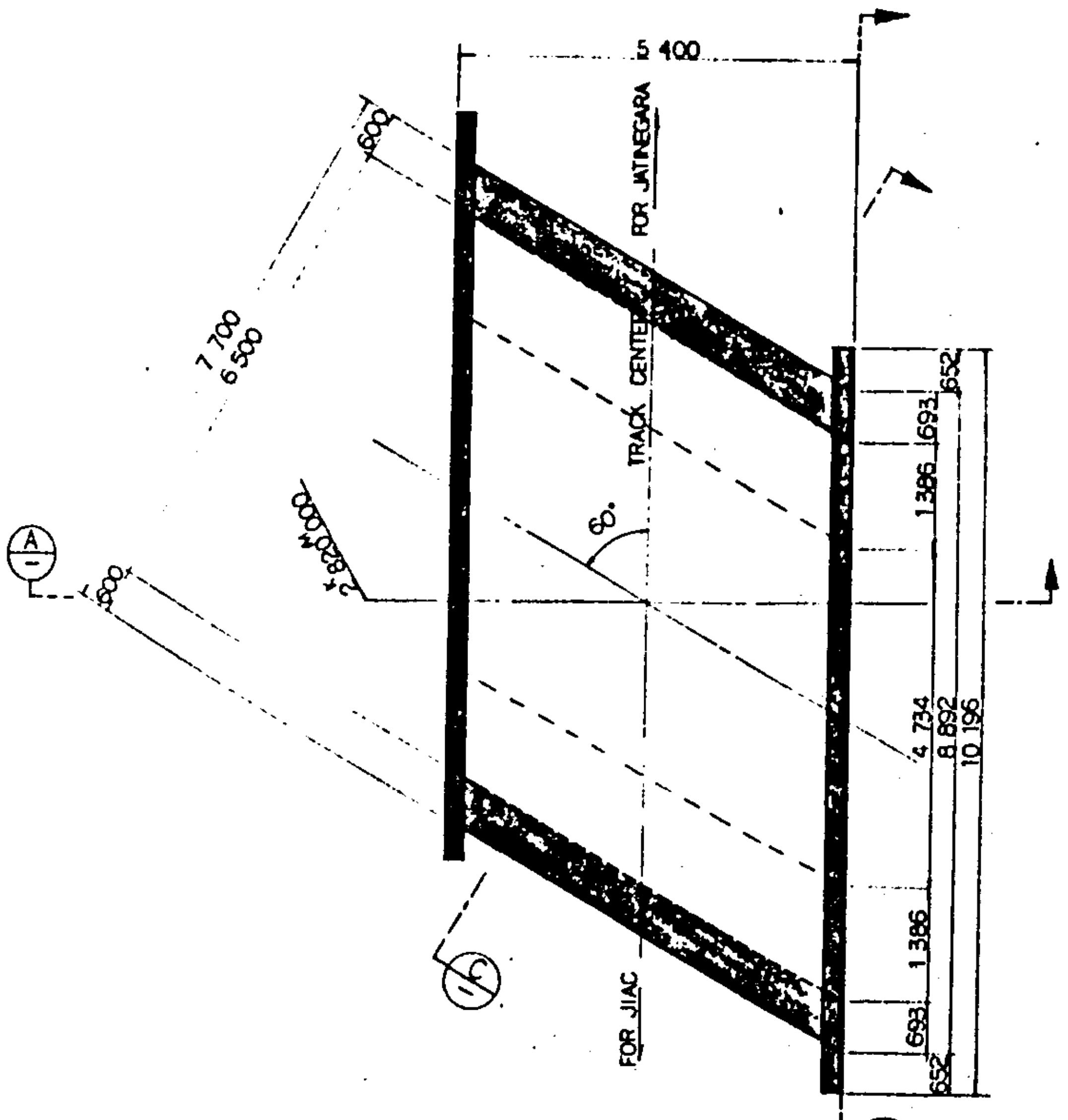
1 Configuration



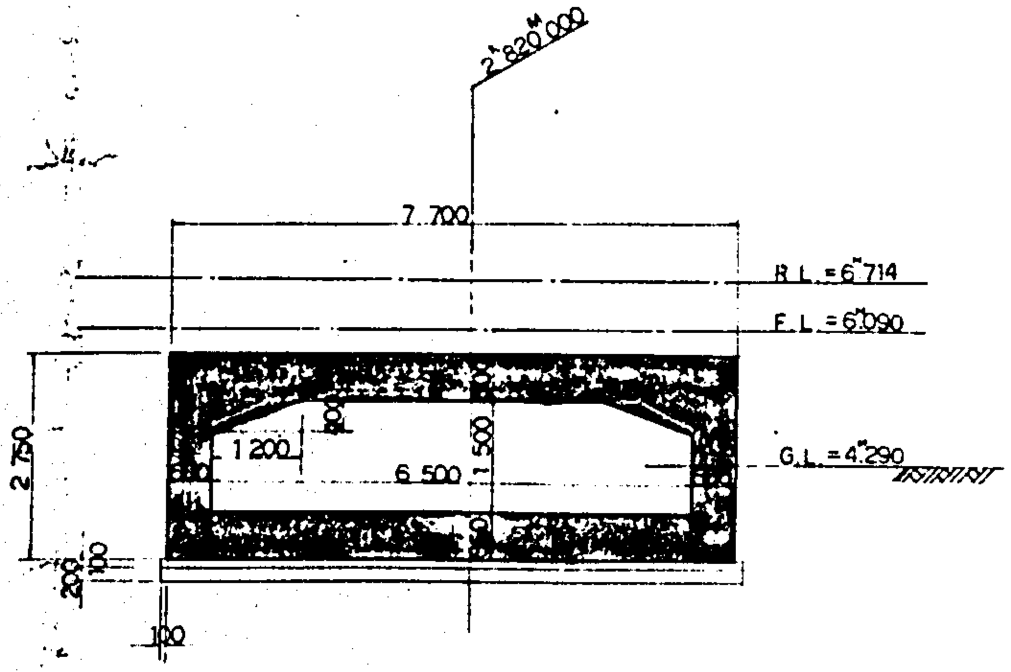
SECTION (A) SCALE 1:50



SECTION (B) SCALE 1:50



PLAN SCALE 1:50

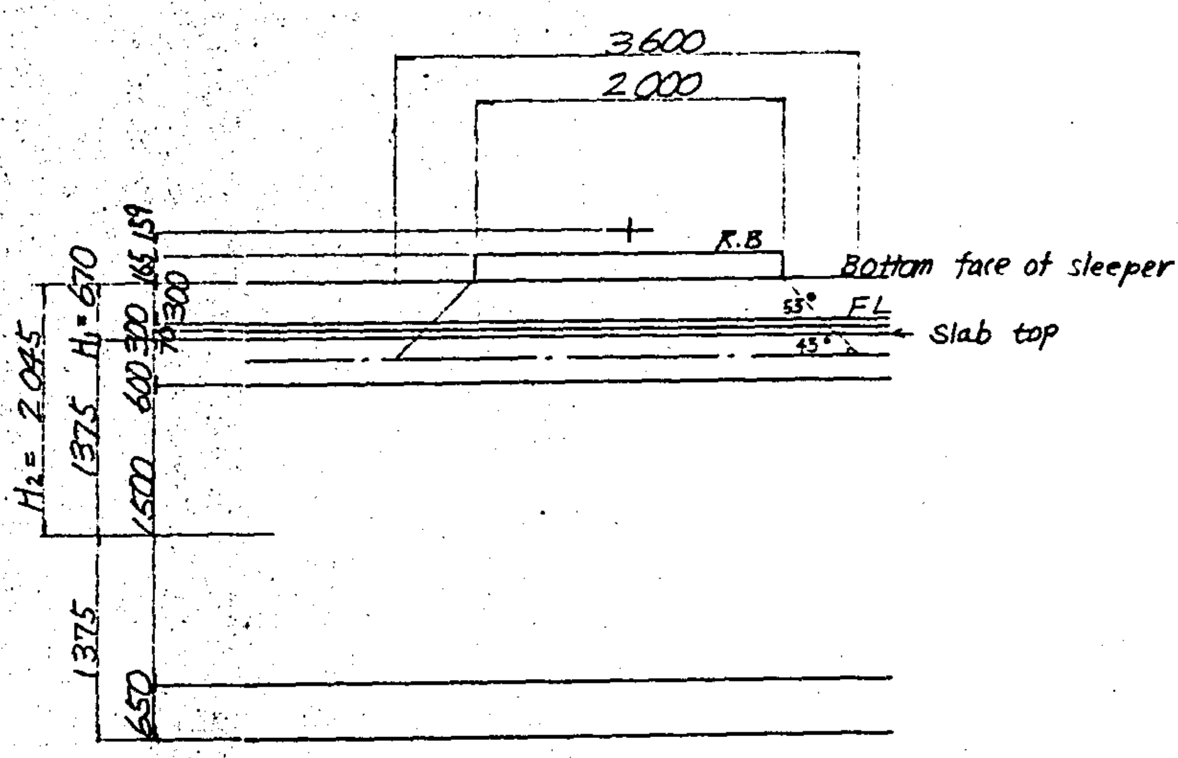


SECTION (C) SCALE 1:50

NOTES:

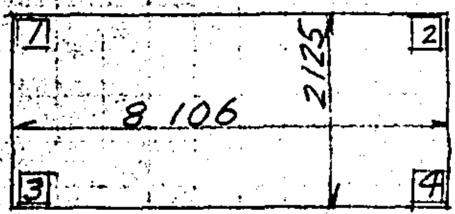
1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE INDICATED
2. REFERENCE DRAWING FOR BAR ARRANGEMENT: CE-016
3. GRADING CONCRETE SHALL BE SIMULTANEOUSLY PLACED WITH SLAB CONCRETE

2. Configuration and dimension: Surcharge earth load



3. cross section

1. Axis of Rahmen(Rigid frame)



2. Cross sectional area: Moment of inertia of the area

1)Top slab

$A = 1.00 \times 0.60 = 0.600$ m²

$I = 1/12 \times 1.00 \times 0.60^3 = 0.01800$ m⁴

2)Bottom slab

$A = 1.00 \times 0.65 = 0.650$ m²

$I = 1/12 \times 1.00 \times 0.65^3 = 0.02289$ m⁴

3)Side wall

$A = 1.00 \times 0.60 = 0.600$ m²

$I = 1/12 \times 1.00 \times 0.60^3 = 0.01800$ m⁴

4. Loads

Calcultion is carried out based on the unit width of Rahmen(Rigid frame).

4.1 Dead load

Weight of track assembly

0.45 t / m ÷ 3.60 m = 0.13 t / m²

Track ballast

1.9 t / m³ × 0.47 = 0.89 〃

(R.B.～F.L.)

Subgrade material

(upper layer) 1.9 t / m³ × 0.30 m = 0.57 〃

Grading concrete 2.35 t / m³ × 0.07 m = 0.16 〃

Weight of top slab 2.5 t / m³ × 0.60 m = 1.50 〃

W d = 3.25 t / m²

Weight of side wall

2.5 t / m³ × 0.60 m × 2.125 = 3.19 t / m

Weight of bottom slab

3.25 + 3.19 × 2 × 1 / 8.106 = 4.04 t / m²

4.2 Train load

Uniformly distributed load, equivalent to KS-16 loading

ℓ = 8.106 m Surcharge earth (Sleeper bottom - Slab top) is assumed as 0.67m, then P m = 2.60 t / m²

P s = 2.60 × 1.2 = 3.12 t / m²

4.3 Impact coefficient

$$i = i_o \left\{ \frac{2.5 - H}{1.5} \right\}$$

$= 0.45$

$H \leq 1.0^m \quad i = i_o$

$H \geq 2.5^m \quad i = 0$

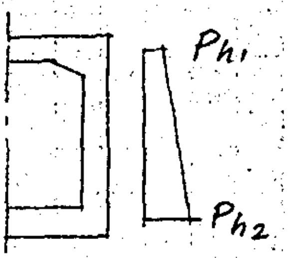
4.4 Earth pressure

1) Ordinary case, earth pressure due to dead load

Horizontal earth pressure acting at the depth of H

Bottom face of sleeper

$$Ph = K \cdot \gamma \cdot H$$



Ph : Horizontal earth pressure per unit area

γ: Unit weight of earth = 1.8 t / m³

H: Depth of earth (depth above slab top is the equivalent value)

K: Coefficient of static earth pressure = 0.5

$K = 0.5$

$H_1 = 1 / 1.8 \times (3.25 - 1.50 - 0.16) = 0.88$ m

$Ph1 = K \cdot \gamma \cdot H_1$

$= 0.5 \times 1.8 \times (0.88 + 0.07 + 0.60 / 2) = 1.13$ t / m²

$Ph2 = Ph1 + K \gamma H_2$

$= 1.13 + 0.5 \times 1.8 \times 2.125 = 3.04$ t / m²

$K = 0.3$

$Ph1 = 0.3 \times 1.8 \times (0.88 + 0.07 + 0.60 / 2) = 0.68$ t / m²

$Ph2 = 0.68 + 0.3 \times 1.8 \times 2.125 = 1.83$ t / m²

2)Horizontal earth pressure caused by train load

$Ph\ell = K \cdot Pv\ell$

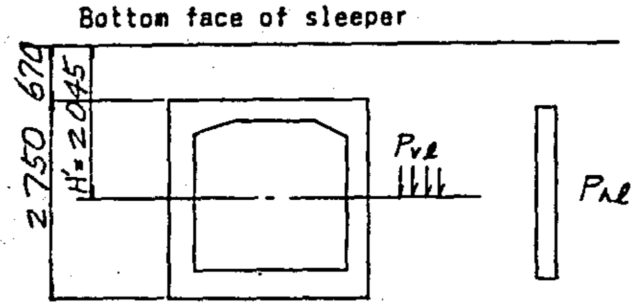
$Ph\ell$: Effect of train load acting at the side. (uniformly distributed load) (t / m²)

$Pv\ell$: Effect of train load in vertical direction at the depth of the level of culvert center (t / m²)

K : Coefficient of horizontal earth pressure (generally assumed as 0.5)

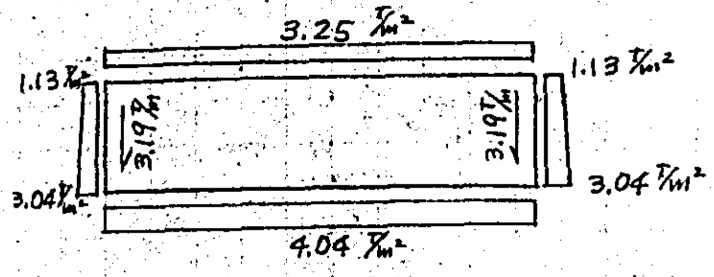
H' : Depth of the level of culvert center (m)

$$Ph\ell = K \cdot Pv\ell$$
$$= 0.5 \times 2.60$$
$$= 1.30 \text{ t / m}^2$$

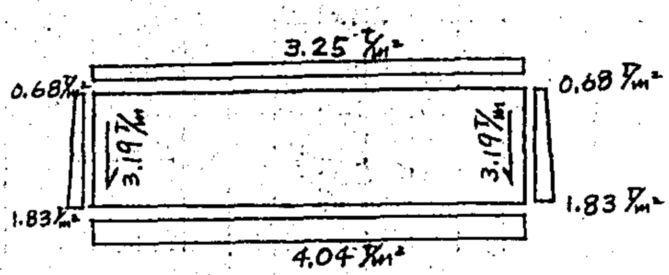


4.5 Loading condition

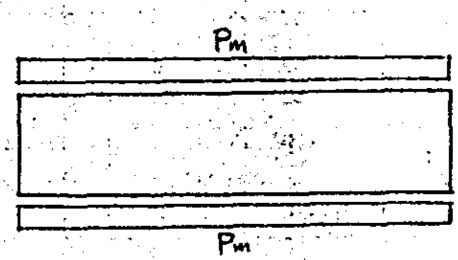
case1 Dead load + Earth pressure (0.5)



case2 Dead load + Earth pressure (0.3)

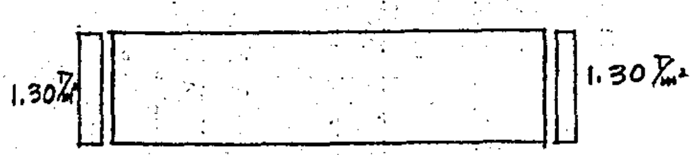


case3 Live load Impact



$$P_m = 2.60 \times 1.45 = 3.77 \text{ t / m}^2$$
$$P_s = 3.12 \times 1.45 = 4.52 \text{ 〃}$$

case4 Earth pressure due to live load



Combination of loads

Case	Combination of loads
①	Dead load +Surcharge earth load +Earth pressure (K = 0.5)
②	Dead load +Surcharge earth load +Earth pressure (K = 0.3)
③	live load +Impact
④	live load, Earth pressure

Difine	Case
1	① ②
2	③
3	④

Combine	Difine	Coefficient of increased load
	1	1.00
	1 + 2	1.00
	1 + 3	1.00
	1 + 2 + 3	1.00

Pick up	Combine	
1	1, 2, 3, 4	

R E A C T I O N

	SUPPORT	X (TON)	Y (TON)	Z (TON.M)		SUPPORT	X (TON)	Y (TON)	Z (TON.M)
LOAD - 1	CASE 1 (SHI+DO (0.5))				LOAD - 2	CASE 2 (SHI+DO (C.3))			
	3	0.000	-0.014	0.000		3	0.000	-0.014	0.000
	4	0.000	-0.014	0.000		4	0.000	-0.014	0.000
LOAD - 3	CASE 3 (KATSU+SYCU)				LOAD - 4	CASE 4 (KATSUDO)			
	3	0.000	0.000	0.000		3	0.000	0.000	0.000
	4	0.000	0.000	0.000		4	0.000	0.000	0.000

DEFLECTION

LOAD	CASE	JOINT	X (MM)	Y (MM)	Z (MMRAD)
LOAD - 1	CASE 1 (SHI+DD (0.5))	1	-0.008	-0.019	-0.309
		2	-0.010	-0.019	0.309
		3	0.000	0.000	0.336
		4	-0.018	0.000	-0.336
LOAD - 2	CASE 2 (SHI+DD (0.3))	1	-0.007	-0.019	-0.314
		2	-0.006	-0.019	0.314
		3	0.000	0.000	0.341
		4	-0.013	0.000	-0.341
LOAD - 3	CASE 3 (KATSU+SYOU)	1	0.002	-0.020	-0.353
		2	0.000	-0.020	0.353
		3	0.000	0.000	0.343
		4	0.002	0.000	-0.343
LOAD - 4	CASE 4 (KATSUDO)	1	0.000	0.000	0.008
		2	-0.007	0.000	-0.008
		3	0.000	0.000	-0.008
		4	-0.006	0.000	0.008

LOAD 1 CASE 1 (SHI+DO (0.5))

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-14.093	-14.093	13.172	-0.522
1	0.300	-10.287	-14.093	12.197	-0.522
2	0.800	-4.595	-7.913	10.572	-0.522
3	1.680	3.450	0.990	7.712	-0.522
4	2.053	6.101	4.005	6.500	-0.522
5	3.053	10.976	9.855	3.250	-0.522
6	3.553	12.195	11.561	1.625	-0.522
7	4.053	12.601	12.601	0.000	-0.522
JTAN	8.106	-14.093	-14.093	-13.172	-0.522
MAX	4.053	12.601		0.000	-0.522

= = MEMBER 2 (3 - 4) G = =

	L	M	(M)	Q	N
ITAN	0.000	16.973		-16.374	-3.909
1	0.300	12.242		-15.162	-3.909
2	0.625	7.528		-13.849	-3.909
3	2.053	-8.129		-8.080	-3.909
4	2.553	-11.664		-6.060	-3.909
5	3.053	-14.189		-4.040	-3.909
6	3.553	-15.704		-2.020	-3.909
7	4.053	-16.209		0.000	-3.909
JTAN	8.106	16.973		16.374	-3.909
MAX	4.053	-16.209		0.000	-3.909

= = MEMBER 3 (1 - 3) C = =

	L	M	(M)	Q	N
ITAN	0.000	14.093		-0.522	-13.172
1	0.300	13.991		-0.142	-13.622
2	0.700	14.056		0.490	-14.222
3	0.800	14.114		0.670	-14.372
4	1.060	14.353		1.181	-14.762
5	1.500	15.087		2.184	-15.422
6	1.800	15.858		2.968	-15.872
JTAN	2.125	16.973		3.909	-16.360
MAX	0.472	13.988		0.112	-13.881

= = MEMBER 4 (2 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	-14.093		0.522	-13.172
1	0.300	-13.991		0.142	-13.622
2	0.700	-14.056		-0.490	-14.222
3	0.800	-14.114		-0.670	-14.372
4	1.060	-14.353		-1.181	-14.762
5	1.500	-15.087		-2.184	-15.422
6	1.800	-15.858		-2.968	-15.872
JTAN	2.125	-16.973		-3.909	-16.360
MAX	0.472	-13.988		-0.112	-13.881

LOAD 2 CASE 2 (SHI+DO (0.3))

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-14.028	-14.028	13.172	0.218
1	0.300	-10.223	-14.028	12.197	0.218
2	0.800	-4.531	-7.849	10.572	0.218
3	1.680	3.515	1.055	7.712	0.218
4	2.053	6.165	4.069	6.500	0.218
5	3.053	11.040	9.919	3.250	0.218
6	3.553	12.259	11.625	1.625	0.218
7	4.053	12.665	12.665	0.000	0.218
JTAN	8.106	-14.028	-14.028	-13.172	0.218
MAX	4.053	12.665		0.000	0.218

= = MEMBER 2 (3 - 4) G = =

	L	M	(M)	Q	N
ITAN	0.000	16.894		-16.374	-2.885
1	0.300	12.163		-15.162	-2.885
2	0.625	7.449		-13.849	-2.885
3	2.053	-8.209		-8.080	-2.885
4	2.553	-11.744		-6.060	-2.885
5	3.053	-14.269		-4.040	-2.885
6	3.553	-15.784		-2.020	-2.885
7	4.053	-16.289		0.000	-2.885
JTAN	8.106	16.894		16.374	-2.885
MAX	4.053	-16.289		0.000	-2.885

= = MEMBER 3 (1 - 3) C = =

	L	M	(M)	Q	N
ITAN	0.000	14.028		0.218	-13.172
1	0.300	14.127		0.447	-13.622
2	0.700	14.379		0.827	-14.222
3	0.800	14.467		0.936	-14.372
4	1.060	14.750		1.243	-14.762
5	1.500	15.426		1.847	-15.422
6	1.800	16.049		2.319	-15.872
JTAN	2.125	16.894		2.885	-16.360

= = MEMBER 4 (2 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	-14.028		-0.218	-13.172
1	0.300	-14.127		-0.447	-13.622
2	0.700	-14.379		-0.827	-14.222
3	0.800	-14.467		-0.936	-14.372
4	1.060	-14.750		-1.243	-14.762
5	1.500	-15.426		-1.847	-15.422
6	1.800	-16.049		-2.319	-15.872
JTAN	2.125	-16.894		-2.885	-16.360

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LOAD 3 CASE 3 (KATSU+SYOU)

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-16.416	-16.416	18.319	-0.483
1	0.300	-12.002	-16.416	16.963	-0.483
2	0.800	-5.399	-9.247	14.703	-0.483
3	1.680	3.934	1.080	10.726	-0.483
4	2.053	7.008	4.577	9.040	-0.483
5	3.053	12.663	11.363	4.520	-0.483
6	3.553	14.077	13.342	2.260	-0.483
7	4.053	14.548	14.548	0.000	-0.483
JTAN	8.106	-16.416	-16.416	-18.319	-0.483
MAX	4.053	14.548		0.000	-0.483

= = MEMBER 2 (3 - 4) G = =

	L	M	(M)	Q	N
ITAN	0.000	15.390		-18.319	0.483
1	0.300	10.976		-16.963	0.483
2	0.625	6.576		-15.494	0.483
3	2.053	-8.035		-9.040	0.483
4	2.553	-11.333		-6.780	0.483
5	3.053	-13.690		-4.520	0.483
6	3.553	-15.103		-2.260	0.483
7	4.053	-15.575		0.000	0.483
JTAN	8.106	15.390		18.319	0.483
MAX	4.053	-15.575		0.000	0.483

= = MEMBER 3 (1 - 3) C = =

	L	M	(M)	Q	N
ITAN	0.000	16.416		-0.483	-15.280
1	0.300	16.271		-0.483	-15.280
2	0.700	16.078		-0.483	-15.280
3	0.800	16.030		-0.483	-15.280
4	1.060	15.904		-0.483	-15.280
5	1.500	15.692		-0.483	-15.280
6	1.800	15.547		-0.483	-15.280
JTAN	2.125	15.390		-0.483	-15.280

= = MEMBER 4 (2 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	-16.416		0.483	-15.280
1	0.300	-16.271		0.483	-15.280
2	0.700	-16.078		0.483	-15.280
3	0.800	-16.030		0.483	-15.280
4	1.060	-15.904		0.483	-15.280
5	1.500	-15.692		0.483	-15.280
6	1.800	-15.547		0.483	-15.280
JTAN	2.125	-15.390		0.483	-15.280

LOAD 4 CASE 4 (KATSUDO)

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-0.099	-0.099	0.000	-1.368
1	0.300	-0.099	-0.099	0.000	-1.368
2	0.800	-0.099	-0.099	0.000	-1.368
3	1.680	-0.099	-0.099	0.000	-1.368
4	2.053	-0.099	-0.099	0.000	-1.368
5	3.053	-0.099	-0.099	0.000	-1.368
6	3.553	-0.099	-0.099	0.000	-1.368
7	4.053	-0.099	-0.099	0.000	-1.368
JTAN	8.106	-0.099	-0.099	0.000	-1.368

= = MEMBER 2 (3 - 4) G = =

	L	M	(M)	Q	N
ITAN	0.000	0.126		0.000	-1.394
1	0.300	0.126		0.000	-1.394
2	0.625	0.126		0.000	-1.394
3	2.053	0.126		0.000	-1.394
4	2.553	0.126		0.000	-1.394
5	3.053	0.126		0.000	-1.394
6	3.553	0.126		0.000	-1.394
7	4.053	0.126		0.000	-1.394
JTAN	8.106	0.126		0.000	-1.394

= = MEMBER 3 (1 - 3) C = =

	L	M	(M)	Q	N
ITAN	0.000	0.099		-1.363	0.000
1	0.300	-0.253		-0.978	0.000
2	0.700	-0.541		-0.458	0.000
3	0.800	-0.580		-0.328	0.000
4	1.060	-0.621		0.010	0.000
5	1.500	-0.491		0.582	0.000
6	1.800	-0.258		0.972	0.000
JTAN	2.125	0.126		1.394	0.000
MAX	1.060	-0.621		0.010	0.000

= = MEMBER 4 (2 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	-0.099		1.363	0.000
1	0.300	0.253		0.978	0.000
2	0.700	0.541		0.458	0.000
3	0.800	0.580		0.328	0.000
4	1.060	0.621		-0.010	0.000
5	1.500	0.491		-0.582	0.000
6	1.800	0.258		-0.972	0.000
JTAN	2.125	-0.126		-1.394	0.000
MAX	1.060	0.621		[illegible]	[illegible]

COMBINE 1

	L	MOMENT MAXIMUM M	Q	N	CASE	MOMENT MINIMUM M	Q	N	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-14.028	13.172	0.218	(2)	-14.093	13.172	-0.522	(1)
1	0.300	-10.223	12.197	0.218	(2)	-10.287	12.197	-0.522	(1)
2	0.800	-4.531	10.572	0.218	(2)	-4.595	10.572	-0.522	(1)
3	1.680	3.515	7.712	0.218	(2)	3.450	7.712	-0.522	(1)
4	2.053	6.165	6.500	0.218	(2)	6.101	6.500	-0.522	(1)
5	3.053	11.040	3.250	0.218	(2)	10.976	3.250	-0.522	(1)
6	3.553	12.259	1.625	0.218	(2)	12.195	1.625	-0.522	(1)
7	4.053	12.665	0.000	0.218	(2)	12.601	0.000	-0.522	(1)
JTAN	8.106	-14.028	-13.172	0.218	(2)	-14.093	-13.172	-0.522	(1)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	16.973	-16.374	-3.909	(1)	16.894	-16.374	-2.885	(2)
1	0.300	12.242	-15.162	-3.909	(1)	12.163	-15.162	-2.885	(2)
2	0.625	7.528	-13.849	-3.909	(1)	7.449	-13.849	-2.885	(2)
3	2.053	-8.129	-8.080	-3.909	(1)	-8.209	-8.080	-2.885	(2)
4	2.553	-11.664	-6.060	-3.909	(1)	-11.744	-6.060	-2.885	(2)
5	3.053	-14.189	-4.040	-3.909	(1)	-14.269	-4.040	-2.885	(2)
6	3.553	-15.704	-2.020	-3.909	(1)	-15.784	-2.020	-2.885	(2)
7	4.053	-16.209	0.000	-3.909	(1)	-16.289	0.000	-2.885	(2)
JTAN	8.106	16.973	16.374	-3.909	(1)	16.894	16.374	-2.885	(2)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	14.093	-0.522	-13.172	(1)	14.028	0.218	-13.172	(2)
1	0.300	14.127	0.447	-13.622	(2)	13.991	-0.142	-13.622	(1)
2	0.700	14.379	0.827	-14.222	(2)	14.056	0.490	-14.222	(1)
3	0.800	14.467	0.936	-14.372	(2)	14.114	0.670	-14.372	(1)
4	1.060	14.750	1.243	-14.762	(2)	14.353	1.181	-14.762	(1)
5	1.500	15.426	1.847	-15.422	(2)	15.087	2.184	-15.422	(1)
6	1.800	16.049	2.319	-15.872	(2)	15.858	2.968	-15.872	(1)
JTAN	2.125	16.973	3.909	-16.360	(1)	16.894	2.885	-16.360	(2)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-14.028	-0.218	-13.172	(2)	-14.093	0.522	-13.172	(1)
1	0.300	-13.991	0.142	-13.622	(1)	-14.127	-0.447	-13.622	(2)
2	0.700	-14.056	-0.490	-14.222	(1)	-14.379	-0.827	-14.222	(2)
3	0.800	-14.114	-0.670	-14.372	(1)	-14.467	-0.936	-14.372	(2)
4	1.060	-14.353	-1.181	-14.762	(1)	-14.750	-1.243	-14.762	(2)
5	1.500	-15.087	-2.184	-15.422	(1)	-15.426	-1.847	-15.422	(2)
6	1.800	-15.858	-2.968	-15.872	(1)	-16.049	-2.319	-15.872	(2)
JTAN	2.125	-16.894	-2.885	-16.360	(2)	-16.973	-3.939	-16.360	(1)

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COMBINE 1

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	----CASE----	SHEAR MINIMUM ----M---	----Q---	----N---	----CASE----
= = MEMBER	1 (1 - 2) G = =								
ITAN	0.000	-14.093	13.172	-0.522	(1)	-14.093	13.172	-0.522	(1)
1	0.300	-10.287	12.197	-0.522	(1)	-10.287	12.197	-0.522	(1)
2	0.800	-4.595	10.572	-0.522	(1)	-4.595	10.572	-0.522	(1)
3	1.680	3.450	7.712	-0.522	(1)	3.450	7.712	-0.522	(1)
4	2.053	6.101	6.500	-0.522	(1)	6.101	6.500	-0.522	(1)
5	3.053	10.976	3.250	-0.522	(1)	10.976	3.250	-0.522	(1)
6	3.553	12.195	1.625	-0.522	(1)	12.195	1.625	-0.522	(1)
7	4.053	12.601	0.000	-0.522	(1)	12.601	0.000	-0.522	(1)
JTAN	8.106	-14.093	-13.172	-0.522	(1)	-14.093	-13.172	-0.522	(1)
= = MEMBER	2 (3 - 4) G = =								
ITAN	0.000	16.973	-16.374	-3.909	(1)	16.973	-16.374	-3.909	(1)
1	0.300	12.242	-15.162	-3.909	(1)	12.242	-15.162	-3.909	(1)
2	0.625	7.528	-13.849	-3.909	(1)	7.528	-13.849	-3.909	(1)
3	2.053	-8.129	-8.080	-3.909	(1)	-8.129	-8.080	-3.909	(1)
4	2.553	-11.664	-6.060	-3.909	(1)	-11.664	-6.060	-3.909	(1)
5	3.053	-14.189	-4.040	-3.909	(1)	-14.189	-4.040	-3.909	(1)
6	3.553	-15.704	-2.020	-3.909	(1)	-15.704	-2.020	-3.909	(1)
7	4.053	-16.209	0.000	-3.909	(1)	-16.209	0.000	-3.909	(1)
JTAN	8.106	16.973	16.374	-3.909	(1)	16.973	16.374	-3.909	(1)
= = MEMBER	3 (1 - 3) C = =								
ITAN	0.000	14.028	0.218	-13.172	(2)	14.093	-0.522	-13.172	(1)
1	0.300	14.127	0.447	-13.622	(2)	13.991	-0.142	-13.622	(1)
2	0.700	14.379	0.827	-14.222	(2)	14.056	0.490	-14.222	(1)
3	0.800	14.467	0.936	-14.372	(2)	14.114	0.670	-14.372	(1)
4	1.060	14.750	1.243	-14.762	(2)	14.353	1.181	-14.762	(1)
5	1.500	15.087	2.184	-15.422	(1)	15.426	1.847	-15.422	(2)
6	1.800	15.858	2.968	-15.872	(1)	16.049	2.319	-15.872	(2)
JTAN	2.125	16.973	3.909	-16.360	(1)	16.894	2.885	-16.360	(2)
= = MEMBER	4 (2 - 4) C = =								
ITAN	0.000	-14.093	0.522	-13.172	(1)	-14.028	-0.218	-13.172	(2)
1	0.300	-13.991	0.142	-13.622	(1)	-14.127	-0.447	-13.622	(2)
2	0.700	-14.056	-0.490	-14.222	(1)	-14.379	-0.827	-14.222	(2)
3	0.800	-14.114	-0.670	-14.372	(1)	-14.467	-0.936	-14.372	(2)
4	1.060	-14.353	-1.181	-14.762	(1)	-14.750	-1.243	-14.762	(2)
5	1.500	-15.426	-1.847	-15.422	(2)	-15.087	-2.184	-15.422	(1)
6	1.800	-16.049	-2.319	-15.872	(2)	-15.858	-2.968	-15.872	(1)
JTAN	2.125	-16.894	-2.885	-16.360	(2)	-16.973	-3.909	-16.360	(1)

COMBINE 1

		AXIAL MAXIMUM				AXIAL MINIMUM			
	---L---	----M---	----Q---	----N---	----CASE----------	----M---	----Q---	----N---	----CASE----------
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-14.028	13.172	0.218	(2)	-14.093	13.172	-0.522	(1)
1	0.300	-10.223	12.197	0.218	(2)	-10.287	12.197	-0.522	(1)
2	0.800	-4.531	10.572	0.218	(2)	-4.595	10.572	-0.522	(1)
3	1.680	3.515	7.712	0.218	(2)	3.450	7.712	-0.522	(1)
4	2.053	6.165	6.500	0.218	(2)	6.101	6.500	-0.522	(1)
5	3.053	11.040	3.250	0.218	(2)	10.976	3.250	-0.522	(1)
6	3.553	12.259	1.625	0.218	(2)	12.195	1.625	-0.522	(1)
7	4.053	12.665	0.000	0.218	(2)	12.601	0.000	-0.522	(1)
JTAN	8.106	-14.028	-13.172	0.218	(2)	-14.093	-13.172	-0.522	(1)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	16.894	-16.374	-2.885	(2)	16.973	-16.374	-3.909	(1)
1	0.300	12.163	-15.162	-2.885	(2)	12.242	-15.162	-3.909	(1)
2	0.625	7.449	-13.849	-2.885	(2)	7.528	-13.849	-3.909	(1)
3	2.053	-8.209	-8.080	-2.885	(2)	-8.129	-8.080	-3.909	(1)
4	2.553	-11.744	-6.060	-2.885	(2)	-11.664	-6.060	-3.909	(1)
5	3.053	-14.269	-4.040	-2.885	(2)	-14.189	-4.040	-3.909	(1)
6	3.553	-15.784	-2.020	-2.885	(2)	-15.704	-2.020	-3.909	(1)
7	4.053	-16.289	0.000	-2.885	(2)	-16.209	0.000	-3.909	(1)
JTAN	8.106	16.894	16.374	-2.885	(2)	16.973	16.374	-3.909	(1)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	14.093	-0.522	-13.172	(1)	14.093	-0.522	-13.172	(1)
1	0.300	13.991	-0.142	-13.622	(1)	13.991	-0.142	-13.622	(1)
2	0.700	14.056	0.490	-14.222	(1)	14.056	0.490	-14.222	(1)
3	0.800	14.114	0.670	-14.372	(1)	14.114	0.670	-14.372	(1)
4	1.060	14.353	1.181	-14.762	(1)	14.353	1.181	-14.762	(1)
5	1.500	15.087	2.184	-15.422	(1)	15.087	2.184	-15.422	(1)
6	1.800	15.858	2.968	-15.872	(1)	15.858	2.968	-15.872	(1)
JTAN	2.125	16.973	3.909	-16.360	(1)	16.973	3.909	-16.360	(1)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-14.028	-0.218	-13.172	(2)	-14.093	0.522	-13.172	(1)
1	0.300	-14.127	-0.447	-13.622	(2)	-13.991	0.142	-13.622	(1)
2	0.700	-14.379	-0.827	-14.222	(2)	-14.056	-0.490	-14.222	(1)
3	0.800	-14.114	-0.670	-14.372	(1)	-14.114	-0.670	-14.372	(1)
4	1.060	-14.750	-1.243	-14.762	(2)	-14.353	-1.181	-14.762	(1)
5	1.500	-15.087	-2.184	-15.422	(1)	-15.087	-2.184	-15.422	(1)
6	1.800	-15.858	-2.968	-15.872	(1)	-15.858	-2.968	-15.872	(1)
JTAN	2.125	-16.973	-3.909	-16.360	(1)	-16.973	-3.939	-16.360	(1)

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COMBINE 2

		MOMENT MAXIMUM				MOMENT MINIMUM			
	---L---	----M---	----Q---	----N---	----CASE----------	----M---	----Q---	----N---	----CASE----------
= = MEMBER	1 (1 - 2) G = =								
ITAN	0.000	-30.445	31.491	-0.264	(2 3)	-30.509	31.491	-1.005	(1 3)
1	0.300	-22.225	29.160	-0.264	(2 3)	-22.289	29.160	-1.005	(1 3)
2	0.800	-9.929	25.275	-0.264	(2 3)	-9.993	25.275	-1.005	(1 3)
3	1.680	7.448	18.438	-0.264	(2 3)	7.384	18.438	-1.005	(1 3)
4	2.053	13.174	15.540	-0.264	(2 3)	13.109	15.540	-1.005	(1 3)
5	3.053	23.704	7.770	-0.264	(2 3)	23.639	7.770	-1.005	(1 3)
6	3.553	26.336	3.885	-0.264	(2 3)	26.272	3.885	-1.005	(1 3)
7	4.053	27.214	0.000	-0.264	(2 3)	27.149	0.000	-1.005	(1 3)
JTAN	8.106	-30.445	-31.491	-0.264	(2 3)	-30.509	-31.491	-1.005	(1 3)
= = MEMBER	2 (3 - 4) G = =								
ITAN	0.000	32.363	-34.693	-3.426	(1 3)	32.284	-34.693	-2.402	(2 3)
1	0.300	23.218	-32.125	-3.426	(1 3)	23.139	-32.125	-2.402	(2 3)
2	0.625	14.104	-29.343	-3.426	(1 3)	14.025	-29.343	-2.402	(2 3)
3	2.053	-16.164	-17.120	-3.426	(1 3)	-16.243	-17.120	-2.402	(2 3)
4	2.553	-22.998	-12.840	-3.426	(1 3)	-23.077	-12.840	-2.402	(2 3)
5	3.053	-27.879	-8.560	-3.426	(1 3)	-27.958	-8.560	-2.402	(2 3)
6	3.553	-30.808	-4.280	-3.426	(1 3)	-30.887	-4.280	-2.402	(2 3)
7	4.053	-31.784	0.000	-3.426	(1 3)	-31.863	0.000	-2.402	(2 3)
JTAN	8.106	32.363	34.693	-3.426	(1 3)	32.284	34.693	-2.402	(2 3)
= = MEMBER	3 (1 - 3) C = =								
ITAN	0.000	30.509	-1.005	-28.452	(1 3)	30.445	-0.264	-28.452	(2 3)
1	0.300	30.398	-0.036	-28.902	(2 3)	30.262	-0.625	-28.902	(1 3)
2	0.700	30.457	0.344	-29.502	(2 3)	30.134	0.007	-29.502	(1 3)
3	0.800	30.497	0.453	-29.652	(2 3)	30.143	0.187	-29.652	(1 3)
4	1.060	30.654	0.760	-30.042	(2 3)	30.257	0.698	-30.042	(1 3)
5	1.500	31.117	1.364	-30.702	(2 3)	30.779	1.702	-30.702	(1 3)
6	1.800	31.596	1.836	-31.152	(2 3)	31.405	2.486	-31.152	(1 3)
JTAN	2.125	32.363	3.426	-31.640	(1 3)	32.284	2.402	-31.640	(2 3)
= = MEMBER	4 (2 - 4) C = =								
ITAN	0.000	-30.445	0.264	-28.452	(2 3)	-30.509	1.005	-28.452	(1 3)
1	0.300	-30.262	0.625	-28.902	(1 3)	-30.398	0.036	-28.902	(2 3)
2	0.700	-30.134	-0.007	-29.502	(1 3)	-30.457	-0.344	-29.502	(2 3)
3	0.800	-30.143	-0.187	-29.652	(1 3)	-30.497	-0.453	-29.652	(2 3)
4	1.060	-30.257	-0.698	-30.042	(1 3)	-30.654	-0.760	-30.042	(2 3)
5	1.500	-30.779	-1.702	-30.702	(1 3)	-31.117	-1.364	-30.702	(2 3)
6	1.800	-31.405	-2.486	-31.152	(1 3)	-31.596	-1.836	-31.152	(2 3)
JTAN	2.125	-32.284	-2.402	-31.640	(2 3)	-32.363	-3.426	-31.640	(1 3)

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COMBINE 2

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	----CASE----	SHEAR MINIMUM ----M---	----Q---	----N---	----CASE----
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-30.509	31.491	-1.005	(1 3)	-30.509	31.491	-1.005	(1 3)
1	0.300	-22.289	29.160	-1.005	(1 3)	-22.289	29.160	-1.005	(1 3)
2	0.800	-9.993	25.275	-1.005	(1 3)	-9.993	25.275	-1.005	(1 3)
3	1.680	7.384	18.438	-1.005	(1 3)	7.384	18.438	-1.005	(1 3)
4	2.053	13.109	15.540	-1.005	(1 3)	13.109	15.540	-1.005	(1 3)
5	3.053	23.639	7.770	-1.005	(1 3)	23.639	7.770	-1.005	(1 3)
6	3.553	26.272	3.885	-1.005	(1 3)	26.272	3.885	-1.005	(1 3)
7	4.053	27.149	0.000	-1.005	(1 3)	27.149	0.000	-1.005	(1 3)
JTAN	8.106	-30.509	-31.491	-1.005	(1 3)	-30.509	-31.491	-1.005	(1 3)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	32.363	-34.693	-3.426	(1 3)	32.363	-34.693	-3.426	(1 3)
1	0.300	23.218	-32.125	-3.426	(1 3)	23.218	-32.125	-3.426	(1 3)
2	0.625	14.104	-29.343	-3.426	(1 3)	14.104	-29.343	-3.426	(1 3)
3	2.053	-16.164	-17.120	-3.426	(1 3)	-16.164	-17.120	-3.426	(1 3)
4	2.553	-22.998	-12.840	-3.426	(1 3)	-22.998	-12.840	-3.426	(1 3)
5	3.053	-27.879	-8.560	-3.426	(1 3)	-27.879	-8.560	-3.426	(1 3)
6	3.553	-30.808	-4.280	-3.426	(1 3)	-30.808	-4.280	-3.426	(1 3)
7	4.053	-31.784	0.000	-3.426	(1 3)	-31.784	0.000	-3.426	(1 3)
JTAN	8.106	32.363	34.693	-3.426	(1 3)	32.363	34.693	-3.426	(1 3)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	30.445	-0.264	-28.452	(2 3)	30.509	-1.005	-28.452	(1 3)
1	0.300	30.398	-0.036	-28.902	(2 3)	30.262	-0.625	-28.902	(1 3)
2	0.700	30.457	0.344	-29.502	(2 3)	30.134	0.007	-29.502	(1 3)
3	0.800	30.497	0.453	-29.652	(2 3)	30.143	0.187	-29.652	(1 3)
4	1.060	30.654	0.760	-30.042	(2 3)	30.257	0.698	-30.042	(1 3)
5	1.500	30.779	1.702	-30.702	(1 3)	31.117	1.364	-30.702	(2 3)
6	1.800	31.405	2.486	-31.152	(1 3)	31.596	1.836	-31.152	(2 3)
JTAN	2.125	32.363	3.426	-31.640	(1 3)	32.284	2.402	-31.640	(2 3)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-30.509	1.005	-28.452	(1 3)	-30.445	0.264	-28.452	(2 3)
1	0.300	-30.262	0.625	-28.902	(1 3)	-30.398	0.036	-28.902	(2 3)
2	0.700	-30.134	-0.007	-29.502	(1 3)	-30.457	-0.344	-29.502	(2 3)
3	0.800	-30.143	-0.187	-29.652	(1 3)	-30.497	-0.453	-29.652	(2 3)
4	1.060	-30.257	-0.698	-30.042	(1 3)	-30.654	-0.760	-30.042	(2 3)
5	1.500	-31.117	-1.364	-30.702	(2 3)	-30.779	-1.702	-30.702	(1 3)
6	1.800	-31.596	-1.836	-31.152	(2 3)	-31.405	-2.486	-31.152	(1 3)
JTAN	2.125	-32.284	-2.402	-31.640	(2 3)	-32.363	-3.426	-31.640	(1 3)

COMBINE 2

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-30.445	31.491	-0.264	(2 3)	-30.509	31.491	-1.005	(1 3)
1	0.300	-22.225	29.160	-0.264	(2 3)	-22.289	29.160	-1.005	(1 3)
2	0.800	-9.929	25.275	-0.264	(2 3)	-9.993	25.275	-1.005	(1 3)
3	1.680	7.448	18.438	-0.264	(2 3)	7.384	18.438	-1.005	(1 3)
4	2.053	13.174	15.540	-0.264	(2 3)	13.109	15.540	-1.005	(1 3)
5	3.053	23.704	7.770	-0.264	(2 3)	23.639	7.770	-1.005	(1 3)
6	3.553	26.336	3.885	-0.264	(2 3)	26.272	3.885	-1.005	(1 3)
7	4.053	27.214	0.000	-0.264	(2 3)	27.149	0.000	-1.005	(1 3)
JTAN	8.106	-30.445	-31.491	-0.264	(2 3)	-30.509	-31.491	-1.005	(1 3)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	32.284	-34.693	-2.402	(2 3)	32.363	-34.693	-3.426	(1 3)
1	0.300	23.139	-32.125	-2.402	(2 3)	23.218	-32.125	-3.426	(1 3)
2	0.625	14.025	-29.343	-2.402	(2 3)	14.104	-29.343	-3.426	(1 3)
3	2.053	-16.243	-17.120	-2.402	(2 3)	-16.164	-17.120	-3.426	(1 3)
4	2.553	-23.077	-12.840	-2.402	(2 3)	-22.998	-12.840	-3.426	(1 3)
5	3.053	-27.958	-8.560	-2.402	(2 3)	-27.879	-8.560	-3.426	(1 3)
6	3.553	-30.887	-4.280	-2.402	(2 3)	-30.808	-4.280	-3.426	(1 3)
7	4.053	-31.863	0.000	-2.402	(2 3)	-31.784	0.000	-3.426	(1 3)
JTAN	8.106	32.284	34.693	-2.402	(2 3)	32.363	34.693	-3.426	(1 3)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	30.509	-1.005	-28.452	(1 3)	30.509	-1.005	-28.452	(1 3)
1	0.300	30.262	-0.625	-28.902	(1 3)	30.262	-0.625	-28.902	(1 3)
2	0.700	30.134	0.007	-29.502	(1 3)	30.134	0.007	-29.502	(1 3)
3	0.800	30.143	0.187	-29.652	(1 3)	30.143	0.187	-29.652	(1 3)
4	1.060	30.257	0.698	-30.042	(1 3)	30.257	0.698	-30.042	(1 3)
5	1.500	30.779	1.702	-30.702	(1 3)	30.779	1.702	-30.702	(1 3)
6	1.800	31.405	2.486	-31.152	(1 3)	31.405	2.486	-31.152	(1 3)
JTAN	2.125	32.363	3.426	-31.640	(1 3)	32.363	3.426	-31.640	(1 3)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-30.445	0.264	-28.452	(2 3)	-30.509	1.005	-28.452	(1 3)
1	0.300	-30.398	0.036	-28.902	(2 3)	-30.262	0.625	-28.902	(1 3)
2	0.700	-30.457	-0.344	-29.502	(2 3)	-30.134	-0.007	-29.502	(1 3)
3	0.800	-30.143	-0.187	-29.652	(1 3)	-30.143	-0.187	-29.652	(1 3)
4	1.060	-30.654	-0.760	-30.042	(2 3)	-30.257	-0.698	-30.042	(1 3)
5	1.500	-30.779	-1.702	-30.702	(1 3)	-30.779	-1.702	-30.702	(1 3)
6	1.800	-31.405	-2.486	-31.152	(1 3)	-31.405	-2.486	-31.152	(1 3)
JTAN	2.125	-32.363	-3.426	-31.640	(1 3)	-32.363	-3.426	-31.640	(1 3)

COMBINE 3

	---L---	MOMENT MAXIMUM ----M---	----Q---	----N---	----CASE----------	MOMENT MINIMUM ----M---	----Q---	----N---	----CASE----------
= = MEMBER	1 (1 - 2) G = =								
ITAN	0.000	-14.127	13.172	-1.150	(2 4)	-14.191	13.172	-1.890	(1 4)
1	0.300	-10.322	12.197	-1.150	(2 4)	-10.386	12.197	-1.890	(1 4)
2	0.800	-4.629	10.572	-1.150	(2 4)	-4.694	10.572	-1.890	(1 4)
3	1.680	3.416	7.712	-1.150	(2 4)	3.352	7.712	-1.890	(1 4)
4	2.053	6.066	6.500	-1.150	(2 4)	6.002	6.500	-1.890	(1 4)
5	3.053	10.941	3.250	-1.150	(2 4)	10.877	3.250	-1.890	(1 4)
6	3.553	12.160	1.625	-1.150	(2 4)	12.096	1.625	-1.890	(1 4)
7	4.053	12.566	0.000	-1.150	(2 4)	12.502	0.000	-1.890	(1 4)
JTAN	8.106	-14.127	-13.172	-1.150	(2 4)	-14.191	-13.172	-1.890	(1 4)
= = MEMBER	2 (3 - 4) G = =								
ITAN	0.000	17.099	-16.374	-5.303	(1 4)	17.020	-16.374	-4.279	(2 4)
1	0.300	12.368	-15.162	-5.303	(1 4)	12.289	-15.162	-4.279	(2 4)
2	0.625	7.654	-13.849	-5.303	(1 4)	7.575	-13.849	-4.279	(2 4)
3	2.053	-8.003	-8.080	-5.303	(1 4)	-8.082	-8.080	-4.279	(2 4)
4	2.553	-11.538	-6.060	-5.303	(1 4)	-11.617	-6.060	-4.279	(2 4)
5	3.053	-14.063	-4.040	-5.303	(1 4)	-14.142	-4.040	-4.279	(2 4)
6	3.553	-15.578	-2.020	-5.303	(1 4)	-15.657	-2.020	-4.279	(2 4)
7	4.053	-16.083	0.000	-5.303	(1 4)	-16.162	0.000	-4.279	(2 4)
JTAN	8.106	17.099	16.374	-5.303	(1 4)	17.020	16.374	-4.279	(2 4)
= = MEMBER	3 (1 - 3) C = =								
ITAN	0.000	14.191	-1.890	-13.172	(1 4)	14.127	-1.150	-13.172	(2 4)
1	0.300	13.874	-0.532	-13.622	(2 4)	13.738	-1.121	-13.622	(1 4)
2	0.700	13.838	0.369	-14.222	(2 4)	13.515	0.031	-14.222	(1 4)
3	0.800	13.887	0.607	-14.372	(2 4)	13.534	0.342	-14.372	(1 4)
4	1.060	14.128	1.253	-14.762	(2 4)	13.732	1.191	-14.762	(1 4)
5	1.500	14.934	2.429	-15.422	(2 4)	14.596	2.766	-15.422	(1 4)
6	1.800	15.791	3.291	-15.872	(2 4)	15.600	3.940	-15.872	(1 4)
JTAN	2.125	17.099	5.303	-16.360	(1 4)	17.020	4.279	-16.360	(2 4)
= = MEMBER	4 (2 - 4) C = =								
ITAN	0.000	-14.127	1.150	-13.172	(2 4)	-14.191	1.890	-13.172	(1 4)
1	0.300	-13.738	1.121	-13.622	(1 4)	-13.874	0.532	-13.622	(2 4)
2	0.700	-13.515	-0.031	-14.222	(1 4)	-13.838	-0.369	-14.222	(2 4)
3	0.800	-13.534	-0.342	-14.372	(1 4)	-13.887	-0.607	-14.372	(2 4)
4	1.060	-13.732	-1.191	-14.762	(1 4)	-14.128	-1.253	-14.762	(2 4)
5	1.500	-14.596	-2.766	-15.422	(1 4)	-14.934	-2.429	-15.422	(2 4)
6	1.800	-15.600	-3.940	-15.872	(1 4)	-15.791	-3.231	-15.872	(2 4)
JTAN	2.125	-17.020	-4.279	-16.360	(2 4)	-17.099	-5.303	-16.360	(1 4)

COMBINE 3

	---L---	SHEAR MAXIMUM ---M---	---Q---	---N---	----CASE----	SHEAR MINIMUM ---M---	---Q---	---N---	----CASE----
= = MEMBER	1 (1 - 2) G = =								
ITAN	0.000	-14.191	13.172	-1.890	(1 4)	-14.191	13.172	-1.890	(1 4)
1	0.300	-10.386	12.197	-1.890	(1 4)	-10.386	12.197	-1.890	(1 4)
2	0.800	-4.694	10.572	-1.890	(1 4)	-4.694	10.572	-1.890	(1 4)
3	1.680	3.352	7.712	-1.890	(1 4)	3.352	7.712	-1.890	(1 4)
4	2.053	6.002	6.500	-1.890	(1 4)	6.002	6.500	-1.890	(1 4)
5	3.053	10.877	3.250	-1.890	(1 4)	10.877	3.250	-1.890	(1 4)
6	3.553	12.096	1.625	-1.890	(1 4)	12.096	1.625	-1.890	(1 4)
7	4.053	12.502	0.000	-1.890	(1 4)	12.502	0.000	-1.890	(1 4)
JTAN	8.106	-14.191	-13.172	-1.890	(1 4)	-14.191	-13.172	-1.890	(1 4)
= = MEMBER	2 (3 - 4) G = =								
ITAN	0.000	17.099	-16.374	-5.303	(1 4)	17.099	-16.374	-5.303	(1 4)
1	0.300	12.368	-15.162	-5.303	(1 4)	12.368	-15.162	-5.303	(1 4)
2	0.625	7.654	-13.849	-5.303	(1 4)	7.654	-13.849	-5.303	(1 4)
3	2.053	-8.003	-8.080	-5.303	(1 4)	-8.003	-8.080	-5.303	(1 4)
4	2.553	-11.538	-6.060	-5.303	(1 4)	-11.538	-6.060	-5.303	(1 4)
5	3.053	-14.063	-4.040	-5.303	(1 4)	-14.063	-4.040	-5.303	(1 4)
6	3.553	-15.578	-2.020	-5.303	(1 4)	-15.578	-2.020	-5.303	(1 4)
7	4.053	-16.083	0.000	-5.303	(1 4)	-16.083	0.000	-5.303	(1 4)
JTAN	8.106	17.099	16.374	-5.303	(1 4)	17.099	16.374	-5.303	(1 4)
= = MEMBER	3 (1 - 3) C = =								
ITAN	0.000	14.127	-1.150	-13.172	(2 4)	14.191	-1.890	-13.172	(1 4)
1	0.300	13.874	-0.532	-13.622	(2 4)	13.738	-1.121	-13.622	(1 4)
2	0.700	13.838	0.369	-14.222	(2 4)	13.515	0.031	-14.222	(1 4)
3	0.800	13.887	0.607	-14.372	(2 4)	13.534	0.342	-14.372	(1 4)
4	1.060	14.128	1.253	-14.762	(2 4)	13.732	1.191	-14.762	(1 4)
5	1.500	14.596	2.766	-15.422	(1 4)	14.934	2.429	-15.422	(2 4)
6	1.800	15.600	3.940	-15.872	(1 4)	15.791	3.291	-15.872	(2 4)
JTAN	2.125	17.099	5.303	-16.360	(1 4)	17.020	4.279	-16.360	(2 4)
= = MEMBER	4 (2 - 4) C = =								
ITAN	0.000	-14.191	1.890	-13.172	(1 4)	-14.127	1.150	-13.172	(2 4)
1	0.300	-13.738	1.121	-13.622	(1 4)	-13.874	0.532	-13.622	(2 4)
2	0.700	-13.515	-0.031	-14.222	(1 4)	-13.838	-0.369	-14.222	(2 4)
3	0.800	-13.534	-0.342	-14.372	(1 4)	-13.887	-0.637	-14.372	(2 4)
4	1.060	-13.732	-1.191	-14.762	(1 4)	-14.128	-1.253	-14.762	(2 4)
5	1.500	-14.934	-2.429	-15.422	(2 4)	-14.596	-2.766	-15.422	(1 4)
6	1.800	-15.791	-3.291	-15.872	(2 4)	-15.600	-3.940	-15.872	(1 4)
JTAN	2.125	-17.020	-4.279	-16.360	(2 4)	-17.099	-5.303	-16.360	(1 4)

COMBINE 3

	---L---	----M--- (AXIAL MAXIMUM)	----Q---	----N---	----CASE----	----M--- (AXIAL MINIMUM)	----Q---	----N---	----CASE----
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-14.127	13.172	-1.150	(2 4)	-14.191	13.172	-1.890	(1 4)
1	0.300	-10.322	12.197	-1.150	(2 4)	-10.386	12.197	-1.890	(1 4)
2	0.800	-4.629	10.572	-1.150	(2 4)	-4.694	10.572	-1.890	(1 4)
3	1.680	3.416	7.712	-1.150	(2 4)	3.352	7.712	-1.890	(1 4)
4	2.053	6.066	6.500	-1.150	(2 4)	6.002	6.500	-1.890	(1 4)
5	3.053	10.941	3.250	-1.150	(2 4)	10.877	3.250	-1.890	(1 4)
6	3.553	12.160	1.625	-1.150	(2 4)	12.096	1.625	-1.890	(1 4)
7	4.053	12.566	0.000	-1.150	(2 4)	12.502	0.000	-1.890	(1 4)
JTAN	8.106	-14.127	-13.172	-1.150	(2 4)	-14.191	-13.172	-1.890	(1 4)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	17.020	-16.374	-4.279	(2 4)	17.099	-16.374	-5.303	(1 4)
1	0.300	12.289	-15.162	-4.279	(2 4)	12.368	-15.162	-5.303	(1 4)
2	0.625	7.575	-13.849	-4.279	(2 4)	7.654	-13.849	-5.303	(1 4)
3	2.053	-8.082	-8.080	-4.279	(2 4)	-8.003	-8.080	-5.303	(1 4)
4	2.553	-11.617	-6.060	-4.279	(2 4)	-11.538	-6.060	-5.303	(1 4)
5	3.053	-14.142	-4.040	-4.279	(2 4)	-14.063	-4.040	-5.303	(1 4)
6	3.553	-15.657	-2.020	-4.279	(2 4)	-15.578	-2.020	-5.303	(1 4)
7	4.053	-16.162	0.000	-4.279	(2 4)	-16.083	0.000	-5.303	(1 4)
JTAN	8.106	17.020	16.374	-4.279	(2 4)	17.099	16.374	-5.303	(1 4)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	14.191	-1.890	-13.172	(1 4)	14.191	-1.890	-13.172	(1 4)
1	0.300	13.738	-1.121	-13.622	(1 4)	13.738	-1.121	-13.622	(1 4)
2	0.700	13.515	0.031	-14.222	(1 4)	13.515	0.031	-14.222	(1 4)
3	0.800	13.534	0.342	-14.372	(1 4)	13.534	0.342	-14.372	(1 4)
4	1.060	13.732	1.191	-14.762	(1 4)	13.732	1.191	-14.762	(1 4)
5	1.500	14.596	2.766	-15.422	(1 4)	14.596	2.766	-15.422	(1 4)
6	1.800	15.600	3.940	-15.872	(1 4)	15.600	3.940	-15.872	(1 4)
JTAN	2.125	17.099	5.303	-16.360	(1 4)	17.099	5.303	-16.360	(1 4)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-14.127	1.150	-13.172	(2 4)	-14.191	1.890	-13.172	(1 4)
1	0.300	-13.874	0.532	-13.622	(2 4)	-13.738	1.121	-13.622	(1 4)
2	0.700	-13.838	-0.369	-14.222	(2 4)	-13.515	-0.031	-14.222	(1 4)
3	0.800	-13.534	-0.342	-14.372	(1 4)	-13.534	-0.342	-14.372	(1 4)
4	1.060	-14.128	-1.253	-14.762	(2 4)	-13.732	-1.191	-14.762	(1 4)
5	1.500	-14.596	-2.766	-15.422	(1 4)	-14.596	-2.766	-15.422	(1 4)
6	1.800	-15.600	-3.940	-15.872	(1 4)	-15.600	-3.940	-15.872	(1 4)
JTAN	2.125	-17.099	-5.303	-16.360	(1 4)	-17.099	-5.303	-16.360	(1 4)

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COMBINE 4

	---L---	---M--- (MOMENT MAXIMUM)	---Q---	---N---	---CASE---	---M--- (MOMENT MINIMUM)	---Q---	---N---	---CASE---
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-30.543	31.491	-1.633	(2 3 4)	-30.607	31.491	-2.373	(1 3 4)
1	0.300	-22.324	29.160	-1.633	(2 3 4)	-22.388	29.160	-2.373	(1 3 4)
2	0.800	-10.028	25.275	-1.633	(2 3 4)	-10.092	25.275	-2.373	(1 3 4)
3	1.680	7.349	18.438	-1.633	(2 3 4)	7.285	18.438	-2.373	(1 3 4)
4	2.053	13.075	15.540	-1.633	(2 3 4)	13.011	15.540	-2.373	(1 3 4)
5	3.053	23.605	7.770	-1.633	(2 3 4)	23.541	7.770	-2.373	(1 3 4)
6	3.553	26.237	3.885	-1.633	(2 3 4)	26.173	3.885	-2.373	(1 3 4)
7	4.053	27.115	0.000	-1.633	(2 3 4)	27.051	0.000	-2.373	(1 3 4)
JTAN	8.106	-30.543	-31.491	-1.633	(2 3 4)	-30.607	-31.491	-2.373	(1 3 4)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	32.489	-34.693	-4.820	(1 3 4)	32.410	-34.693	-3.797	(2 3 4)
1	0.300	23.344	-32.125	-4.820	(1 3 4)	23.265	-32.125	-3.797	(2 3 4)
2	0.625	14.231	-29.343	-4.820	(1 3 4)	14.151	-29.343	-3.797	(2 3 4)
3	2.053	-16.038	-17.120	-4.820	(1 3 4)	-16.117	-17.120	-3.797	(2 3 4)
4	2.553	-22.872	-12.840	-4.820	(1 3 4)	-22.951	-12.840	-3.797	(2 3 4)
5	3.053	-27.753	-8.560	-4.820	(1 3 4)	-27.832	-8.560	-3.797	(2 3 4)
6	3.553	-30.682	-4.280	-4.820	(1 3 4)	-30.761	-4.280	-3.797	(2 3 4)
7	4.053	-31.658	0.000	-4.820	(1 3 4)	-31.737	0.000	-3.797	(2 3 4)
JTAN	8.106	32.489	34.693	-4.820	(1 3 4)	32.410	34.693	-3.797	(2 3 4)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	30.607	-2.373	-28.452	(1 3 4)	30.543	-1.633	-28.452	(2 3 4)
1	0.300	30.145	-1.014	-28.902	(2 3 4)	30.009	-1.604	-28.902	(1 3 4)
2	0.700	29.916	-0.114	-29.502	(2 3 4)	29.593	-0.452	-29.502	(1 3 4)
3	0.800	29.917	0.124	-29.652	(2 3 4)	29.563	-0.141	-29.652	(1 3 4)
4	1.060	30.032	0.770	-30.042	(2 3 4)	29.636	0.708	-30.042	(1 3 4)
5	1.500	30.626	1.946	-30.702	(2 3 4)	30.287	2.283	-30.702	(1 3 4)
6	1.800	31.338	2.808	-31.152	(2 3 4)	31.146	3.457	-31.152	(1 3 4)
JTAN	2.125	32.489	4.820	-31.640	(1 3 4)	32.410	3.797	-31.640	(2 3 4)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-30.543	1.633	-28.452	(2 3 4)	-30.607	2.373	-28.452	(1 3 4)
1	0.300	-30.009	1.604	-28.902	(1 3 4)	-30.145	1.014	-28.902	(2 3 4)
2	0.700	-29.593	0.452	-29.502	(1 3 4)	-29.916	0.114	-29.502	(2 3 4)
3	0.800	-29.563	0.141	-29.652	(1 3 4)	-29.917	-0.124	-29.652	(2 3 4)
4	1.060	-29.636	-0.708	-30.042	(1 3 4)	-30.032	-0.770	-30.042	(2 3 4)
5	1.500	-30.287	-2.283	-30.702	(1 3 4)	-30.626	-1.946	-30.702	(2 3 4)
6	1.800	-31.146	-3.457	-31.152	(1 3 4)	-31.338	-2.808	-31.152	(2 3 4)
JTAN	2.125	-32.410	-3.797	-31.640	(2 3 4)	-32.489	-4.820	-31.640	(1 3 4)

COMBINE 4

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	----CASE----------	SHEAR MINIMUM ----M---	----Q---	----N---	----CASE----------
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-30.607	31.491	-2.373	(1 3 4)	-30.607	31.491	-2.373	(1 3 4)
1	0.300	-22.388	29.160	-2.373	(1 3 4)	-22.388	29.160	-2.373	(1 3 4)
2	0.800	-10.092	25.275	-2.373	(1 3 4)	-10.092	25.275	-2.373	(1 3 4)
3	1.680	7.285	18.438	-2.373	(1 3 4)	7.285	18.438	-2.373	(1 3 4)
4	2.053	13.011	15.540	-2.373	(1 3 4)	13.011	15.540	-2.373	(1 3 4)
5	3.053	23.541	7.770	-2.373	(1 3 4)	23.541	7.770	-2.373	(1 3 4)
6	3.553	26.173	3.885	-2.373	(1 3 4)	26.173	3.885	-2.373	(1 3 4)
7	4.053	27.051	0.000	-2.373	(1 3 4)	27.051	0.000	-2.373	(1 3 4)
JTAN	8.106	-30.607	-31.491	-2.373	(1 3 4)	-30.607	-31.491	-2.373	(1 3 4)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	32.489	-34.693	-4.820	(1 3 4)	32.489	-34.693	-4.820	(1 3 4)
1	0.300	23.344	-32.125	-4.820	(1 3 4)	23.344	-32.125	-4.820	(1 3 4)
2	0.625	14.231	-29.343	-4.820	(1 3 4)	14.231	-29.343	-4.820	(1 3 4)
3	2.053	-16.038	-17.120	-4.820	(1 3 4)	-16.038	-17.120	-4.820	(1 3 4)
4	2.553	-22.872	-12.840	-4.820	(1 3 4)	-22.872	-12.840	-4.820	(1 3 4)
5	3.053	-27.753	-8.560	-4.820	(1 3 4)	-27.753	-8.560	-4.820	(1 3 4)
6	3.553	-30.682	-4.280	-4.820	(1 3 4)	-30.682	-4.280	-4.820	(1 3 4)
7	4.053	-31.658	0.000	-4.820	(1 3 4)	-31.658	0.000	-4.820	(1 3 4)
JTAN	8.106	32.489	34.693	-4.820	(1 3 4)	32.489	34.693	-4.820	(1 3 4)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	30.543	-1.633	-28.452	(2 3 4)	30.607	-2.373	-28.452	(1 3 4)
1	0.300	30.145	-1.014	-28.902	(2 3 4)	30.009	-1.604	-28.902	(1 3 4)
2	0.700	29.916	-0.114	-29.502	(2 3 4)	29.593	-0.452	-29.502	(1 3 4)
3	0.800	29.917	0.124	-29.652	(2 3 4)	29.563	-0.141	-29.652	(1 3 4)
4	1.060	30.032	0.770	-30.042	(2 3 4)	29.636	0.708	-30.042	(1 3 4)
5	1.500	30.287	2.283	-30.702	(1 3 4)	30.626	1.946	-30.702	(2 3 4)
6	1.800	31.146	3.457	-31.152	(1 3 4)	31.338	2.808	-31.152	(2 3 4)
JTAN	2.125	32.489	4.820	-31.640	(1 3 4)	32.410	3.797	-31.640	(2 3 4)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-30.607	2.373	-28.452	(1 3 4)	-30.543	1.633	-28.452	(2 3 4)
1	0.300	-30.009	1.604	-28.902	(1 3 4)	-30.145	1.014	-28.902	(2 3 4)
2	0.700	-29.593	0.452	-29.502	(1 3 4)	-29.916	0.114	-29.502	(2 3 4)
3	0.800	-29.563	0.141	-29.652	(1 3 4)	-29.917	-0.124	-29.652	(2 3 4)
4	1.060	-29.636	-0.708	-30.042	(1 3 4)	-30.032	-0.770	-30.042	(2 3 4)
5	1.500	-30.626	-1.946	-30.702	(2 3 4)	-30.287	-2.283	-30.702	(1 3 4)
6	1.800	-31.338	-2.808	-31.152	(2 3 4)	-31.146	-3.457	-31.152	(1 3 4)
JTAN	2.125	-32.410	-3.797	-31.640	(2 3 4)	-32.489	-4.820	-31.640	(1 3 4)

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COMBINE 4

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-30.543	31.491	-1.633	(2 3 4)	-30.607	31.491	-2.373	(1 3 4)
1	0.300	-22.324	29.160	-1.633	(2 3 4)	-22.388	29.160	-2.373	(1 3 4)
2	0.800	-10.028	25.275	-1.633	(2 3 4)	-10.092	25.275	-2.373	(1 3 4)
3	1.680	7.349	18.438	-1.633	(2 3 4)	7.285	18.438	-2.373	(1 3 4)
4	2.053	13.075	15.540	-1.633	(2 3 4)	13.011	15.540	-2.373	(1 3 4)
5	3.053	23.605	7.770	-1.633	(2 3 4)	23.541	7.770	-2.373	(1 3 4)
6	3.553	26.237	3.885	-1.633	(2 3 4)	26.173	3.885	-2.373	(1 3 4)
7	4.053	27.115	0.000	-1.633	(2 3 4)	27.051	0.000	-2.373	(1 3 4)
JTAN	8.106	-30.543	-31.491	-1.633	(2 3 4)	-30.607	-31.491	-2.373	(1 3 4)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	32.410	-34.693	-3.797	(2 3 4)	32.489	-34.693	-4.820	(1 3 4)
1	0.300	23.265	-32.125	-3.797	(2 3 4)	23.344	-32.125	-4.820	(1 3 4)
2	0.625	14.151	-29.343	-3.797	(2 3 4)	14.231	-29.343	-4.820	(1 3 4)
3	2.053	-16.117	-17.120	-3.797	(2 3 4)	-16.038	-17.120	-4.820	(1 3 4)
4	2.553	-22.951	-12.840	-3.797	(2 3 4)	-22.872	-12.840	-4.820	(1 3 4)
5	3.053	-27.832	-8.560	-3.797	(2 3 4)	-27.753	-8.560	-4.820	(1 3 4)
6	3.553	-30.761	-4.280	-3.797	(2 3 4)	-30.682	-4.280	-4.820	(1 3 4)
7	4.053	-31.737	0.000	-3.797	(2 3 4)	-31.658	0.000	-4.820	(1 3 4)
JTAN	8.106	32.410	34.693	-3.797	(2 3 4)	32.489	34.693	-4.820	(1 3 4)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	30.607	-2.373	-28.452	(1 3 4)	30.607	-2.373	-28.452	(1 3 4)
1	0.300	30.009	-1.604	-28.902	(1 3 4)	30.009	-1.604	-28.902	(1 3 4)
2	0.700	29.593	-0.452	-29.502	(1 3 4)	29.593	-0.452	-29.502	(1 3 4)
3	0.800	29.563	-0.141	-29.652	(1 3 4)	29.563	-0.141	-29.652	(1 3 4)
4	1.060	29.636	0.708	-30.042	(1 3 4)	29.636	0.708	-30.042	(1 3 4)
5	1.500	30.287	2.283	-30.702	(1 3 4)	30.287	2.283	-30.702	(1 3 4)
6	1.800	31.146	3.457	-31.152	(1 3 4)	31.146	3.457	-31.152	(1 3 4)
JTAN	2.125	32.489	4.820	-31.640	(1 3 4)	32.489	4.820	-31.640	(1 3 4)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-30.543	1.633	-28.452	(2 3 4)	-30.607	2.373	-28.452	(1 3 4)
1	0.300	-30.145	1.014	-28.902	(2 3 4)	-30.009	1.604	-28.902	(1 3 4)
2	0.700	-29.916	0.114	-29.502	(2 3 4)	-29.593	0.452	-29.502	(1 3 4)
3	0.800	-29.563	0.141	-29.652	(1 3 4)	-29.563	0.141	-29.652	(1 3 4)
4	1.060	-30.032	-0.770	-30.042	(2 3 4)	-29.636	-0.708	-30.042	(1 3 4)
5	1.500	-30.287	-2.283	-30.702	(1 3 4)	-30.287	-2.283	-30.702	(1 3 4)
6	1.800	-31.146	-3.457	-31.152	(1 3 4)	-31.146	-3.457	-31.152	(1 3 4)
JTAN	2.125	-32.489	-4.820	-31.640	(1 3 4)	-32.489	-4.820	-31.640	(1 3 4)

PICK UP 1

	---L---	MOMENT MAXIMUM ----M---	----Q---	----N---	-COM-	----CASE-----	MOMENT MINIMUM ----M---	----Q---	----N---	-COM-	----CASE-----
= = MEMBER	1 (1 - 2) G = =										
ITAN	0.000	-14.028	13.172	0.218	(1;	2)	-30.607	31.491	-2.373	(4;	1 3 4)
1	0.300	-10.223	12.197	0.218	(1;	2)	-22.388	29.160	-2.373	(4;	1 3 4)
2	0.800	-4.531	10.572	0.218	(1;	2)	-10.092	25.275	-2.373	(4;	1 3 4)
3	1.680	7.448	18.438	-0.264	(2;	2 3)	3.352	7.712	-1.890	(3;	1 4)
4	2.053	13.174	15.540	-0.264	(2;	2 3)	6.002	6.500	-1.890	(3;	1 4)
5	3.053	23.704	7.770	-0.264	(2;	2 3)	10.377	3.250	-1.890	(3;	1 4)
6	3.553	26.336	3.885	-0.264	(2;	2 3)	12.096	1.625	-1.890	(3;	1 4)
7	4.053	27.214	0.000	-0.264	(2;	2 3)	12.502	0.000	-1.890	(3;	1 4)
JTAN	8.106	-14.028	-13.172	0.218	(1;	2)	-30.607	-31.491	-2.373	(4;	1 3 4)
= = MEMBER	2 (3 - 4) G = =										
ITAN	0.000	32.489	-34.693	-4.820	(4;	1 3 4)	16.894	-16.374	-2.885	(1;	2)
1	0.300	23.344	-32.125	-4.820	(4;	1 3 4)	12.163	-15.162	-2.885	(1;	2)
2	0.625	14.231	-29.343	-4.820	(4;	1 3 4)	7.449	-13.849	-2.885	(1;	2)
3	2.053	-8.603	-8.080	-5.303	(3;	1 4)	-16.243	-17.120	-2.402	(2;	2 3)
4	2.553	-11.538	-6.060	-5.303	(3;	1 4)	-23.077	-12.840	-2.402	(2;	2 3)
5	3.053	-14.063	-4.040	-5.303	(3;	1 4)	-27.958	-8.560	-2.402	(2;	2 3)
6	3.553	-15.578	-2.020	-5.303	(3;	1 4)	-30.887	-4.280	-2.402	(2;	2 3)
7	4.053	-16.083	0.000	-5.303	(3;	1 4)	-31.863	0.000	-2.402	(2;	2 3)
JTAN	8.106	32.489	34.693	-4.820	(4;	1 3 4)	16.894	16.374	-2.885	(1;	2)
= = MEMBER	3 (1 - 3) C = =										
ITAN	0.000	30.607	-2.373	-28.452	(4;	1 3 4)	14.028	0.218	-13.172	(1;	2)
1	0.300	30.398	-0.036	-28.902	(2;	2 3)	13.738	-1.121	-13.622	(3;	1 4)
2	0.700	30.457	0.344	-29.502	(2;	2 3)	13.515	0.031	-14.222	(3;	1 4)
3	0.800	30.497	0.453	-29.652	(2;	2 3)	13.534	0.342	-14.372	(3;	1 4)
4	1.060	30.654	0.760	-30.042	(2;	2 3)	13.732	1.191	-14.762	(3;	1 4)
5	1.500	31.117	1.364	-30.702	(2;	2 3)	14.596	2.766	-15.422	(3;	1 4)
6	1.800	31.596	1.836	-31.152	(2;	2 3)	15.600	3.940	-15.872	(3;	1 4)
JTAN	2.125	32.489	4.820	-31.640	(4;	1 3 4)	16.894	2.885	-16.360	(1;	2)
= = MEMBER	4 (2 - 4) C = =										
ITAN	0.000	-14.028	-0.218	-13.172	(1;	2)	-30.607	2.373	-28.452	(4;	1 3 4)
1	0.300	-13.738	1.121	-13.622	(3;	1 4)	-30.398	0.036	-28.902	(2;	2 3)
2	0.700	-13.515	-0.031	-14.222	(3;	1 4)	-30.457	-0.344	-29.502	(2;	2 3)
3	0.800	-13.534	-0.342	-14.372	(3;	1 4)	-30.497	-0.453	-29.652	(2;	2 3)
4	1.060	-13.732	-1.191	-14.762	(3;	1 4)	-30.654	-0.760	-30.042	(2;	2 3)
5	1.500	-14.596	-2.766	-15.422	(3;	1 4)	-31.117	-1.364	-30.702	(2;	2 3)
6	1.800	-15.600	-3.940	-15.872	(3;	1 4)	-31.596	-1.836	-31.152	(2;	2 3)
JTAN	2.125	-16.894	-2.885	-16.360	(1;	2)	-32.489	-4.820	-31.640	(4;	1 3 4)

PICK UP 1

= = MEMBER 1 (1 - 2) G = =

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	-COM- ----CASE-----	SHEAR MINIMUM ----M---	----Q---	----N---	-COM- ----CASE-----
ITAN	0.000	-30.509	31.491	-1.005	(2; 1 3)	-14.093	13.172	-0.522	(1; 1)
1	0.300	-22.289	29.160	-1.005	(2; 1 3)	-10.287	12.197	-0.522	(1; 1)
2	0.800	-9.993	25.275	-1.005	(2; 1 3)	-4.595	10.572	-0.522	(1; 1)
3	1.680	7.384	18.438	-1.005	(2; 1 3)	3.450	7.712	-0.522	(1; 1)
4	2.053	13.109	15.540	-1.005	(2; 1 3)	6.101	6.500	-0.522	(1; 1)
5	3.053	23.639	7.770	-1.005	(2; 1 3)	10.976	3.250	-0.522	(1; 1)
6	3.553	26.272	3.885	-1.005	(2; 1 3)	12.195	1.625	-0.522	(1; 1)
7	4.053	12.502	0.000	-1.890	(3; 1 4)	27.149	0.000	-1.005	(2; 1 3)
JTAN	8.106	-14.093	-13.172	-0.522	(1; 1)	-30.509	-31.491	-1.005	(2; 1 3)

= = MEMBER 2 (3 - 4) G = =

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	-COM- ----CASE-----	SHEAR MINIMUM ----M---	----Q---	----N---	-COM- ----CASE-----
ITAN	0.000	16.973	-16.374	-3.909	(1; 1)	32.363	-34.693	-3.426	(2; 1 3)
1	0.300	12.242	-15.162	-3.909	(1; 1)	23.218	-32.125	-3.426	(2; 1 3)
2	0.625	7.528	-13.849	-3.909	(1; 1)	14.104	-29.343	-3.426	(2; 1 3)
3	2.053	-8.129	-8.080	-3.909	(1; 1)	-16.164	-17.120	-3.426	(2; 1 3)
4	2.553	-11.664	-6.060	-3.909	(1; 1)	-22.998	-12.840	-3.426	(2; 1 3)
5	3.053	-14.189	-4.040	-3.909	(1; 1)	-27.879	-8.560	-3.426	(2; 1 3)
6	3.553	-15.704	-2.020	-3.909	(1; 1)	-30.808	-4.280	-3.426	(2; 1 3)
7	4.053	-31.658	0.000	-4.820	(4; 1 3 4)	-16.209	0.000	-3.909	(1; 1)
JTAN	8.106	32.363	34.693	-3.426	(2; 1 3)	16.973	16.374	-3.909	(1; 1)

= = MEMBER 3 (1 - 3) C = =

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	-COM- ----CASE-----	SHEAR MINIMUM ----M---	----Q---	----N---	-COM- ----CASE-----
ITAN	0.000	14.028	0.218	-13.172	(1; 2)	30.607	-2.373	-28.452	(4; 1 3 4)
1	0.300	14.127	0.447	-13.622	(1; 2)	30.009	-1.604	-28.902	(4; 1 3 4)
2	0.700	14.379	0.827	-14.222	(1; 2)	29.593	-0.452	-29.502	(4; 1 3 4)
3	0.800	14.467	0.936	-14.372	(1; 2)	29.563	-0.141	-29.652	(4; 1 3 4)
4	1.060	14.128	1.253	-14.762	(3; 2 4)	30.257	0.698	-30.042	(2; 1 3)
5	1.500	14.596	2.766	-15.422	(3; 1 4)	31.117	1.364	-30.702	(2; 2 3)
6	1.800	15.600	3.940	-15.872	(3; 1 4)	31.596	1.836	-31.152	(2; 2 3)
JTAN	2.125	17.099	5.303	-16.360	(3; 1 4)	32.294	2.402	-31.640	(2; 2 3)

= = MEMBER 4 (2 - 4) C = =

	---L---	SHEAR MAXIMUM ----M---	----Q---	----N---	-COM- ----CASE-----	SHEAR MINIMUM ----M---	----Q---	----N---	-COM- ----CASE-----
ITAN	0.000	-30.607	2.373	-28.452	(4; 1 3 4)	-14.028	-0.218	-13.172	(1; 2)
1	0.300	-30.009	1.604	-28.902	(4; 1 3 4)	-14.127	-0.447	-13.622	(1; 2)
2	0.700	-29.593	0.452	-29.502	(4; 1 3 4)	-14.379	-0.827	-14.222	(1; 2)
3	0.800	-29.563	0.141	-29.652	(4; 1 3 4)	-14.467	-0.936	-14.372	(1; 2)
4	1.060	-30.257	-0.698	-30.042	(2; 1 3)	-14.128	-1.253	-14.762	(3; 2 4)
5	1.500	-31.117	-1.364	-30.702	(2; 2 3)	-14.596	-2.766	-15.422	(3; 1 4)
6	1.800	-31.596	-1.836	-31.152	(2; 2 3)	-15.600	-3.940	-15.872	(3; 1 4)
JTAN	2.125	-32.284	-2.402	-31.640	(2; 2 3)	-17.099	-5.303	-16.360	(3; 1 4)

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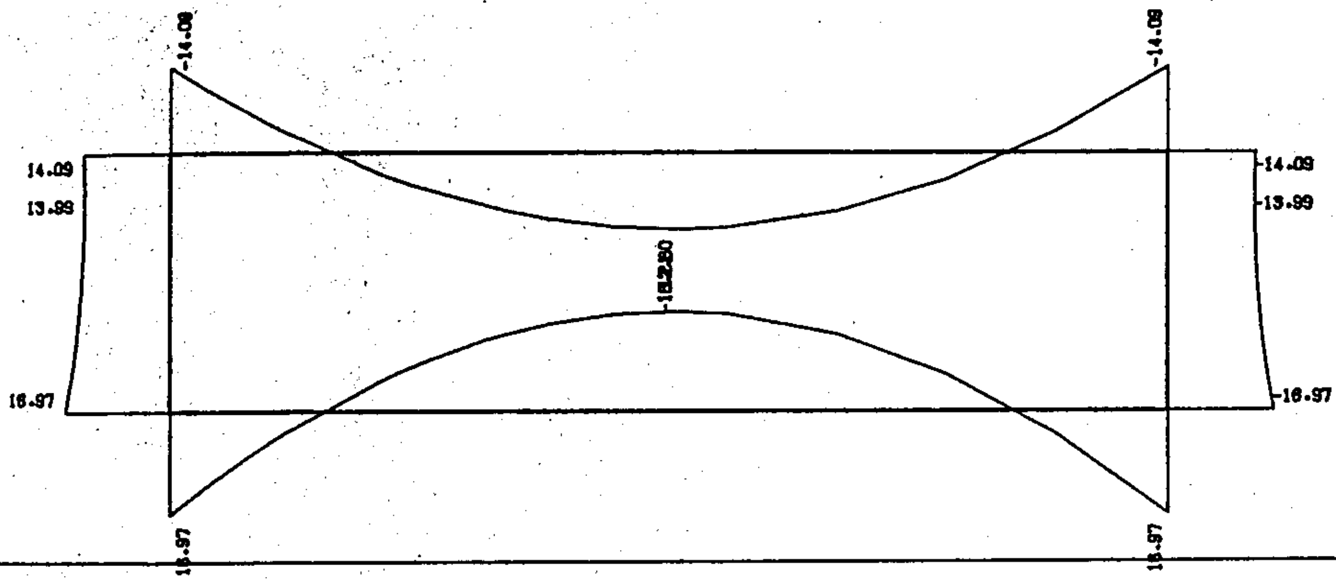
PICK UP 1

	---L---	----M--- (AXIAL MAXIMUM)	----Q---	----N---	-COM- ----CASE-----	----M--- (AXIAL MINIMUM)	----Q---	----N---	-COM- ----CASE-----
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-14.028	13.172	0.218	(1; 2)	-30.607	31.491	-2.373	(4; 1 3 4)
1	0.300	-10.223	12.197	0.218	(1; 2)	-22.388	29.160	-2.373	(4; 1 3 4)
2	0.800	-4.531	10.572	0.218	(1; 2)	-10.092	25.275	-2.373	(4; 1 3 4)
3	1.680	3.515	7.712	0.218	(1; 2)	7.285	18.438	-2.373	(4; 1 3 4)
4	2.053	6.165	6.500	0.218	(1; 2)	13.011	15.540	-2.373	(4; 1 3 4)
5	3.053	11.040	3.250	0.218	(1; 2)	23.541	7.770	-2.373	(4; 1 3 4)
6	3.553	12.259	1.625	0.218	(1; 2)	26.173	3.885	-2.373	(4; 1 3 4)
7	4.053	12.665	0.000	0.218	(1; 2)	27.051	0.000	-2.373	(4; 1 3 4)
JTAN	8.106	-14.028	-13.172	0.218	(1; 2)	-30.607	-31.491	-2.373	(4; 1 3 4)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	32.284	-34.693	-2.402	(2; 2 3)	17.099	-16.374	-5.303	(3; 1 4)
1	0.300	23.139	-32.125	-2.402	(2; 2 3)	12.368	-15.162	-5.303	(3; 1 4)
2	0.625	14.025	-29.343	-2.402	(2; 2 3)	7.654	-13.849	-5.303	(3; 1 4)
3	2.053	-16.243	-17.120	-2.402	(2; 2 3)	-8.003	-8.080	-5.303	(3; 1 4)
4	2.553	-23.077	-12.840	-2.402	(2; 2 3)	-11.538	-6.060	-5.303	(3; 1 4)
5	3.053	-27.958	-8.560	-2.402	(2; 2 3)	-14.063	-4.040	-5.303	(3; 1 4)
6	3.553	-30.887	-4.280	-2.402	(2; 2 3)	-15.578	-2.020	-5.303	(3; 1 4)
7	4.053	-31.863	0.000	-2.402	(2; 2 3)	-16.083	0.000	-5.303	(3; 1 4)
JTAN	8.106	32.284	34.693	-2.402	(2; 2 3)	17.099	16.374	-5.303	(3; 1 4)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	14.093	-0.522	-13.172	(1; 1)	30.509	-1.005	-28.452	(2; 1 3)
1	0.300	13.991	-0.142	-13.622	(1; 1)	30.262	-0.625	-28.902	(2; 1 3)
2	0.700	14.056	0.490	-14.222	(1; 1)	30.134	0.007	-29.502	(2; 1 3)
3	0.800	14.114	0.670	-14.372	(1; 1)	30.143	0.187	-29.652	(2; 1 3)
4	1.060	14.353	1.181	-14.762	(1; 1)	30.257	0.698	-30.042	(2; 1 3)
5	1.500	15.087	2.184	-15.422	(1; 1)	30.779	1.702	-30.702	(2; 1 3)
6	1.800	15.858	2.968	-15.872	(1; 1)	31.405	2.486	-31.152	(2; 1 3)
JTAN	2.125	16.973	3.909	-16.360	(1; 1)	32.363	3.426	-31.640	(2; 1 3)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-14.028	-0.218	-13.172	(1; 2)	-30.509	1.005	-28.452	(2; 1 3)
1	0.300	-14.127	-0.447	-13.622	(1; 2)	-30.262	0.625	-28.902	(2; 1 3)
2	0.700	-14.379	-0.827	-14.222	(1; 2)	-30.134	-0.007	-29.502	(2; 1 3)
3	0.800	-14.114	-0.670	-14.372	(1; 1)	-30.143	-0.187	-29.652	(2; 1 3)
4	1.060	-14.750	-1.243	-14.762	(1; 2)	-30.257	-0.698	-30.042	(2; 1 3)
5	1.500	-15.087	-2.184	-15.422	(1; 1)	-30.779	-1.702	-30.702	(2; 1 3)
6	1.800	-15.858	-2.968	-15.872	(1; 1)	-31.405	-2.486	-31.152	(2; 1 3)
JTAN	2.125	-16.973	-3.909	-16.360	(1; 1)	-32.363	-3.426	-31.640	(2; 1 3)

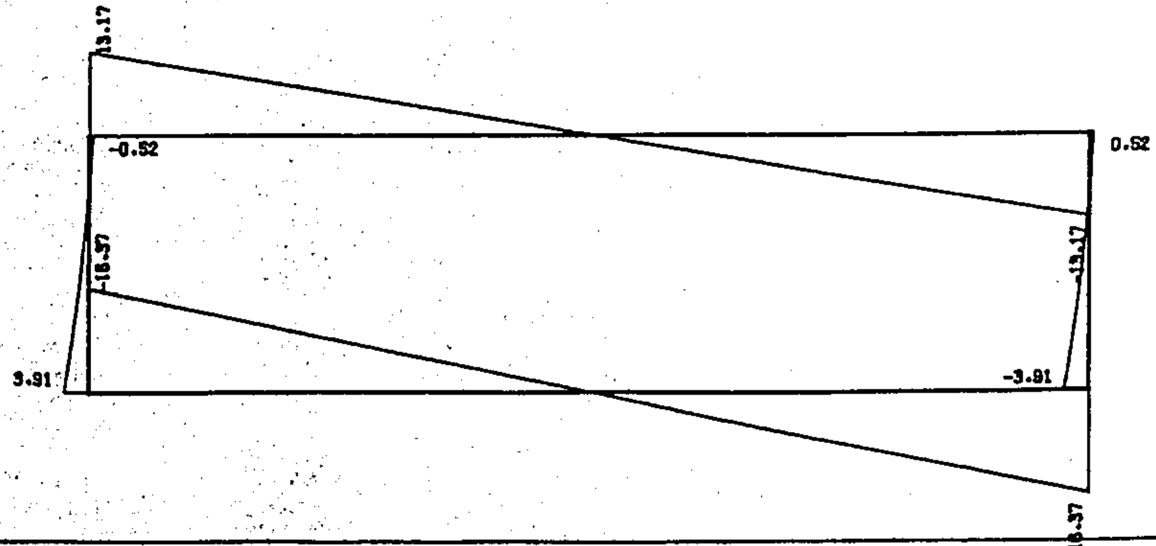
C04

CASE 1 (SHI+DO (0.5))

BENDING MOMENT



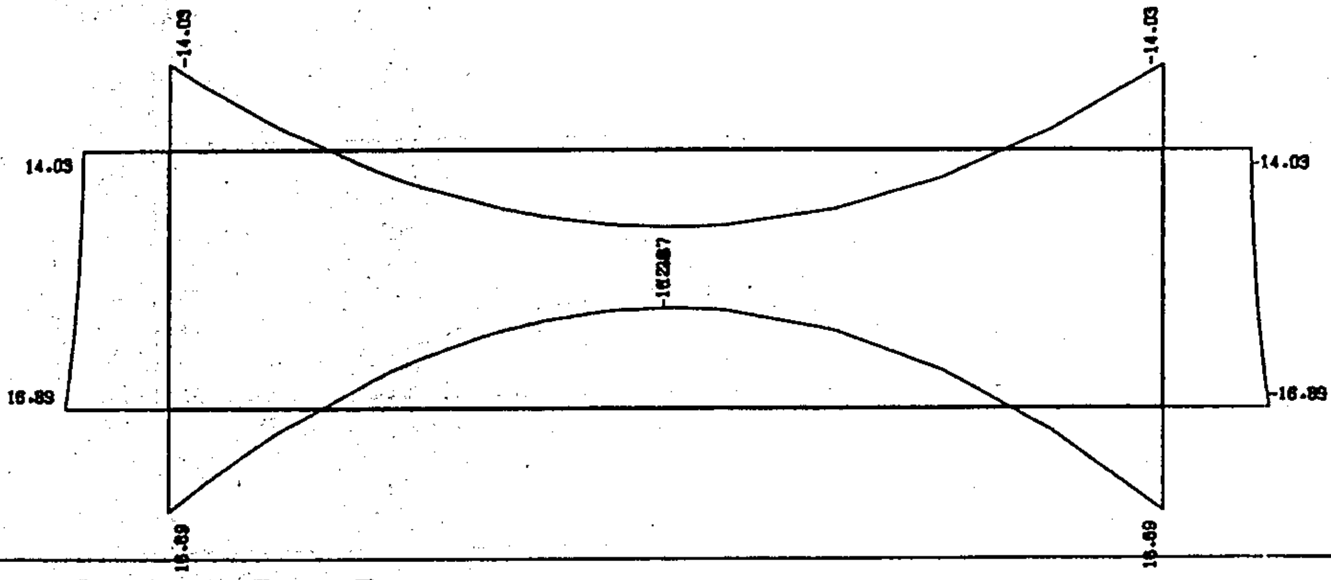
SHEARING FORCE



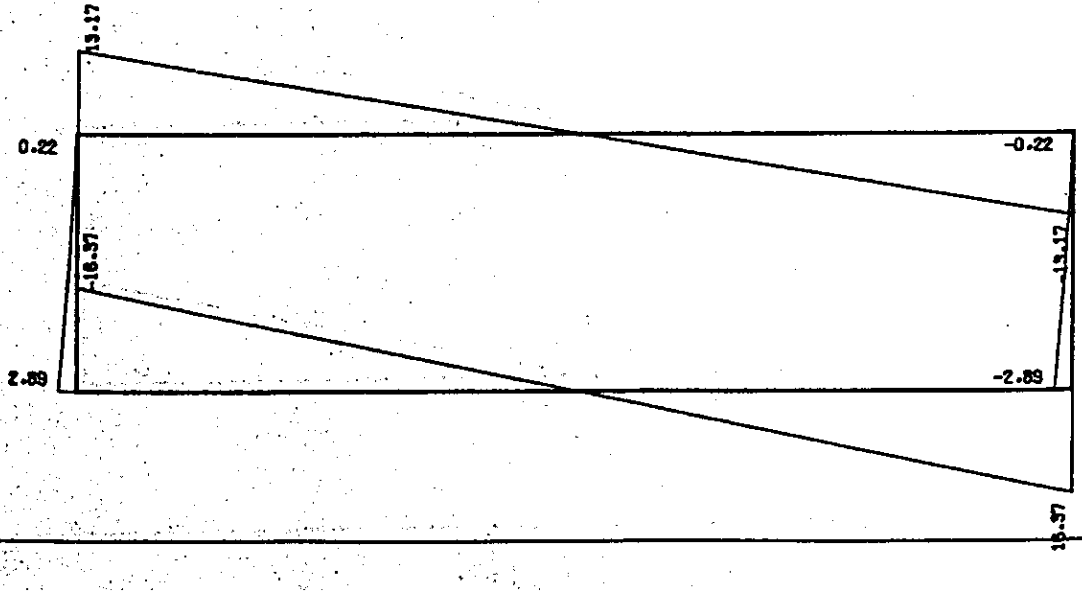
CO4

CASE 2 (SHI+DO (0.3))

BENDING MOMENT



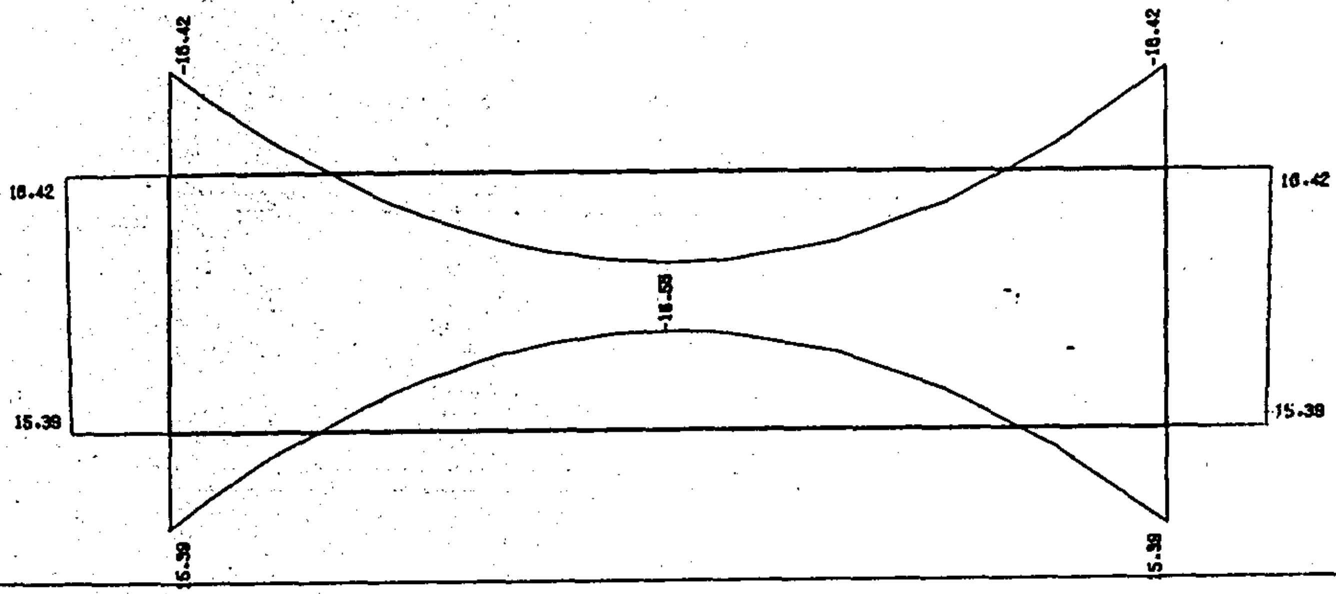
SHEARING FORCE



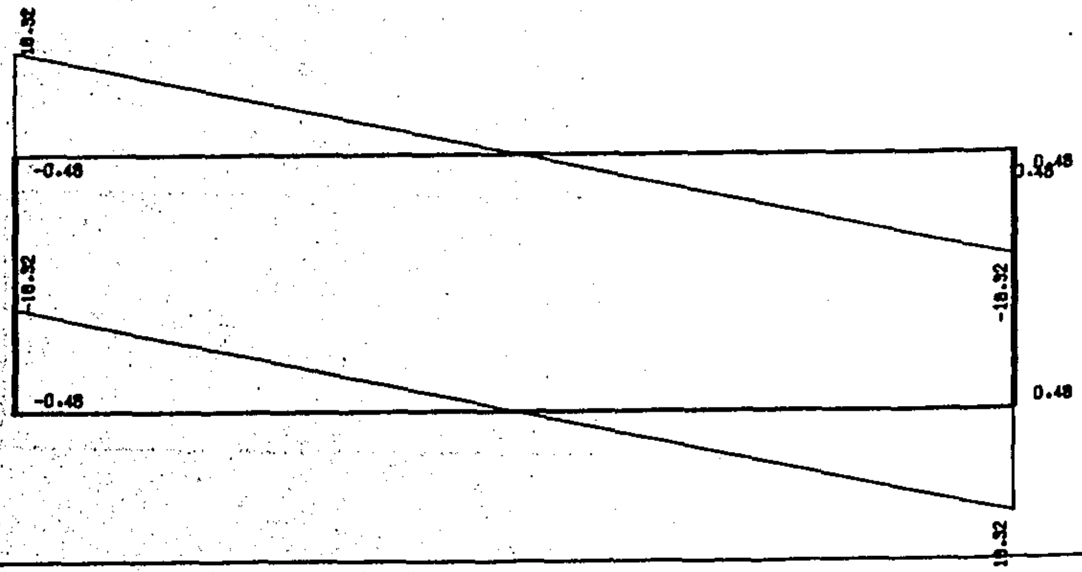
C04

CASE 3 (KATSU+SYOU)

BENDING MOMENT



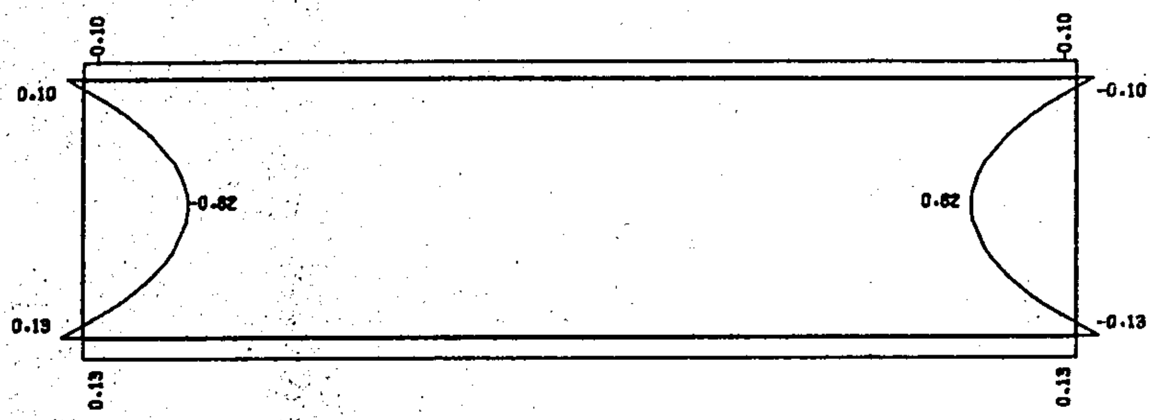
SHEARING FORCE



C04

CASE 4 (KATSUDO)

BENDING MOMENT



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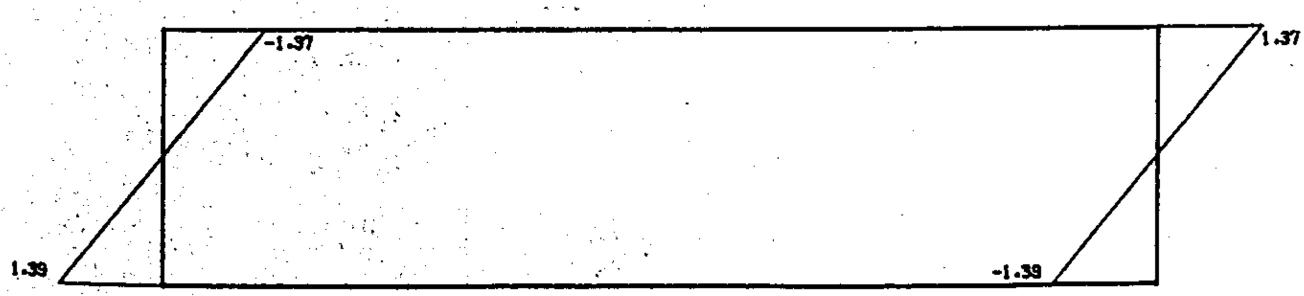
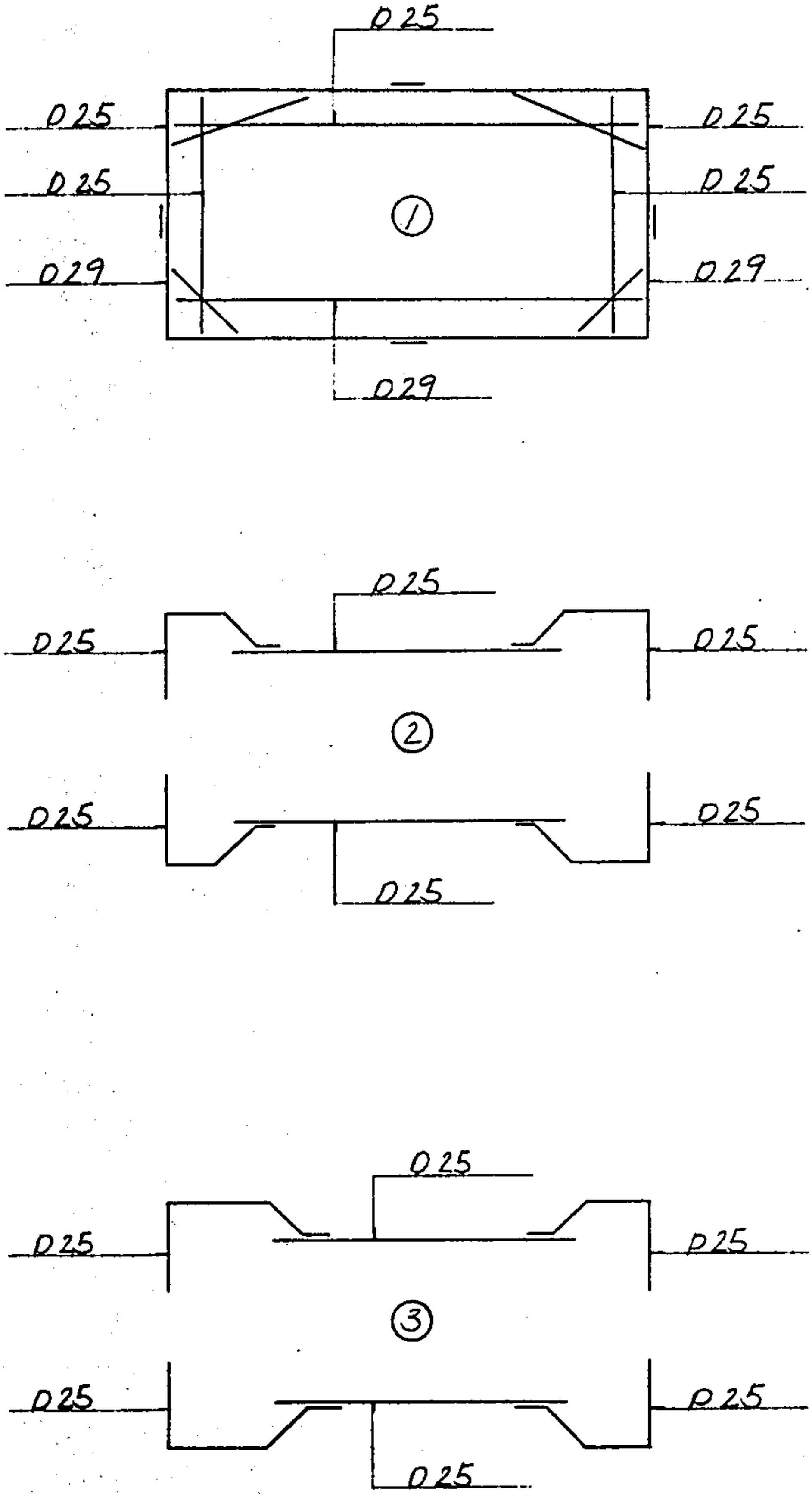


REINFORCEMENT FRAME



C04 FATIGUE

STRESS

SGM CA = 0.000 (KG/M2)
SGM SA = 0.000 (KG/M2)
TAU A = 0.000 (KG/M2)

	NO.(6) 1-3.2-4	NO.(7) 1-3.2-4	NO.(8) 1-3.2-4	NO.(9) 1-3.2-4
B (CM)	100.00	100.00	100.00	100.00
H (CM)	100.00	60.00	60.00	60.00
D (CM)	93.00	53.00	53.00	53.00
D' (CM)	0.00	7.00	7.00	0.00
D'' (CM)	7.00	7.00	7.00	7.00
	8.00 D-25	8.00 D-25	8.00 D-25	8.00 D-29
AS (CM2)	40.536	40.536	40.536	51.392
P	0.00435	0.00764	0.00764	0.00969
		4.00 D-25	4.00 D-25	
AS' (CM2)	0.000	20.268	20.268	0.000
P'	0.00000	0.00382	0.00382	0.00000
M (T*M)	30.61	30.46	30.65	31.60
N (T)	28.90	29.65	30.04	31.15
S (T)	0.00	0.00	0.00	0.00
E0 (CM)	105.916	102.731	102.030	101.444
E (CM)	148.916	125.731	125.030	124.444
E' (CM)	55.916	79.731	79.030	71.444
E'/E	0.375	0.634	0.632	0.574
D'/D	0.000	0.132	0.132	0.000
D/E	0.624	0.421	0.423	0.425
N*E/B*D2	4.975	13.271	13.371	13.800
K		0.419	0.420	
LC		0.214	0.214	
C	0.176			0.202
BETA	21.637			16.024
SGM C(KG/CM2)	28.14	61.84	62.25	68.05
SGM S(KG/CM2)	609.08	1283.07	1288.89	1090.49
TAU (KG/CM2)	0.00	0.00	0.00	0.00

C04 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

	NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2
B (CM)	100.00	100.00	100.00
H (CM)	100.00	60.00	60.00
D (CM)	93.00	53.00	53.00
D' (CM)	0.00	7.00	7.00
D'' (CM)	7.00	7.00	7.00
	8.00 D-25	4.00 D-25	8.00 D-25
AS (CM2)	40.536	20.268	40.536
P	0.00435	0.00382	0.00764
		4.00 D-25	4.00 D-25
AS' (CM2)	0.000	20.268	20.268
P'	0.00000	0.00382	0.00382
M (T*M)	14.09	4.60	12.67
N (T)	0.52	0.52	0.22
S (T)	0.00	0.00	0.00
EO (CM)	###.###	884.615	###.###
E (CM)	###.###	907.615	###.###
E' (CM)	###.###	861.615	###.###
E'/E	0.966	0.949	0.992
D'/D	0.000	0.132	0.132
D/E	0.033	0.058	0.009
N*E/B*D2	1.654	1.680	4.528
K		0.269	0.352
LC		0.148	0.186
C	0.137		
BETA	34.029		
SGM C(KG/CM2)	12.04	11.34	24.24
SGM S(KG/CM2)	409.97	461.10	667.42
TAU (KG/CM2)	0.00	0.00	0.00

C04 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(4) 3-4	NO.(5) 3-4
B	(CM)	100.00	100.00
H	(CM)	65.00	65.00
D	(CM)	56.00	58.00
D'	(CM)	0.00	9.00
D''	(CM)	9.00	7.00
		4.00 D-29	4.00 D-29
		4.00 D-25	4.00 D-25
AS	(CM2)	45.964	45.964
P		0.00820	0.00792
			4.00 D-29
AS'	(CM2)	0.000	25.696
P'		0.00000	0.00443
M	(T*M)	12.24	16.29
N	(T)	3.91	2.89
S	(T)	0.00	0.00
EO	(CM)	313.043	563.667
E	(CM)	336.543	589.167
E'	(CM)	280.543	540.167
E'/E		0.833	0.916
D'/D		0.000	0.155
D/E		0.166	0.098
N*E/B*D2		4.196	5.061
K			0.368
LC			0.194
C		0.177	
BETA		21.462	
SGM C	(KG/CM2)	23.64	26.07
SGM S	(KG/CM2)	507.40	669.93
TAU	(KG/CM2)	0.00	0.00

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(6) 1-3.2-4	NO.(7) 1-3.2-4	NO.(8) 1-3.2-4	NO.(9) 1-3.2-4
B	(CM)	100.00	100.00	100.00	100.00
H	(CM)	100.00	60.00	60.00	60.00
D	(CM)	93.00	53.00	53.00	53.00
D'	(CM)	0.00	7.00	7.00	0.00
D''	(CM)	7.00	7.00	7.00	7.00
		8.00 D-25	8.00 D-25	8.00 D-25	8.00 D-29
AS	(CM2)	40.536	40.536	40.536	51.392
P		0.00435	0.00764	0.00764	0.00969
			4.00 D-25	4.00 D-25	
AS'	(CM2)	0.000	20.268	20.268	0.000
P'		0.00000	0.00382	0.00382	0.00000
M	(T*M)	14.09	14.38	14.35	16.05
N	(T)	13.62	14.37	14.76	15.87
S	(T)	0.00	0.00	0.00	0.00
E0	(CM)	103.450	100.069	97.222	101.134
E	(CM)	146.450	123.069	120.222	124.134
E'	(CM)	53.450	77.069	74.222	71.134
E'/E		0.364	0.626	0.617	0.573
D'/D		0.000	0.132	0.132	0.000
D/E		0.635	0.430	0.440	0.426
N*E/B*D2		2.306	6.295	6.317	7.013
K			0.421	0.423	
LC			0.215	0.216	
C		0.177			0.202
BETA		21.386			16.010
SGM C	(KG/CM2)	12.97	29.23	29.21	34.57
SGM S	(KG/CM2)	277.40	601.77	596.06	553.49
TAU	(KG/CM2)	0.00	0.00	0.00	0.00

C04 FATIGUE

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

	NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2
B (CM)	100.00	100.00	100.00
H (CM)	100.00	60.00	60.00
D (CM)	93.00	53.00	53.00
D' (CM)	0.00	7.00	7.00
D'' (CM)	7.00	7.00	7.00
	8.00 D-25	4.00 D-25	8.00 D-25
AS (CM2)	40.536	20.268	40.536
P	0.00435	0.00382	0.00764
		4.00 D-25	4.00 D-25
AS' (CM2)	0.000	20.268	20.268
P'	0.00000	0.00382	0.00382
M (T*M)	30.61	10.09	27.21
N (T)	2.37	2.37	0.26
S (T)	0.00	0.00	0.00
EO (CM)	###.###	425.738	###.###
E (CM)	###.###	448.738	###.###
E' (CM)	###.###	402.738	###.###
E'/E	0.930	0.897	0.995
D'/D	0.000	0.132	0.132
D/E	0.069	0.118	0.005
N*E/B*D2	3.656	3.786	9.708
K		0.276	0.352
LC		0.151	0.186
C	0.139		
BETA	33.358		
SGM C(KG/CM2)	26.29	25.00	52.04
SGM S(KG/CM2)	377.23	982.17	1435.78
TAU (KG/CM2)	0.00	0.00	0.00

C04 FATIGUE

STRESS

SGM CA = 0.000 (KG/M2)
SGM SA = 0.000 (KG/M2)
TAU A = 0.000 (KG/M2)

		NO.(4) 3-4	NO.(5) 3-4
B	(CM)	100.00	100.00
H	(CM)	65.00	65.00
D	(CM)	56.00	58.00
D'	(CM)	0.00	9.00
D''	(CM)	9.00	7.00
		4.00 D-29	4.00 D-29
		4.00 D-25	4.00 D-25
AS	(CM2)	45.964	45.964
P		0.00820	0.00792
			4.00 D-29
AS'	(CM2)	0.000	25.696
P'		0.00000	0.00443
M	(T*M)	23.34	31.86
N	(T)	4.82	2.40
S	(T)	0.00	0.00
EO	(CM)	484.232	###.###
E	(CM)	507.732	###.###
E'	(CM)	451.732	###.###
E'/E		0.889	0.963
D'/D		0.000	0.155
D/E		0.110	0.042
N*E/B*D2		7.803	9.652
K			0.361
LC			0.190
C		0.174	
BETA		22.211	
SGM C	(KG/CM2)	44.72	50.57
SGM S	(KG/CM2)	993.48	1342.09
TAU	(KG/CM2)	0.00	0.00

Stress calculation

Stress calculation of slab

1-2 (1)

(for slab calculation)

Section	B = 100, H = 100	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 40.50 cm² (8 - D 25) AS' = 0 〃 (- D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 14.09 t.m	Mdℓi = 30.61 t.m	M = 30.61 t.m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 120 kg / cm² σs = 410 〃 τ = — 〃	σc = 26.3 kg / cm² σs = 877 〃 τ = — 〃	σc = 26.3 kg / cm² σs = 877 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{877 - 410}{877} = 0.53 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ts-16 $\ell = 8.106$ σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 410 + (1 - 410 / 5000) \times 1800 = 2060 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-2 (2)

(for slab calculation)

Section	B = 100, H = 60	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 20.30 cm² (4 - D25) AS' = 20.30 " (4 - D25)	
	Analysis of cracking	Analysis of fatigue	Analysis of resisting power
Bending moment	Md = 4.60 tm	Mdℓi = 10.09 tm	M = 10.09 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 11.3 kg / cm² σs = 461 " τ = — "	σc = 25.0 kg / cm² σs = 982 " τ = — "	σc = 25.0 kg / cm² σs = 982 " τ = — "
Allowable stress	σca = 90kg / cm² σsa = 1000 " τa = — "	σca = 90kg / cm² σsa = 1800 " τa = — "	σca = 90kg / cm² σsa = 1800 " τa = — "

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{982 - 461}{982} = 0.53 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 $\ell = 8.106$ $\sigma rao = 1800$ kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 461 + (1 - 461 / 5000) \times 1800 = 2090 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-2 (3) (for slab calculation)

Section	B = 100, H = 60 Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 40.50 cm² (8 − D25) AS′ = 20.30 〃 (4 − D25)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 12.67 tm	Mdℓi = 27.21 tm	M = 27.21 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 24.2 kg / cm² σs = 667 〃 τ = — 〃	σc = 52.0 kg / cm² σs = 1436 〃 τ = — 〃	σc = 52.0 kg / cm² σs = 1436 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1436 - 667}{1436} = 0.53 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 $\ell = 8.106$ m $\sigma rao = 1800$ kg / cm²

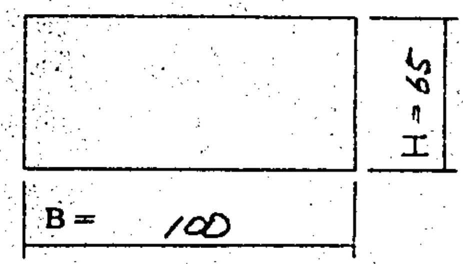
$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 667 + (1 - 667 / 5000) \times 1800 = 2220 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

3 - 4 (4) (for slab calculation)

Section	 Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 46.00cm² (4/4 − D 29/25) AS′ = 0 〃 (− D)		
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 12.24 tm	Mdℓi = 23.34 tm	M = 23.34 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 23.6 kg / cm² σs = 507 〃 τ = — 〃	σc = 44.7 kg / cm² σs = 993 〃 τ = — 〃	σc = 44.7 kg / cm² σs = 993 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{993 - 507}{993} = 0.49 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 $\ell = 8.106$ $\sigma rao = 1800$ kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 507 + (1 - 507 / 5000) \times 1800 = 2120 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

3 - 4 (5) (for slab calculation)

Section	B = 100, H = 65	Standard strength for design σck = 240 kg / cm² Re-bar SD30 AS = 46.00 cm² (9/4 − D 29/25) AS′ = 25.70 〃 (4 − D 29)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 16.29 t m	$M_{d\ell i}$ = 31.20 t m	M = 31.86 t m
Shearing force	Sd = — t	$S_{d\ell i}$ = — t	S = — t
Stress	σc = 26.1 kg / cm² σs = 670 〃 τ = — 〃	σc = 50.6 kg / cm² σs = 1342 〃 τ = — 〃	σc = 50.6 kg / cm² σs = 1342 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1342 - 670}{1342} = 0.50 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 8.106 m σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 670 + (1 - 670 / 5000) \times 1800 = 2220 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (6) (for slab calculation)

Section	B = 100, H = 100	Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 40.5 cm² (8 − D25) AS' = 0 〃 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 14.09 tm	Mdℓi = 30.61 tm	M = 30.61 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 13.0 kg/cm² σs = 277 〃 τ = — 〃	σc = 28.1 kg/cm² σs = 609 〃 τ = — 〃	σc = 28.1 kg/cm² σs = 609 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{609 - 277}{609} = 0.55 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 $\ell = 8.106$ m $\sigma rao = 1800$ kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 277 + (1 - 277 / 5000) \times 1800 = 1980 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (7) (for slab calculation)

Section	B = 100, H = 60	Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 $AS = 40.50$ cm² (8-D25) $AS' = 20.30$ 〃 (4-D25)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	$Md = 14.38$ t m	$Md\ell i = 30.46$ t m	$M = 30.46$ t m
Shearing force	$Sd =$ — t	$Sd\ell i =$ — t	$S =$ — t
Stress	$\sigma c = 29.2$ kg/cm² $\sigma s = 602$ 〃 $\tau =$ — 〃	$\sigma c = 61.8$ kg/cm² $\sigma s = 1283$ 〃 $\tau =$ — 〃	$\sigma c = 61.8$ kg/cm² $\sigma s = 1283$ 〃 $\tau =$ — 〃
Allowable stress	$\sigma ca = 90$ kg/cm² $\sigma sa = 1000$ 〃 $\tau a =$ — 〃	$\sigma ca = 90$ kg/cm² $\sigma sa = 1800$ 〃 $\tau a =$ — 〃	$\sigma ca = 90$ kg/cm² $\sigma sa = 1800$ 〃 $\tau a =$ — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1283 - 602}{1283} = 0.53 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 $\ell = 8.106$ $\sigma rao = 1800$ kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

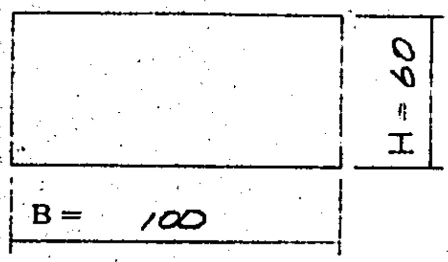
$$= 602 + (1 - 602 / 5000) \times 1800 = 2180 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (8) (for slab calculation)

Section



Standard strength for design $\sigma ck = 240$ kg/cm²

Re-bar SD30

AS = 40.50cm² (8-D25)

AS' = 20.30 " (4-D25)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 14.35 t m	Mdℓi = 30.65 t m	M = 30.65 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 29.2 kg/cm² σs = 596 " τ = — "	σc = 62.3 kg/cm² σs = 1289 " τ = — "	σc = 62.3 kg/cm² σs = 1289 " τ = — "
Allowable stress	σca = 90kg/cm² σsa = 1000 " τa = — "	σca = 90kg/cm² σsa = 1800 " τa = — "	σca = 90kg/cm² σsa = 1800 " τa = — "

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1289-596}{1289} = 0.54 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 $\ell = 8.106$ m $\sigma rao = 1800$ kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 596 + (1 - 596 / 5000) \times 1800 = 2200 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (9) (for slab calculation)

Section	B = 100, H = 60	Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 51.40 cm² (8 − D29) AS′ = 〃 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 16.05 tm	Mdℓi = 31.60 tm	M = 31.60 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 34.6 kg/cm² σs = 553 〃 τ = — 〃	σc = 68.1 kg/cm² σs = 1090 〃 τ = — 〃	σc = 68.1 kg/cm² σs = 1090 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1090-553}{1090} = 0.49 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

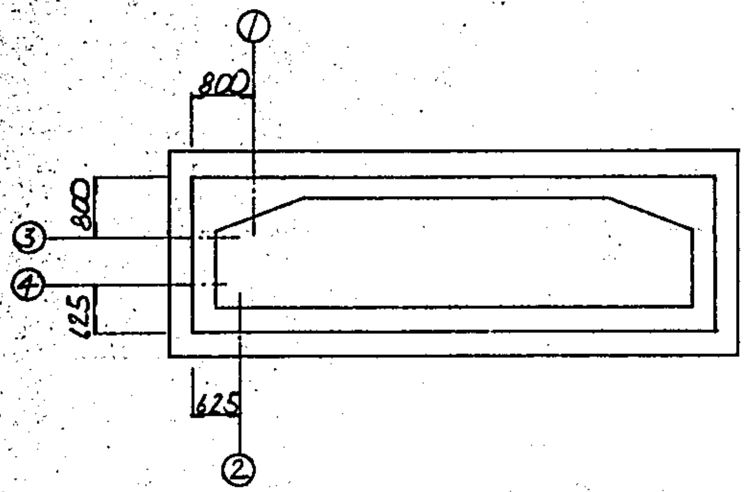
2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 $\ell = 8.106$ $\sigma rao = 1800$ kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 553 + (1 - 553 / 5000) \times 1800 = 2160 \text{ kg/cm}^2$$

Calculation of shearing force

Sections of calculation of shearing stress



$$\tau = \frac{S}{b \cdot d}$$

b = 100 cm

h = Thickness of member

d″ = Thickness of concrete cover of tension bar

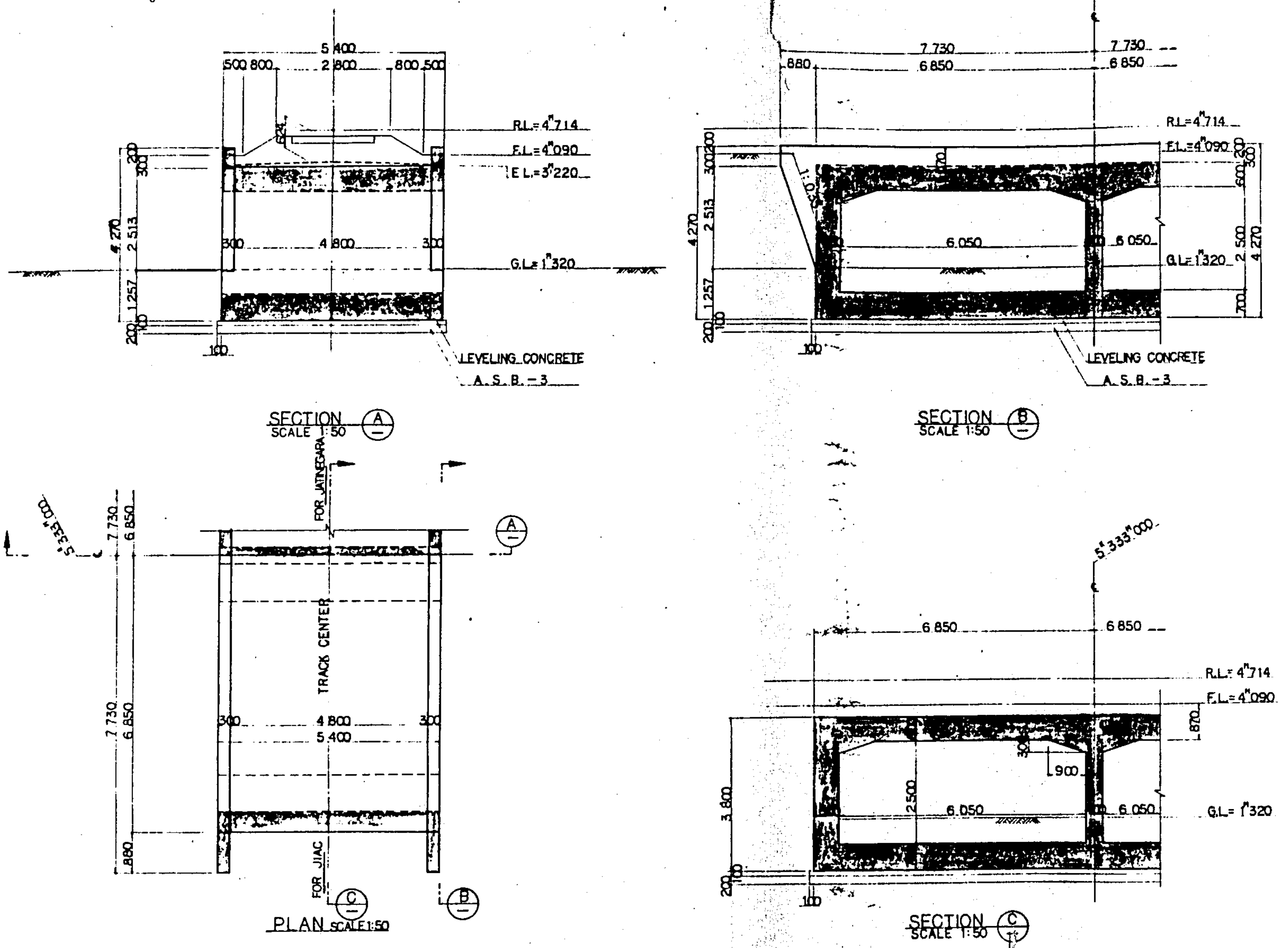
d = Effective height

Sections of calculation	cm h	cm d′	cm d = h-d	kg S	kg / cm² τ	% ρ	kg / cm² τa
1	60	7	53	25 280	4.8	0.76	6.2
2	65	9	56	29 340	5.2	0.82	6.2
3	60	7	53	940	0.2	0.76	6.2
4	60	7	53	2 770	0.5	0.76	6.2

§6. Cb10 BOX CULVERT

$2 \times (6^{m}.05 \times 2^{m}.50)$

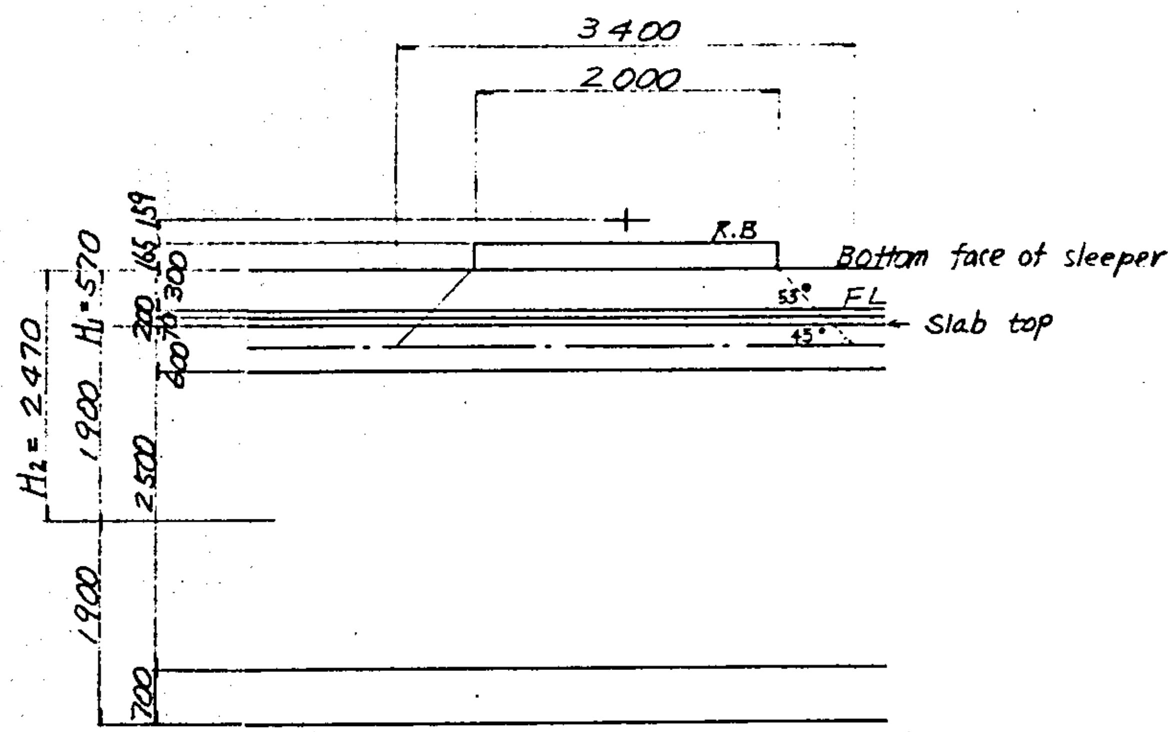
1 Configuration



NOTES:

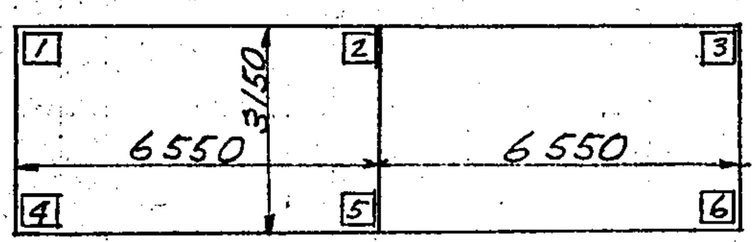
1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE INDICATED
2. REFERENCE DRAWING FOR BAR ARRANGEMENT: CE-021
3. GRADING CONCRETE SHALL BE SIMULTANEOUSLY PLACED WITH SLAB CONCRETE

2. Configuration and dimension: Surcharge earth load



3. cross section

1. Axis of Rahmen(Rigid frame)



2. Cross sectional area: Moment of inertia of the area

1)Top slab

A = 1.00 × 0.60 = 0.600 m²

I = 1 / 12 × 1.00 × 0.60^3 = 0.01800 m^4

2)Bottom slab

A = 1.00 × 0.70 = 0.700 m²

I = 1 / 12 × 1.00 × 0.70^3 = 0.02858 m^4

3)Side wall

A = 1.00 × 0.60 = 0.600 m²

I = 1 / 12 × 1.00 × 0.60^3 = 0.01800 m^4

4)Center wall

A = 1.00 × 0.40 = 0.400 m²

I = 1 / 12 × 1.00 × 0.40^3 = 0.00533 m^4

4. Loads

Calcultaion carried out based on the unit width of Rahmen(Rigid frame).

4.1 Dead load

Weight of track assembly

$0.45\ t/m \div 3.40\ m = 0.13\ t/m^2$

Track ballast

$1.9\ t/m^3 \times 0.47 = 0.89$ 〃

(R.B.～F.L.)

Subgrade material

(upper layer) $1.9\ t/m^3 \times 0.20\ m = 0.38$ 〃

Grading concrete $2.35\ t/m^3 \times 0.07\ m = 0.16$ 〃

Weight of top slab $2.5\ t/m^3 \times 0.60\ m = 1.50$ 〃

$W_d = 3.06\ t/m^2$

Weight of side wall

$2.5\ t/m^3 \times 0.60\ m \times 3.150 = 4.73\ t/m$

Weight of center wall

$2.5\ t/m^3 \times 0.40\ m \times 3.150 = 3.15\ t/m$

Weight of bottom slab

$3.06 + (4.73 \times 2 + 3.15) \times 1/2 \times 6.550 = 4.02\ t/m^2$

4.2 Train load

Uniformly distributed load, equivalent to KS-16 loading

$\ell = 6.550\ m$ Surcharge earth (Sleeper bottom - Slab top) is assumed as 0.57m, then

$P_{m1} = 3.32\ t/m^2$

$P_s = 3.88\ t/m^2$

$P_{m1} = 2.85\ t/m^2$

4.3 Impact coefficient

$$i = i_o \left\{ \frac{2.5 - H}{1.5} \right\}$$

$= 0.46 \quad (\ell = 6.55)$

$= 0.41 \quad (\ell = 2 \times 6.55)$

$H \leq 1.0^m \quad i = i_o$

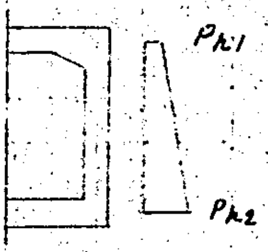
$H \geq 2.5^m \quad i = 0$

4.4 Earth pressure

1) Ordinary case, earth pressure due to dead load

Horizontal earth pressure acting at the depth of H

<u>Bottom face of sleeper</u> $Ph = K \cdot \gamma \cdot H$



Ph : Horizontal earth pressure per unit area

γ: Unit weight of earth $= 1.8 \, t/m^3$

H: Depth of earth (depth above slab top is the equivalent value)

K: Coefficient of static earth pressure $= 0.5$

$K = 0.5$

$H_1 = 1/1.8 \times (3.06 - 1.50 - 0.16) = 0.78 \quad m$

$Ph1 = K \cdot \gamma \cdot H_1$

$= 0.5 \times 1.8 \times (0.78 + 0.07 + 0.60/2) = 1.04 \quad t/m^2$

$Ph2 = Ph1 + K \gamma H_2$

$= 1.04 + 0.5 \times 1.8 \times 3.150 = 3.88 \quad t/m^2$

$K = 0.3$

$Ph1 = 0.3 \times 1.8 \times (0.78 + 0.07 + 0.60/2) = 0.62 \quad t/m^2$

$Ph2 = 0.62 + 0.3 \times 1.8 \times 3.150 = 2.32 \quad t/m^2$

2) Horizontal earth pressure caused by train load

$$Ph\ell = K \cdot Pv\ell$$

Bottom face of sleeper

$Ph\ell$: Effect of train load acting at the side. (uniformly distributed load) (t/m^2)

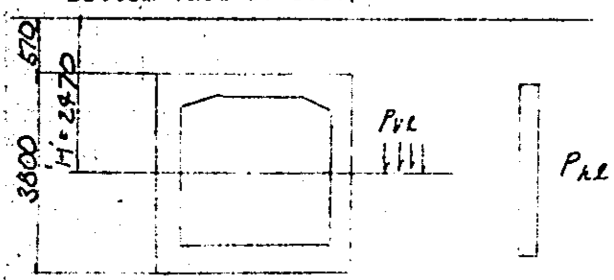
$Pv\ell$: Effect of train load in vertical direction at the depth of the level of culvert center (t/m^2)

K : Coefficient of horizontal earth pressure (generally assumed as 0.5)

H' : Depth of the level of culvert center (m)

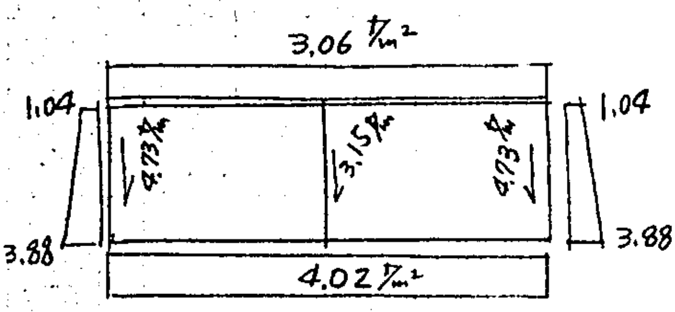
$$Ph\ell = K \cdot Pv\ell$$
$$= 0.5 \times 2.20$$
$$= 1.10\ t/m^2$$

Bottom face of sleeper

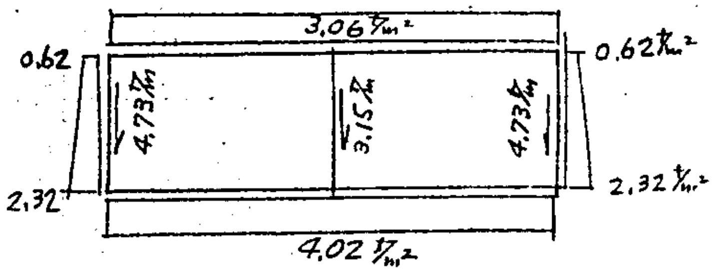


4.5 Loading condition

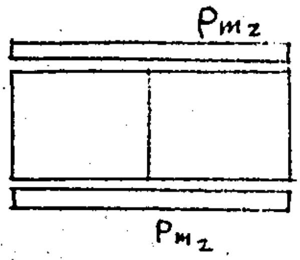
case1 Dead load + Earth pressure (0.5)



case2 Dead load + Earth pressure (0.3)



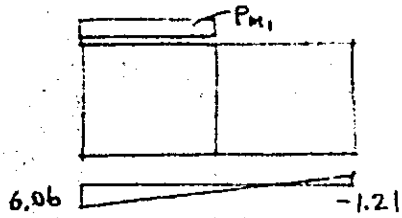
case3 All live load Impact



$P_{m2} = 2.85 \times 1.41 = 4.02$ t/m²

$P_{s2} = 3.88 \times 1.41 = 5.47$ "

case4 Half live load Impact



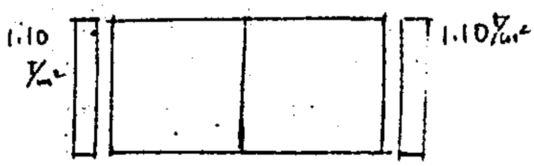
$P_{m1} = 3.32 \times 1.46 = 4.85$ t / m²

$P_{s1} = 3.88 \times 1.46 = 5.66$ "

Reaction at the bottom slab

$$\frac{4.85 \times 6.55}{2 \times 6.55}\left(1 \pm \frac{3 \times 6.55}{2 \times 6.55}\right) = 6.06,\ -1.21$$

case5 Earth pressure due to live load



Combination of loads

Case	Combination of loads
①	Dead load ＋Surcharge earth load ＋Earth pressure (K = 0.5)
②	Dead load ＋Surcharge earth load ＋Earth pressure (K = 0.3)
③	All live load ＋Impact
④	Half live load＋Impact
⑥	live load, Earth pressure

Difine	Case
1	① ②
2	③ ④
3	⑥

Combine	Difine	Coefficient of increased load
	1	1.00
	1 ＋ 2	1.00
	1 ＋ 3	1.00
	1 ＋ 2 ＋ 3	1.00

Pick up	Combine	
1	1, 2, 3, 4	

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R E A C T I C N

	SUPPORT	X (TON)	Y (TON)	Z (TON.M)
LOAD - 1	CASE 1 (SHI+OO (0.5))			
	4	0.000	0.012	0.000
	6	0.000	0.012	0.000
LOAD - 3	CASE 3 (KATSU+SYOU 1)			
	4	0.000	0.000	0.000
	6	0.000	0.000	0.000
LOAD - 5	CASE 5 (KATSUDO)			
	4	0.000	0.000	0.000
	6	0.000	0.000	0.000

	SUPPORT	X (TON)	Y (TON)	Z (TON.M)
LOAD - 2	CASE 2 (SHI+OO (0.3))			
	4	0.000	0.012	0.000
	6	0.000	0.012	0.000
LOAD - 4	CASE 4 (KATSU+SYOU 2)			
	4	0.000	0.005	0.000
	6	0.000	-0.006	0.000

D E F L E C T I O N

LOAD - 1 CASE 1 (SHI+DO (0.5))

JOINT	X (MM)	Y (MM)	Z (MMRAD)
1	-0.020	-0.024	-0.125
2	-0.024	0.499	0.000
3	-0.027	-0.024	0.125
4	0.000	0.000	0.209
5	-0.024	0.573	0.000
6	-0.048	0.000	-0.209

LOAD - 2 CASE 2 (SHI+DO (0.3))

JOINT	X (MM)	Y (MM)	Z (MMRAD)
1	-0.019	-0.024	-0.137
2	-0.017	0.508	0.000
3	-0.016	-0.024	0.137
4	0.000	0.000	0.221
5	-0.017	0.583	0.000
6	-0.035	0.000	-0.221

LOAD - 3 CASE 3 (KATSU+SYOU 1)

JOINT	X (MM)	Y (MM)	Z (MMRAD)
1	0.002	-0.027	-0.221
2	0.001	0.080	0.000
3	0.000	-0.027	0.221
4	0.000	0.000	0.211
5	0.001	0.167	0.000
6	0.002	0.000	-0.211

LOAD - 4 CASE 4 (KATSU+SYOU 2)

JOINT	X (MM)	Y (MM)	Z (MMRAD)
1	0.051	-0.036	-0.350
2	0.047	0.048	0.327
3	0.049	0.004	-0.083
4	0.000	0.000	0.288
5	0.003	0.101	-0.190
6	0.001	0.000	0.034

LOAD - 5 CASE 5 (KATSUDO)

JOINT	X (MM)	Y (MM)	Z (MMRAD)
1	0.001	0.000	0.014
2	-0.006	-0.010	0.000
3	-0.013	0.000	-0.014
4	0.000	0.000	-0.013
5	-0.006	-0.010	0.000
6	-0.012	0.000	0.013

LOAD 1 CASE 1 (SHI+DO (0.5))

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-3.670		8.085	-0.895
1	0.300	-1.382		7.167	-0.895
2	0.750	1.533		5.790	-0.895
3	1.200	3.829		4.413	-0.895
4	2.275	6.805		1.124	-0.895
5	3.275	6.399		-1.936	-0.895
6	4.275	2.933		-4.996	-0.895
7	5.450	-5.050		-8.592	-0.895
8	5.900	-9.226		-9.969	-0.895
9	6.350	-14.022		-11.346	-0.895
JTAN	6.550	-16.352		-11.958	-0.895
MAX	2.911	6.901		-0.823	-0.895

= = MEMBER 2 (2 - 3) G = =

	L	M	(M)	Q	N
ITAN	0.000	-16.352		11.958	-0.895
1	0.200	-14.022		11.346	-0.895
2	0.650	-9.226		9.969	-0.895
3	1.100	-5.050		8.592	-0.895
4	2.275	2.933		4.996	-0.895
5	3.275	6.399		1.936	-0.895
6	4.275	6.805		-1.124	-0.895
7	5.350	3.829		-4.413	-0.895
8	5.800	1.533		-5.790	-0.895
9	6.250	-1.382		-7.167	-0.895
JTAN	6.550	-3.670		-8.085	-0.895
MAX	3.639	6.901		0.823	-0.895

= = MEMBER 3 (4 - 5) G = =

	L	M	(M)	Q	N
ITAN	0.000	10.708		-12.798	-6.854
1	0.300	7.050		-11.592	-6.854
2	0.650	3.239		-10.135	-6.854
3	1.775	-5.676		-5.663	-6.854
4	3.275	-9.648		0.367	-6.854
5	4.775	-4.574		6.397	-6.854
6	6.000	6.278		11.322	-6.854
7	6.350	10.487		12.729	-6.854
JTAN	6.550	13.113		13.533	-6.854
MAX	3.275	-9.646		0.367	-6.854

LOAD 2 CASE 2 (SHI+DO (0.3))

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-3.254		7.985	0.347
1	0.300	-0.997		7.067	0.347
2	0.750	1.874		5.690	0.347
3	1.200	4.125		4.313	0.347
4	2.275	6.993		1.024	0.347
5	3.275	6.487		-2.036	0.347
6	4.275	2.921		-5.096	0.347
7	5.450	-5.179		-8.692	0.347
8	5.900	-9.400		-10.069	0.347
9	6.350	-14.241		-11.446	0.347
JTAN	6.550	-16.592		-12.058	0.347
MAX	2.911	7.026		-0.923	0.347

= = MEMBER 2 (2 - 3) G = =

	L	M	(M)	Q	N
ITAN	0.000	-16.592		12.058	0.347
1	0.200	-14.241		11.446	0.347
2	0.650	-9.400		10.069	0.347
3	1.100	-5.179		8.692	0.347
4	2.275	2.921		5.096	0.347
5	3.275	6.487		2.036	0.347
6	4.275	6.993		-1.024	0.347
7	5.350	4.125		-4.313	0.347
8	5.800	1.874		-5.690	0.347
9	6.250	-0.997		-7.067	0.347
JTAN	6.550	-3.254		-7.985	0.347
MAX	3.639	7.026		0.923	0.347

= = MEMBER 3 (4 - 5) G = =

	L	M	(M)	Q	N
ITAN	0.000	10.235		-12.698	-4.978
1	0.300	6.607		-11.492	-4.978
2	0.650	2.830		-10.085	-4.978
3	1.775	-5.972		-5.563	-4.978
4	3.275	-9.793		0.467	-4.978
5	4.775	-4.570		6.497	-4.978
6	6.000	6.485		11.422	-4.978
7	6.350	10.649		12.829	-4.978
JTAN	6.550	13.295		13.633	-4.978
MAX	3.275	-9.793		0.467	-4.978

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LOAD 1 CASE 1 (SHI+DO (0.5))

	----L----	----M----	---(M)---	----Q----	----N----
= = MEMBER 4 (5 - 6) G = =					
ITAN	0.000	13.113		-13.533	-6.854
1	0.200	10.487		-12.729	-6.854
2	0.550	6.278		-11.322	-6.854
3	1.775	-4.574		-6.397	-6.854
4	3.275	-9.648		-0.367	-6.854
5	4.775	-5.676		5.663	-6.854
6	5.900	3.239		10.135	-6.854
7	6.250	7.050		11.592	-6.854
JTAN	6.550	10.708		12.798	-6.854
MAX	3.275	-9.648		-0.367	-6.854
= = MEMBER 5 (1 - 4) C = =					
ITAN	0.000	3.670		-0.895	-8.085
1	0.300	3.453		-0.542	-8.535
2	0.450	3.387		-0.335	-8.760
3	0.600	3.353		-0.108	-8.985
4	1.100	3.515		0.795	-9.735
5	1.575	4.138		1.862	-10.448
6	2.000	5.153		2.988	-11.085
7	2.500	7.032		4.523	-11.835
8	2.800	8.541		5.552	-12.285
JTAN	3.150	10.708		6.854	-12.810
MAX	0.700	3.350		0.054	-9.135
= = MEMBER 6 (2 - 5) C = =					
ITAN	0.000	0.000		0.000	-23.915
1	0.300	0.000		0.000	-24.215
2	0.450	0.000		0.000	-24.365
3	0.600	0.000		0.000	-24.515
4	1.100	0.000		0.000	-25.015
5	1.575	0.000		0.000	-25.490
6	2.000	0.000		0.000	-25.915
7	2.500	0.000		0.000	-26.415
8	2.800	0.000		0.000	-26.715
JTAN	3.150	0.000		0.000	-27.065

LOAD 2 CASE 2 (SHI+DO (0.3))

	----L----	----M----	---(M)---	----Q----	----N----
= = MEMBER 4 (5 - 6) G = =					
ITAN	0.000	13.295		-13.633	-4.978
1	0.200	10.649		-12.329	-4.978
2	0.550	6.405		-11.422	-4.978
3	1.775	-4.570		-6.497	-4.978
4	3.275	-9.793		-0.467	-4.978
5	4.775	-5.972		5.563	-4.978
6	5.900	2.830		10.085	-4.978
7	6.250	6.607		11.492	-4.978
JTAN	6.550	10.235		12.698	-4.978
MAX	3.275	-9.793		-0.467	-4.978
= = MEMBER 5 (1 - 4) C = =					
ITAN	0.000	3.254		0.347	-7.985
1	0.300	3.389		0.557	-8.435
2	0.450	3.482		0.681	-8.660
3	0.600	3.594		0.816	-8.885
4	1.100	4.131		1.356	-9.635
5	1.575	4.922		1.993	-10.348
6	2.000	5.908		2.666	-10.985
7	2.500	7.465		3.584	-11.735
8	2.800	8.631		4.199	-12.185
JTAN	3.150	10.235		4.978	-12.710
= = MEMBER 6 (2 - 5) C = =					
ITAN	0.000	0.000		0.000	-24.115
1	0.300	0.000		0.000	-24.415
2	0.450	0.000		0.000	-24.565
3	0.600	0.000		0.000	-24.715
4	1.100	0.000		0.000	-25.215
5	1.575	0.000		0.000	-25.690
6	2.000	0.000		0.000	-26.115
7	2.500	0.000		0.000	-26.615
8	2.800	0.000		0.000	-26.915
JTAN	3.150	0.000		0.000	-27.265

LOAD 1 CASE 1 (SHI+DO (0.5))

= = MEMBER 7 (3 - 6) C = =

	L	M	(M)	Q	N
ITAN	0.000	-3.670		0.895	-8.085
1	0.300	-3.453		0.542	-8.535
2	0.450	-3.387		0.335	-8.760
3	0.600	-3.353		0.108	-8.985
4	1.100	-3.515		-0.795	-9.735
5	1.575	-4.138		-1.862	-10.448
6	2.000	-5.163		-2.988	-11.085
7	2.500	-7.032		-4.523	-11.835
8	2.800	-8.541		-5.552	-12.285
JTAN	3.150	-10.708		-6.854	-12.810
MAX	0.700	-3.350		-0.054	-9.135

LOAD 2 CASE 2 (SHI+DO (0.3))

= = MEMBER 7 (3 - 6) C = =

	L	M	(M)	Q	N
ITAN	0.000	-3.254		-0.347	-7.985
1	0.300	-3.389		-0.557	-8.435
2	0.450	-3.482		-0.681	-8.660
3	0.600	-3.594		-0.816	-8.885
4	1.100	-4.131		-1.356	-9.635
5	1.575	-4.922		-1.993	-10.348
6	2.000	-5.908		-2.666	-10.985
7	2.500	-7.465		-3.584	-11.735
8	2.800	-8.631		-4.199	-12.185
JTAN	3.150	-10.235		-4.979	-12.710

LOAD 3 CASE 3 (KATSU+SYOU 1)

	L	M	(M)	Q	N
= = MEMBER 1 (1 - 2) G = =					
ITAN	0.000	-7.084		16.190	-0.267
1	0.300	-3.833		14.549	-0.267
2	0.750	0.366		12.087	-0.267
3	1.200	3.751		9.626	-0.267
4	2.275	8.541		3.746	-0.267
5	3.275	8.827		-1.724	-0.267
6	4.275	5.092		-7.194	-0.267
7	5.450	-4.432		-13.622	-0.267
8	5.900	-9.550		-16.083	-0.267
9	6.350	-15.482		-18.545	-0.267
JTAN	6.550	-18.379		-19.639	-0.267
MAX	2.911	9.188		0.266	-0.267
= = MEMBER 2 (2 - 3) G = =					
ITAN	0.000	-18.379		19.639	-0.267
1	0.200	-15.482		18.545	-0.267
2	0.650	-9.550		16.083	-0.267
3	1.100	-4.432		13.622	-0.267
4	2.275	5.092		7.194	-0.267
5	3.275	8.827		1.724	-0.267
6	4.275	8.541		-3.746	-0.267
7	5.350	3.751		-9.626	-0.267
8	5.800	0.366		-12.087	-0.267
9	6.250	-3.833		-14.549	-0.267
JTAN	6.550	-7.084		-16.190	-0.267
MAX	3.639	9.198		-0.266	-0.267
= = MEMBER 3 (4 - 5) G = =					
ITAN	0.000	6.242		-16.190	0.267
1	0.300	2.991		-14.549	0.267
2	0.650	-0.345		-12.634	0.267
3	1.775	-7.733		-6.481	0.267
4	3.275	-9.669		1.724	0.267
5	4.775	-2.560		9.929	0.267
6	6.000	9.956		16.630	0.267
7	6.350	14.639		18.545	0.267
JTAN	6.550	17.537		19.639	0.267
MAX	2.911	-10.030		-0.266	0.267

LOAD 4 CASE 4 (KATSU+SYOU 2)

	L	M	(M)	Q	N
= = MEMBER 1 (1 - 2) G = =					
ITAN	0.000	-11.230		18.205	-0.880
1	0.300	-6.782		16.507	-0.880
2	0.750	-0.929		13.960	-0.880
3	1.200	3.941		11.413	-0.880
4	2.275	11.601		5.328	-0.880
5	3.275	13.694		-0.332	-0.880
6	4.275	10.938		-5.992	-0.880
7	5.450	1.501		-12.642	-0.880
8	5.900	-3.886		-15.189	-0.880
9	6.350	-10.255		-17.736	-0.880
JTAN	6.550	-13.401		-18.368	-0.880
MAX	3.275	13.694		-0.332	-0.880
= = MEMBER 2 (2 - 3) G = =					
ITAN	0.000	-8.774		1.749	0.559
1	0.200	-8.424		1.749	0.559
2	0.650	-7.637		1.749	0.559
3	1.100	-6.850		1.749	0.559
4	2.275	-4.794		1.749	0.559
5	3.275	-3.045		1.749	0.559
6	4.275	-1.296		1.749	0.559
7	5.350	0.585		1.749	0.559
8	5.800	1.372		1.749	0.559
9	6.250	2.159		1.749	0.559
JTAN	6.550	2.684		1.749	0.559
= = MEMBER 3 (4 - 5) G = =					
ITAN	0.000	8.456		-18.265	0.880
1	0.300	4.062		-16.173	0.880
2	0.650	-0.395		-13.805	0.880
3	1.775	-10.111		-6.733	0.880
4	3.275	-13.211		1.423	0.880
5	4.775	-6.765		9.121	0.880
6	6.000	4.275		12.510	0.880
7	6.350	8.227		13.585	0.880
JTAN	6.550	10.626		14.164	0.880
MAX	2.911	-13.407		-0.422	0.880

LOAD 3 CASE 3 (KATSU+SYOU 1)

= = MEMBER 4 (5 - 6) G = =

	L	M	(M)	Q	N
ITAN	0.000	17.537		-19.639	0.267
1	0.200	14.639		-18.545	0.267
2	0.550	9.956		-16.630	0.267
3	1.775	-2.560		-9.929	0.267
4	3.275	-9.669		-1.724	0.267
5	4.775	-7.733		6.481	0.267
6	5.900	-0.345		12.634	0.267
7	6.250	2.991		14.549	0.267
JTAN	6.550	6.242		16.190	0.267
MAX	3.639	-10.030		0.266	0.267

= = MEMBER 5 (1 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	7.084		-0.267	-11.441
1	0.300	7.004		-0.267	-11.441
2	0.450	6.964		-0.267	-11.441
3	0.600	6.924		-0.267	-11.441
4	1.100	6.790		-0.267	-11.441
5	1.575	6.663		-0.267	-11.441
6	2.000	6.549		-0.267	-11.441
7	2.500	6.416		-0.267	-11.441
8	2.800	6.336		-0.267	-11.441
JTAN	3.150	6.242		-0.267	-11.441

= = MEMBER 6 (2 - 5) C = =

	L	M	(M)	Q	N
ITAN	0.000	0.000		0.000	-29.780
1	0.300	0.000		0.000	-29.780
2	0.450	0.000		0.000	-29.780
3	0.600	0.000		0.000	-29.780
4	1.100	0.000		0.000	-29.780
5	1.575	0.000		0.000	-29.780
6	2.000	0.000		0.000	-29.780
7	2.500	0.000		0.000	-29.780
8	2.800	0.000		0.000	-29.780
JTAN	3.150	0.000		0.000	-29.780

LOAD 4 CASE 4 (KATSU+SYOU 2)

= = MEMBER 4 (5 - 6) G = =

	L	M	(M)	Q	N
ITAN	0.000	10.531		-6.453	-0.559
1	0.200	9.434		-5.900	-0.559
2	0.550	7.735		-4.994	-0.559
3	1.775	3.676		-2.450	-0.559
4	3.275	1.545		-0.657	-0.559
5	4.775	0.781		-0.322	-0.559
6	5.900	-0.021		-1.027	-0.559
7	6.250	-0.453		-1.414	-0.559
JTAN	6.550	-0.924		-1.808	-0.559

= = MEMBER 5 (1 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	11.230		-0.880	-15.552
1	0.300	10.965		-0.880	-15.552
2	0.450	10.833		-0.880	-15.552
3	0.600	10.701		-0.880	-15.552
4	1.100	10.261		-0.880	-15.552
5	1.575	9.843		-0.880	-15.552
6	2.000	9.469		-0.880	-15.552
7	2.500	9.029		-0.880	-15.552
8	2.800	8.764		-0.880	-15.552
JTAN	3.150	8.456		-0.880	-15.552

= = MEMBER 6 (2 - 5) C = =

	L	M	(M)	Q	N
ITAN	0.000	-4.628		1.439	-17.965
1	0.300	-4.196		1.439	-17.965
2	0.450	-3.980		1.439	-17.965
3	0.600	-3.764		1.439	-17.965
4	1.100	-3.045		1.439	-17.965
5	1.575	-2.361		1.439	-17.965
6	2.000	-1.749		1.439	-17.965
7	2.500	-1.030		1.439	-17.965
8	2.800	-0.598		1.439	-17.965
JTAN	3.150	-0.095		1.439	-17.965

LOAD 3 CASE 3 (KATSU+SYOU 1)

= = MEMBER 7 (3 - 6) C = =

	L	M	(M)	Q	N
ITAN	0.000	-7.084		0.267	-11.441
1	0.300	-7.004		0.267	-11.441
2	0.450	-6.964		0.267	-11.441
3	0.600	-6.924		0.267	-11.441
4	1.100	-6.790		0.267	-11.441
5	1.575	-6.663		0.267	-11.441
6	2.000	-6.549		0.267	-11.441
7	2.500	-6.416		0.267	-11.441
8	2.800	-6.336		0.267	-11.441
JTAN	3.150	-6.242		0.267	-11.441

LOAD 4 CASE 4 (KATSU+SYOU 2)

= = MEMBER 7 (3 - 6) C = =

	L	M	(M)	Q	N
ITAN	0.000	2.684		-0.559	1.749
1	0.300	2.516		-0.559	1.749
2	0.450	2.432		-0.559	1.749
3	0.600	2.349		-0.559	1.749
4	1.100	2.069		-0.559	1.749
5	1.575	1.804		-0.559	1.749
6	2.000	1.566		-0.559	1.749
7	2.500	1.287		-0.559	1.749
8	2.800	1.119		-0.559	1.749
JTAN	3.150	0.924		-0.559	1.749

LOAD 5 CASE 5 (KATSUDO)

	L	M	(M)	Q	N
= = MEMBER 1 (1 - 2) G = =					
ITAN	0.000	-0.465		0.111	-1.714
1	0.300	-0.431		0.111	-1.714
2	0.750	-0.381		0.111	-1.714
3	1.200	-0.331		0.111	-1.714
4	2.275	-0.212		0.111	-1.714
5	3.275	-0.100		0.111	-1.714
6	4.275	0.011		0.111	-1.714
7	5.450	0.142		0.111	-1.714
8	5.900	0.192		0.111	-1.714
9	6.350	0.242		0.111	-1.714
JTAN	6.550	0.264		0.111	-1.714
= = MEMBER 2 (2 - 3) G = =					
ITAN	0.000	0.264		-0.111	-1.714
1	0.200	0.242		-0.111	-1.714
2	0.650	0.192		-0.111	-1.714
3	1.100	0.142		-0.111	-1.714
4	2.275	0.011		-0.111	-1.714
5	3.275	-0.100		-0.111	-1.714
6	4.275	-0.212		-0.111	-1.714
7	5.350	-0.331		-0.111	-1.714
8	5.800	-0.381		-0.111	-1.714
9	6.250	-0.431		-0.111	-1.714
JTAN	6.550	-0.465		-0.111	-1.714
= = MEMBER 3 (4 - 5) G = =					
ITAN	0.000	0.523		-0.111	-1.751
1	0.300	0.489		-0.111	-1.751
2	0.650	0.450		-0.111	-1.751
3	1.775	0.325		-0.111	-1.751
4	3.275	0.158		-0.111	-1.751
5	4.775	-0.009		-0.111	-1.751
6	6.000	-0.145		-0.111	-1.751
7	6.350	-0.184		-0.111	-1.751
JTAN	6.550	-0.206		-0.111	-1.751

LOAD 5 CASE 5 (KATSUDO)

= = MEMBER 4 (5 - 6) G = =

	----L----	----M----	---(M)---	----Q----	----N----
ITAN	0.000	-0.206		0.111	-1.751
1	0.200	-0.184		0.111	-1.751
2	0.550	-0.145		0.111	-1.751
3	1.775	-0.009		0.111	-1.751
4	3.275	0.158		0.111	-1.751
5	4.775	0.325		0.111	-1.751
6	5.900	0.450		0.111	-1.751
7	6.250	0.489		0.111	-1.751
JTAN	6.550	0.523		0.111	-1.751

= = MEMBER 5 (1 - 4) C = =

	----L----	----M----	---(M)---	----Q----	----N----
ITAN	0.000	0.465		-1.714	-0.111
1	0.300	0.000		-1.384	-0.111
2	0.450	-0.195		-1.219	-0.111
3	0.600	-0.366		-1.054	-0.111
4	1.100	-0.755		-0.504	-0.111
5	1.575	-0.871		0.018	-0.111
6	2.000	-0.763		0.486	-0.111
7	2.500	-0.383		1.036	-0.111
8	2.800	-0.023		1.366	-0.111
JTAN	3.150	0.523		1.751	-0.111
MAX	1.575	-0.871		0.018	-0.111

= = MEMBER 6 (2 - 5) C = =

	----L----	----M----	---(M)---	----Q----	----N----
ITAN	0.000	0.000		0.000	0.223
1	0.300	0.000		0.000	0.223
2	0.450	0.000		0.000	0.223
3	0.600	0.000		0.000	0.223
4	1.100	0.000		0.000	0.223
5	1.575	0.000		0.000	0.223
6	2.000	0.000		0.000	0.223
7	2.500	0.000		0.000	0.223
8	2.800	0.000		0.000	0.223
JTAN	3.150	0.000		0.000	0.223

LOAD 5 CASE 5 (KATSUDO)

= = MEMBER 7 (3 - 6) C = =

	L	M	(M)	Q	N
ITAN	0.000	-0.465		1.714	-0.111
1	0.300	0.000		1.384	-0.111
2	0.450	0.195		1.219	-0.111
3	0.600	0.366		1.054	-0.111
4	1.100	0.755		0.504	-0.111
5	1.575	0.871		-0.018	-0.111
6	2.000	0.763		-0.486	-0.111
7	2.500	0.383		-1.036	-0.111
8	2.800	0.023		-1.366	-0.111
JTAN	3.150	-0.523		-1.751	-0.111
MAX	1.575	0.871		-0.018	-0.111

COMBINE 1

MOMENT MAXIMUM / MOMENT MINIMUM

= = MEMBER 1 (1 - 2) G = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	-3.254	7.985	0.347	(2)	-3.670	8.085	-0.895	(1)
1	0.300	-0.997	7.067	0.347	(2)	-1.382	7.167	-0.895	(1)
2	0.750	1.874	5.690	0.347	(2)	1.533	5.790	-0.895	(1)
3	1.200	4.125	4.313	0.347	(2)	3.829	4.413	-0.895	(1)
4	2.275	6.993	1.024	0.347	(2)	6.805	1.124	-0.895	(1)
5	3.275	6.487	-2.036	0.347	(2)	6.399	-1.936	-0.895	(1)
6	4.275	2.933	-4.996	-0.895	(1)	2.921	-5.096	0.347	(2)
7	5.450	-5.050	-8.592	-0.895	(1)	-5.179	-8.692	0.347	(2)
8	5.900	-9.226	-9.969	-0.895	(1)	-9.400	-10.069	0.347	(2)
9	6.350	-14.022	-11.346	-0.895	(1)	-14.241	-11.446	0.347	(2)
JTAN	6.550	-16.352	-11.958	-0.895	(1)	-16.592	-12.058	0.347	(2)

= = MEMBER 2 (2 - 3) G = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	-16.352	11.958	-0.895	(1)	-16.592	12.058	0.347	(2)
1	0.200	-14.022	11.346	-0.895	(1)	-14.241	11.446	0.347	(2)
2	0.650	-9.226	9.969	-0.895	(1)	-9.400	10.069	0.347	(2)
3	1.100	-5.050	8.592	-0.895	(1)	-5.179	8.692	0.347	(2)
4	2.275	2.933	4.996	-0.895	(1)	2.921	5.096	0.347	(2)
5	3.275	6.487	2.036	0.347	(2)	6.399	1.936	-0.895	(1)
6	4.275	6.993	-1.024	0.347	(2)	6.805	-1.124	-0.895	(1)
7	5.350	4.125	-4.313	0.347	(2)	3.829	-4.413	-0.895	(1)
8	5.800	1.874	-5.690	0.347	(2)	1.533	-5.790	-0.895	(1)
9	6.250	-0.997	-7.067	0.347	(2)	-1.382	-7.167	-0.895	(1)
JTAN	6.550	-3.254	-7.985	0.347	(2)	-3.670	-8.085	-0.895	(1)

= = MEMBER 3 (4 - 5) G = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	10.708	-12.798	-6.854	(1)	10.235	-12.698	-4.978	(2)
1	0.300	7.050	-11.592	-6.854	(1)	6.607	-11.492	-4.978	(2)
2	0.650	3.239	-10.185	-6.854	(1)	2.830	-10.085	-4.978	(2)
3	1.775	-5.676	-5.663	-6.854	(1)	-5.972	-5.563	-4.978	(2)
4	3.275	-9.648	0.367	-6.854	(1)	-9.793	0.467	-4.978	(2)
5	4.775	-4.570	6.497	-4.978	(2)	-4.574	6.397	-6.854	(1)
6	6.000	6.405	11.422	-4.978	(2)	6.278	11.322	-6.854	(1)
7	6.350	10.649	12.829	-4.978	(2)	10.487	12.729	-6.854	(1)
JTAN	6.550	13.295	13.633	-4.978	(2)	13.113	13.533	-6.854	(1)

= = MEMBER 4 (5 - 6) G = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	13.295	-13.633	-4.978	(2)	13.113	-13.533	-6.854	(1)
1	0.200	10.649	-12.829	-4.978	(2)	10.487	-12.729	-6.854	(1)
2	0.550	6.405	-11.422	-4.978	(2)	6.278	-11.322	-6.854	(1)
3	1.775	-4.570	-6.497	-4.978	(2)	-4.574	-6.397	-6.854	(1)
4	3.275	-9.648	-0.367	-6.854	(1)	-9.793	-0.467	-4.978	(2)
5	4.775	-5.676	5.663	-6.854	(1)	-5.972	5.563	-4.978	(2)
6	5.900	3.239	10.185	-6.854	(1)	2.830	10.085	-4.978	(2)
7	6.250	7.050	11.592	-6.854	(1)	6.607	11.492	-4.978	(2)
JTAN	6.550	10.708	12.798	-6.854	(1)	10.235	12.698	-4.978	(2)

COMBINE 1

		MOMENT MAXIMUM				MOMENT MINIMUM			
	L	M	Q	N	CASE	M	Q	N	CASE
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	3.670	-0.895	-8.085	(1)	3.254	0.347	-7.985	(2)
1	0.300	3.453	-0.542	-8.535	(1)	3.389	0.557	-8.435	(2)
2	0.450	3.482	0.681	-8.660	(2)	3.387	-0.335	-8.760	(1)
3	0.600	3.594	0.816	-8.885	(2)	3.353	-0.108	-8.985	(1)
4	1.100	4.131	1.356	-9.635	(2)	3.515	0.795	-9.735	(1)
5	1.575	4.922	1.993	-10.348	(2)	4.138	1.862	-10.448	(1)
6	2.000	5.908	2.666	-10.985	(2)	5.163	2.938	-11.085	(1)
7	2.500	7.465	3.584	-11.735	(2)	7.032	4.523	-11.835	(1)
8	2.800	8.631	4.199	-12.185	(2)	8.541	5.552	-12.285	(1)
JTAN	3.150	10.708	6.854	-12.810	(1)	10.235	4.978	-12.710	(2)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-24.115	(2)	0.000	0.000	-23.915	(1)
1	0.300	0.000	0.000	-24.415	(2)	0.000	0.000	-24.215	(1)
2	0.450	0.000	0.000	-24.565	(2)	0.000	0.000	-24.365	(1)
3	0.600	0.000	0.000	-24.715	(2)	0.000	0.000	-24.515	(1)
4	1.100	0.000	0.000	-25.215	(2)	0.000	0.000	-25.015	(1)
5	1.575	0.000	0.000	-25.490	(1)	0.000	0.000	-25.690	(2)
6	2.000	0.000	0.000	-25.915	(1)	0.000	0.000	-26.115	(2)
7	2.500	0.000	0.000	-26.415	(1)	0.000	0.000	-26.615	(2)
8	2.800	0.000	0.000	-26.715	(1)	0.000	0.000	-26.915	(2)
JTAN	3.150	0.000	0.000	-27.065	(1)	0.000	0.000	-27.265	(2)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-3.254	-0.347	-7.985	(2)	-3.670	0.895	-8.085	(1)
1	0.300	-3.389	-0.557	-8.435	(2)	-3.453	0.542	-8.535	(1)
2	0.450	-3.387	0.335	-8.760	(1)	-3.482	-0.681	-8.660	(2)
3	0.600	-3.353	0.108	-8.985	(1)	-3.594	-0.816	-8.885	(2)
4	1.100	-3.515	-0.795	-9.735	(1)	-4.131	-1.356	-9.635	(2)
5	1.575	-4.138	-1.862	-10.448	(1)	-4.922	-1.993	-10.348	(2)
6	2.000	-5.163	-2.988	-11.085	(1)	-5.908	-2.666	-10.985	(2)
7	2.500	-7.032	-4.523	-11.835	(1)	-7.465	-3.584	-11.735	(2)
8	2.800	-8.541	-5.552	-12.285	(1)	-8.631	-4.199	-12.185	(2)
JTAN	3.150	-10.235	-4.978	-12.710	(2)	-10.708	-6.854	-12.810	(1)

COMBINE 1

	L	M (SHEAR MAXIMUM)	Q (SHEAR MAXIMUM)	N (SHEAR MAXIMUM)	CASE	M (SHEAR MINIMUM)	Q (SHEAR MINIMUM)	N (SHEAR MINIMUM)	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-3.670	8.085	-0.895	(1)	-3.254	7.985	0.347	(2)
1	0.300	-1.382	7.167	-0.895	(1)	-0.997	7.067	0.347	(2)
2	0.750	1.533	5.790	-0.895	(1)	1.874	5.690	0.347	(2)
3	1.200	3.829	4.413	-0.895	(1)	4.125	4.313	0.347	(2)
4	2.275	6.805	1.124	-0.895	(1)	6.993	1.024	0.347	(2)
5	3.275	6.399	-1.936	-0.895	(1)	6.487	-2.036	0.347	(2)
6	4.275	2.933	-4.996	-0.895	(1)	2.921	-5.096	0.347	(2)
7	5.450	-5.050	-8.592	-0.895	(1)	-5.179	-8.692	0.347	(2)
8	5.900	-9.226	-9.969	-0.895	(1)	-9.400	-10.069	0.347	(2)
9	6.350	-14.022	-11.346	-0.895	(1)	-14.241	-11.446	0.347	(2)
JTAN	6.550	-16.352	-11.958	-0.895	(1)	-16.592	-12.058	0.347	(2)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-16.592	12.058	0.347	(2)	-16.352	11.958	-0.895	(1)
1	0.200	-14.241	11.446	0.347	(2)	-14.022	11.346	-0.895	(1)
2	0.650	-9.400	10.069	0.347	(2)	-9.226	9.969	-0.895	(1)
3	1.100	-5.179	8.692	0.347	(2)	-5.050	8.592	-0.895	(1)
4	2.275	2.921	5.096	0.347	(2)	2.933	4.996	-0.895	(1)
5	3.275	6.487	2.036	0.347	(2)	6.399	1.936	-0.895	(1)
6	4.275	6.993	-1.024	0.347	(2)	6.805	-1.124	-0.895	(1)
7	5.350	4.125	-4.313	0.347	(2)	3.829	-4.413	-0.895	(1)
8	5.800	1.874	-5.690	0.347	(2)	1.533	-5.790	-0.895	(1)
9	6.250	-0.997	-7.067	0.347	(2)	-1.382	-7.167	-0.895	(1)
JTAN	6.550	-3.254	-7.985	0.347	(2)	-3.670	-8.085	-0.895	(1)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	10.235	-12.698	-4.978	(2)	10.708	-12.798	-6.854	(1)
1	0.300	6.607	-11.492	-4.978	(2)	7.050	-11.592	-6.854	(1)
2	0.650	2.830	-10.085	-4.978	(2)	3.239	-10.185	-6.854	(1)
3	1.775	-5.972	-5.563	-4.978	(2)	-5.676	-5.663	-6.854	(1)
4	3.275	-9.793	0.467	-4.978	(2)	-9.648	0.367	-6.854	(1)
5	4.775	-4.570	6.497	-4.978	(2)	-4.574	6.397	-6.854	(1)
6	6.000	6.405	11.422	-4.978	(2)	6.278	11.322	-6.854	(1)
7	6.350	10.649	12.829	-4.978	(2)	10.487	12.729	-6.854	(1)
JTAN	6.550	13.295	13.633	-4.978	(2)	13.113	13.533	-6.854	(1)
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	13.113	-13.533	-6.854	(1)	13.295	-13.633	-4.978	(2)
1	0.200	10.487	-12.729	-6.854	(1)	10.649	-12.829	-4.978	(2)
2	0.550	6.278	-11.322	-6.854	(1)	6.405	-11.422	-4.978	(2)
3	1.775	-4.574	-6.397	-6.854	(1)	-4.570	-6.497	-4.978	(2)
4	3.275	-9.648	-0.367	-6.854	(1)	-9.793	-0.467	-4.978	(2)
5	4.775	-5.676	5.663	-6.854	(1)	-5.972	5.563	-4.978	(2)
6	5.900	3.239	10.185	-6.854	(1)	2.830	10.085	-4.978	(2)
7	6.250	7.050	11.592	-6.854	(1)	6.607	11.492	-4.978	(2)
JTAN	6.550	10.708	12.798	-6.854	(1)	10.235	12.698	-4.978	(2)

COMBINE 1

	L	MAXIMUM M	MAXIMUM SHEAR Q	MAXIMUM N	CASE	MINIMUM M	MINIMUM SHEAR Q	MINIMUM N	CASE
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	3.254	0.347	-7.985	(2)	3.670	-0.895	-8.085	(1)
1	0.300	3.389	0.557	-8.435	(2)	3.453	-0.542	-8.535	(1)
2	0.450	3.482	0.681	-8.660	(2)	3.387	-0.335	-8.760	(1)
3	0.600	3.594	0.816	-8.885	(2)	3.353	-0.108	-8.985	(1)
4	1.100	4.131	1.356	-9.635	(2)	3.515	0.795	-9.735	(1)
5	1.575	4.922	1.993	-10.348	(2)	4.138	1.862	-10.448	(1)
6	2.000	5.163	2.988	-11.085	(1)	5.908	2.666	-10.985	(2)
7	2.500	7.032	4.523	-11.835	(1)	7.465	3.594	-11.735	(2)
8	2.800	8.541	5.552	-12.285	(1)	8.631	4.199	-12.185	(2)
JTAN	3.150	10.708	6.854	-12.810	(1)	10.235	4.978	-12.710	(2)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-23.915	(1)	0.000	0.000	-24.115	(2)
1	0.300	0.000	0.000	-24.215	(1)	0.000	0.000	-24.415	(2)
2	0.450	0.000	0.000	-24.365	(1)	0.000	0.000	-24.565	(2)
3	0.600	0.000	0.000	-24.515	(1)	0.000	0.000	-24.715	(2)
4	1.100	0.000	0.000	-25.015	(1)	0.000	0.000	-25.215	(2)
5	1.575	0.000	0.000	-25.490	(1)	0.000	0.000	-25.690	(2)
6	2.000	0.000	0.000	-25.915	(1)	0.000	0.000	-26.115	(2)
7	2.500	0.000	0.000	-26.415	(1)	0.000	0.000	-26.615	(2)
8	2.800	0.000	0.000	-26.715	(1)	0.000	0.000	-26.915	(2)
JTAN	3.150	0.000	0.000	-27.065	(1)	0.000	0.000	-27.265	(2)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-3.670	0.895	-8.085	(1)	-3.254	-0.347	-7.985	(2)
1	0.300	-3.453	0.542	-8.535	(1)	-3.389	-0.557	-8.435	(2)
2	0.450	-3.387	0.335	-8.760	(1)	-3.482	-0.681	-8.660	(2)
3	0.600	-3.353	0.108	-8.985	(1)	-3.594	-0.816	-8.885	(2)
4	1.100	-3.515	-0.795	-9.735	(1)	-4.131	-1.356	-9.635	(2)
5	1.575	-4.138	-1.862	-10.448	(1)	-4.922	-1.993	-10.348	(2)
6	2.000	-5.908	-2.666	-10.985	(2)	-5.163	-2.988	-11.085	(1)
7	2.500	-7.465	-3.584	-11.735	(2)	-7.032	-4.523	-11.835	(1)
8	2.800	-8.631	-4.199	-12.185	(2)	-8.541	-5.552	-12.285	(1)
JTAN	3.150	-10.235	-4.978	-12.710	(2)	-10.708	-6.854	-12.810	(1)

COMBINE 1

	L	M (AXIAL MAXIMUM)	Q	N	CASE	M (AXIAL MINIMUM)	Q	N	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-3.254	7.985	0.347	(2)	-3.670	8.085	-0.895	(1)
1	0.300	-0.997	7.067	0.347	(2)	-1.382	7.167	-0.895	(1)
2	0.750	1.874	5.690	0.347	(2)	1.533	5.790	-0.895	(1)
3	1.200	4.125	4.313	0.347	(2)	3.829	4.413	-0.895	(1)
4	2.275	6.993	1.024	0.347	(2)	6.805	1.124	-0.895	(1)
5	3.275	6.487	-2.036	0.347	(2)	6.399	-1.936	-0.895	(1)
6	4.275	2.921	-5.096	0.347	(2)	2.933	-4.996	-0.895	(1)
7	5.450	-5.179	-8.692	0.347	(2)	-5.050	-8.592	-0.895	(1)
8	5.900	-9.400	-10.069	0.347	(2)	-9.226	-9.969	-0.895	(1)
9	6.350	-14.241	-11.446	0.347	(2)	-14.022	-11.346	-0.895	(1)
JTAN	6.550	-16.592	-12.058	0.347	(2)	-16.352	-11.558	-0.895	(1)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-16.592	12.058	0.347	(2)	-16.352	11.958	-0.395	(1)
1	0.200	-14.241	11.446	0.347	(2)	-14.022	11.346	-0.895	(1)
2	0.650	-9.400	10.069	0.347	(2)	-9.226	9.969	-0.895	(1)
3	1.100	-5.179	8.692	0.347	(2)	-5.050	8.592	-0.895	(1)
4	2.275	2.921	5.096	0.347	(2)	2.933	4.996	-0.895	(1)
5	3.275	6.487	2.036	0.347	(2)	6.399	1.936	-0.895	(1)
6	4.275	6.993	-1.024	0.347	(2)	6.805	-1.124	-0.895	(1)
7	5.350	4.125	-4.313	0.347	(2)	3.829	-4.413	-0.895	(1)
8	5.800	1.874	-5.690	0.347	(2)	1.533	-5.790	-0.895	(1)
9	6.250	-0.997	-7.067	0.347	(2)	-1.382	-7.167	-0.895	(1)
JTAN	6.550	-3.254	-7.985	0.347	(2)	-3.670	-8.085	-0.895	(1)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	10.235	-12.698	-4.978	(2)	10.708	-12.798	-6.854	(1)
1	0.300	6.607	-11.492	-4.978	(2)	7.050	-11.592	-6.854	(1)
2	0.650	2.830	-10.085	-4.978	(2)	3.239	-10.185	-6.854	(1)
3	1.775	-5.972	-5.563	-4.978	(2)	-5.676	-5.663	-6.854	(1)
4	3.275	-9.793	0.467	-4.978	(2)	-9.648	0.367	-6.854	(1)
5	4.775	-4.570	6.497	-4.978	(2)	-4.574	6.397	-6.854	(1)
6	6.000	6.405	11.422	-4.978	(2)	6.278	11.322	-6.854	(1)
7	6.350	10.649	12.829	-4.978	(2)	10.487	12.729	-6.854	(1)
JTAN	6.550	13.295	13.633	-4.978	(2)	13.113	13.533	-6.854	(1)
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	13.295	-13.633	-4.978	(2)	13.113	-13.533	-6.854	(1)
1	0.200	10.649	-12.829	-4.978	(2)	10.487	-12.729	-6.854	(1)
2	0.550	6.405	-11.422	-4.978	(2)	6.278	-11.322	-6.854	(1)
3	1.775	-4.570	-6.497	-4.978	(2)	-4.574	-6.397	-6.854	(1)
4	3.275	-9.793	-0.467	-4.978	(2)	-9.648	-0.367	-6.854	(1)
5	4.775	-5.972	5.563	-4.978	(2)	-5.676	5.663	-6.854	(1)
6	5.900	2.830	10.085	-4.978	(2)	3.239	10.185	-6.854	(1)
7	6.250	6.607	11.492	-4.978	(2)	7.050	11.592	-6.854	(1)
JTAN	6.550	10.235	12.698	-4.978	(2)	10.708	12.798	-6.854	(1)

COMBINE 1

	L	M	Q	N	CASE	M	Q	N	CASE
		AXIAL MAXIMUM				AXIAL MINIMUM			
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	3.254	0.347	-7.985	(2)	3.670	-0.895	-8.085	(1)
1	0.300	3.389	0.557	-8.435	(2)	3.453	-0.542	-8.535	(1)
2	0.450	3.482	0.681	-8.660	(2)	3.387	-0.335	-8.760	(1)
3	0.600	3.594	0.816	-8.885	(2)	3.353	-0.108	-8.985	(1)
4	1.100	4.131	1.356	-9.635	(2)	3.515	0.795	-9.735	(1)
5	1.575	4.922	1.993	-10.348	(2)	4.138	1.862	-10.448	(1)
6	2.000	5.903	2.666	-10.985	(2)	5.163	2.988	-11.085	(1)
7	2.500	7.465	3.584	-11.735	(2)	7.032	4.523	-11.835	(1)
8	2.800	8.631	4.199	-12.185	(2)	6.541	5.552	-12.285	(1)
JTAN	3.150	10.235	4.978	-12.710	(2)	10.708	6.854	-12.810	(1)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-23.915	(1)	0.000	0.000	-24.115	(2)
1	0.300	0.000	0.000	-24.215	(1)	0.000	0.000	-24.415	(2)
2	0.450	0.000	0.000	-24.365	(1)	0.000	0.000	-24.565	(2)
3	0.600	0.000	0.000	-24.515	(1)	0.000	0.000	-24.715	(2)
4	1.100	0.000	0.000	-25.015	(1)	0.000	0.000	-25.215	(2)
5	1.575	0.000	0.000	-25.490	(1)	0.000	0.000	-25.690	(2)
6	2.000	0.000	0.000	-25.915	(1)	0.000	0.000	-26.115	(2)
7	2.500	0.000	0.000	-26.415	(1)	0.000	0.000	-26.615	(2)
8	2.800	0.000	0.000	-26.715	(1)	0.000	0.000	-26.915	(2)
JTAN	3.150	0.000	0.000	-27.065	(1)	0.000	0.000	-27.265	(2)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-3.254	-0.347	-7.985	(2)	-3.670	0.895	-8.085	(1)
1	0.300	-3.389	-0.557	-8.435	(2)	-3.453	0.542	-8.535	(1)
2	0.450	-3.482	-0.681	-8.660	(2)	-3.387	0.335	-8.760	(1)
3	0.600	-3.594	-0.816	-8.885	(2)	-3.353	0.108	-8.985	(1)
4	1.100	-4.131	-1.356	-9.635	(2)	-3.515	-0.795	-9.735	(1)
5	1.575	-4.922	-1.993	-10.348	(2)	-4.138	-1.862	-10.448	(1)
6	2.000	-5.908	-2.666	-10.985	(2)	-5.163	-2.958	-11.085	(1)
7	2.500	-7.465	-3.584	-11.735	(2)	-7.032	-4.523	-11.835	(1)
8	2.800	-8.631	-4.199	-12.185	(2)	-6.541	-5.552	-12.285	(1)
JTAN	3.150	-10.235	-4.978	-12.710	(2)	-10.708	-6.854	-12.810	(1)

COMBINE 2

	---L---	MOMENT MAXIMUM ----M---	----Q---	----N---	----CASE----------	MOMENT MINIMUM ----M---	----Q---	----N---	----CASE----------
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-10.339	24.175	0.080	(2 3)	-14.900	26.290	-1.775	(1 4)
1	0.300	-4.329	21.616	0.080	(2 3)	-8.165	23.674	-1.775	(1 4)
2	0.750	2.240	17.778	0.080	(2 3)	0.604	19.750	-1.775	(1 4)
3	1.200	8.066	15.726	-0.533	(2 4)	7.580	14.039	-1.162	(1 3)
4	2.275	18.594	6.352	-0.533	(2 4)	15.346	4.869	-1.162	(1 3)
5	3.275	20.181	-2.368	-0.533	(2 4)	15.226	-3.661	-1.162	(1 3)
6	4.275	13.871	-10.986	-1.775	(1 4)	6.013	-12.291	0.080	(2 3)
7	5.450	-3.549	-21.234	-1.775	(1 4)	-9.612	-22.313	0.080	(2 3)
8	5.900	-13.112	-25.158	-1.775	(1 4)	-18.950	-26.152	0.080	(2 3)
9	6.350	-24.277	-29.082	-1.775	(1 4)	-29.723	-29.390	0.080	(2 3)
JTAN	6.550	-29.753	-30.826	-1.775	(1 4)	-34.971	-31.696	0.080	(2 3)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-25.126	13.707	-0.336	(1 4)	-34.971	31.696	0.080	(2 3)
1	0.200	-22.446	13.095	-0.336	(1 4)	-29.723	29.990	0.080	(2 3)
2	0.650	-16.863	11.718	-0.336	(1 4)	-18.950	26.152	0.080	(2 3)
3	1.100	-9.482	22.213	-1.162	(1 3)	-12.029	10.441	0.906	(2 4)
4	2.275	8.025	12.191	-1.162	(1 3)	-1.873	6.845	0.906	(2 4)
5	3.275	15.314	3.761	0.080	(2 3)	3.354	3.685	-0.336	(1 4)
6	4.275	15.535	-4.769	0.080	(2 3)	5.509	0.625	-0.336	(1 4)
7	5.350	7.875	-13.939	0.080	(2 3)	4.414	-2.664	-0.336	(1 4)
8	5.800	3.246	-3.941	0.906	(2 4)	1.899	-17.378	-1.162	(1 3)
9	6.250	1.162	-5.318	0.906	(2 4)	-5.215	-21.716	-1.162	(1 3)
JTAN	6.550	-0.571	-6.236	0.906	(2 4)	-10.755	-24.275	-1.162	(1 3)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	19.165	-31.064	-5.974	(1 4)	16.477	-28.888	-4.710	(2 3)
1	0.300	11.112	-27.765	-5.974	(1 4)	9.597	-26.041	-4.710	(2 3)
2	0.650	2.893	-22.820	-6.587	(1 3)	2.436	-23.890	-4.097	(2 4)
3	1.775	-13.409	-12.143	-6.587	(1 3)	-16.082	-12.295	-4.097	(2 4)
4	3.275	-19.317	2.092	-6.587	(1 3)	-23.004	1.890	-4.097	(2 4)
5	4.775	-7.130	16.427	-4.710	(2 3)	-11.340	14.518	-5.974	(1 4)
6	6.000	16.361	25.052	-4.710	(2 3)	10.553	23.831	-5.974	(1 4)
7	6.350	25.289	31.373	-4.710	(2 3)	18.714	26.314	-5.974	(1 4)
JTAN	6.550	30.832	33.271	-4.710	(2 3)	23.739	27.697	-5.974	(1 4)
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	30.832	-33.271	-4.710	(2 3)	23.644	-19.986	-7.413	(1 4)
1	0.200	25.259	-31.373	-4.710	(2 3)	19.921	-18.629	-7.413	(1 4)
2	0.550	16.361	-28.052	-4.710	(2 3)	14.013	-16.316	-7.413	(1 4)
3	1.775	-0.894	-8.947	-5.536	(2 4)	-7.134	-16.327	-6.587	(1 3)
4	3.275	-8.103	-1.025	-7.413	(1 4)	-19.462	-2.192	-4.710	(2 3)
5	4.775	-4.895	5.341	-7.413	(1 4)	-13.705	12.043	-4.710	(2 3)
6	5.900	3.218	9.158	-7.413	(1 4)	2.485	22.720	-4.710	(2 3)
7	6.250	10.040	26.141	-6.587	(1 3)	6.154	10.078	-5.536	(2 4)
JTAN	6.550	16.950	28.986	-6.587	(1 3)	9.311	10.890	-5.536	(2 4)

COMBINE 2

	---L---	----M--- (MOMENT MAXIMUM)	----Q---	----N---	----CASE----	----M--- (MOMENT MINIMUM)	----Q---	----N---	----CASE----
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	14.900	-1.775	-23.638	(1 4)	10.339	0.080	-19.426	(2 3)
1	0.300	14.418	-1.422	-24.088	(1 4)	10.393	0.290	-19.876	(2 3)
2	0.450	14.315	-0.200	-24.212	(2 4)	10.351	-0.603	-20.201	(1 3)
3	0.600	14.295	-0.064	-24.437	(2 4)	10.277	-0.376	-20.426	(1 3)
4	1.100	14.392	0.475	-25.187	(2 4)	10.305	0.527	-21.176	(1 3)
5	1.575	14.764	1.113	-25.900	(2 4)	10.801	1.594	-21.889	(1 3)
6	2.000	15.377	1.736	-26.537	(2 4)	11.713	2.721	-22.526	(1 3)
7	2.500	16.494	2.703	-27.287	(2 4)	13.447	4.255	-23.276	(1 3)
8	2.800	17.396	3.318	-27.737	(2 4)	14.876	5.284	-23.726	(1 3)
JTAN	3.150	19.165	5.974	-28.363	(1 4)	16.477	4.710	-24.151	(2 3)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-53.895	(2 3)	-4.628	1.439	-41.980	(1 4)
1	0.300	0.000	0.000	-54.195	(2 3)	-4.196	1.439	-42.180	(1 4)
2	0.450	0.000	0.000	-54.345	(2 3)	-3.980	1.439	-42.330	(1 4)
3	0.600	0.000	0.000	-54.495	(2 3)	-3.764	1.439	-42.480	(1 4)
4	1.100	0.000	0.000	-54.995	(2 3)	-3.045	1.439	-42.980	(1 4)
5	1.575	0.000	0.000	-55.270	(1 3)	-2.361	1.439	-43.655	(2 4)
6	2.000	0.000	0.000	-55.695	(1 3)	-1.749	1.439	-44.080	(2 4)
7	2.500	0.000	0.000	-56.195	(1 3)	-1.030	1.439	-44.580	(2 4)
8	2.800	0.000	0.000	-56.495	(1 3)	-0.598	1.439	-44.880	(2 4)
JTAN	3.150	0.000	0.000	-56.845	(1 3)	-0.095	1.439	-45.230	(2 4)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-0.571	-0.906	-6.236	(2 4)	-10.755	1.162	-19.526	(1 3)
1	0.300	-0.873	-1.116	-6.686	(2 4)	-10.457	0.809	-19.976	(1 3)
2	0.450	-0.954	-0.223	-7.011	(1 4)	-10.446	-0.413	-20.101	(2 3)
3	0.600	-1.005	-0.450	-7.236	(1 4)	-10.518	-0.549	-20.326	(2 3)
4	1.100	-1.446	-1.353	-7.986	(1 4)	-10.921	-1.088	-21.076	(2 3)
5	1.575	-2.334	-2.420	-8.699	(1 4)	-11.585	-1.726	-21.799	(2 3)
6	2.000	-3.597	-3.547	-9.336	(1 4)	-12.458	-2.399	-22.426	(2 3)
7	2.500	-5.744	-5.081	-10.086	(1 4)	-13.881	-3.316	-23.176	(2 3)
8	2.800	-7.421	-6.110	-10.536	(1 4)	-14.967	-3.931	-23.626	(2 3)
JTAN	3.150	-9.311	-5.536	-10.961	(2 4)	-16.950	-6.587	-24.251	(1 3)

COMBINE 2

	---L---	---M--- (SHEAR MAXIMUM)	---Q--- (SHEAR MAXIMUM)	---N--- (SHEAR MAXIMUM)	---CASE--- (MAXIMUM)	---M--- (SHEAR MINIMUM)	---Q--- (SHEAR MINIMUM)	---N--- (SHEAR MINIMUM)	---CASE--- (MINIMUM)
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-14.900	26.290	-1.775	(1 4)	-10.339	24.175	0.080	(2 3)
1	0.300	-8.165	23.674	-1.775	(1 4)	-4.829	21.616	0.080	(2 3)
2	0.750	0.604	19.750	-1.775	(1 4)	2.240	17.778	0.080	(2 3)
3	1.200	7.770	15.826	-1.775	(1 4)	7.875	13.939	0.080	(2 3)
4	2.275	18.406	6.452	-1.775	(1 4)	15.535	4.769	0.080	(2 3)
5	3.275	20.093	-2.268	-1.775	(1 4)	15.314	-3.761	0.080	(2 3)
6	4.275	13.871	-10.988	-1.775	(1 4)	6.013	-12.291	0.080	(2 3)
7	5.450	-3.549	-21.234	-1.775	(1 4)	-9.612	-22.313	0.080	(2 3)
8	5.900	-13.112	-25.152	-1.775	(1 4)	-18.950	-26.152	0.080	(2 3)
9	6.350	-24.277	-29.082	-1.775	(1 4)	-29.723	-29.990	0.080	(2 3)
JTAN	6.550	-29.753	-30.826	-1.775	(1 4)	-34.971	-31.696	0.080	(2 3)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-34.971	31.696	0.080	(2 3)	-25.126	13.707	-0.336	(1 4)
1	0.200	-29.723	29.990	0.080	(2 3)	-22.446	13.095	-0.336	(1 4)
2	0.650	-18.950	26.152	0.080	(2 3)	-16.863	11.718	-0.336	(1 4)
3	1.100	-9.612	22.313	0.080	(2 3)	-11.399	10.341	-0.336	(1 4)
4	2.275	8.013	12.291	0.080	(2 3)	-1.861	6.745	-0.336	(1 4)
5	3.275	3.442	3.785	0.906	(2 4)	15.226	3.661	-1.162	(1 3)
6	4.275	5.698	0.725	0.906	(2 4)	15.346	-4.869	-1.162	(1 3)
7	5.350	4.709	-2.564	0.906	(2 4)	7.580	-14.039	-1.162	(1 3)
8	5.800	3.246	-3.941	0.906	(2 4)	1.899	-17.878	-1.162	(1 3)
9	6.250	1.162	-5.318	0.906	(2 4)	-5.215	-21.716	-1.162	(1 3)
JTAN	6.550	-0.571	-6.236	0.906	(2 4)	-10.755	-24.275	-1.162	(1 3)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	16.477	-28.889	-4.710	(2 3)	19.165	-31.064	-5.974	(1 4)
1	0.300	9.597	-26.041	-4.710	(2 3)	11.112	-27.765	-5.974	(1 4)
2	0.650	2.485	-22.720	-4.710	(2 3)	2.844	-23.991	-5.974	(1 4)
3	1.775	-13.705	-12.043	-4.710	(2 3)	-15.787	-12.395	-5.974	(1 4)
4	3.275	-19.462	2.192	-4.710	(2 3)	-22.859	1.790	-5.974	(1 4)
5	4.775	-7.130	16.427	-4.710	(2 3)	-11.340	14.518	-5.974	(1 4)
6	6.000	16.361	28.052	-4.710	(2 3)	10.553	23.831	-5.974	(1 4)
7	6.350	25.289	31.373	-4.710	(2 3)	18.714	26.314	-5.974	(1 4)
JTAN	6.550	30.832	33.271	-4.710	(2 3)	23.739	27.697	-5.974	(1 4)
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	23.644	-19.986	-7.413	(1 4)	30.832	-33.271	-4.710	(2 3)
1	0.200	19.921	-18.629	-7.413	(1 4)	25.289	-31.373	-4.710	(2 3)
2	0.550	14.013	-16.316	-7.413	(1 4)	16.361	-28.052	-4.710	(2 3)
3	1.775	-0.899	-8.647	-7.413	(1 4)	-7.130	-16.427	-4.710	(2 3)
4	3.275	-8.103	-1.025	-7.413	(1 4)	-19.462	-2.192	-4.710	(2 3)
5	4.775	-13.409	12.143	-6.587	(1 3)	-5.190	5.241	-5.536	(2 4)
6	5.900	2.893	22.620	-6.587	(1 3)	2.809	9.058	-5.536	(2 4)
7	6.250	10.040	26.141	-6.587	(1 3)	6.154	10.078	-5.536	(2 4)
JTAN	6.550	16.950	28.986	-6.587	(1 3)	9.311	10.590	-5.536	(2 4)

COMBINE 2

	L	M (MAXIMUM)	Q (SHEAR, MAXIMUM)	N (MAXIMUM)	CASE (MAXIMUM)	M (MINIMUM)	Q (SHEAR, MINIMUM)	N (MINIMUM)	CASE (MINIMUM)
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	10.339	0.030	-19.426	(2 3)	14.900	-1.775	-23.638	(1 4)
1	0.300	10.393	0.290	-19.876	(2 3)	14.418	-1.422	-24.088	(1 4)
2	0.450	10.446	0.413	-20.101	(2 3)	14.220	-1.216	-24.313	(1 4)
3	0.600	10.519	0.549	-20.326	(2 3)	14.054	-0.989	-24.538	(1 4)
4	1.100	10.921	1.088	-21.076	(2 3)	13.777	-0.086	-25.288	(1 4)
5	1.575	11.585	1.726	-21.789	(2 3)	13.981	0.981	-26.000	(1 4)
6	2.000	11.713	2.721	-22.526	(1 3)	15.377	1.796	-26.537	(2 4)
7	2.500	13.447	4.255	-23.276	(1 3)	16.494	2.703	-27.287	(2 4)
8	2.800	14.876	5.284	-23.726	(1 3)	17.396	3.318	-27.737	(2 4)
JTAN	3.150	16.950	6.537	-24.251	(1 3)	18.691	4.097	-28.262	(2 4)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	-4.628	1.439	-41.880	(1 4)	0.000	0.000	-53.895	(2 3)
1	0.300	-4.196	1.439	-42.180	(1 4)	0.000	0.000	-54.195	(2 3)
2	0.450	-3.980	1.439	-42.330	(1 4)	0.000	0.000	-54.345	(2 3)
3	0.600	-3.764	1.439	-42.480	(1 4)	0.000	0.000	-54.495	(2 3)
4	1.100	-3.045	1.439	-42.980	(1 4)	0.000	0.000	-54.995	(2 3)
5	1.575	-2.361	1.439	-43.455	(1 4)	0.000	0.000	-55.470	(2 3)
6	2.000	-1.749	1.439	-43.880	(1 4)	0.000	0.000	-55.895	(2 3)
7	2.500	-1.030	1.439	-44.380	(1 4)	0.000	0.000	-56.395	(2 3)
8	2.800	-0.598	1.439	-44.680	(1 4)	0.000	0.000	-56.695	(2 3)
JTAN	3.150	-0.095	1.439	-45.030	(1 4)	0.000	0.000	-57.045	(2 3)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-10.755	1.162	-19.526	(1 3)	-0.571	-0.906	-6.236	(2 4)
1	0.300	-10.457	0.809	-19.976	(1 3)	-0.873	-1.116	-6.686	(2 4)
2	0.450	-10.351	0.603	-20.201	(1 3)	-1.049	-1.239	-6.911	(2 4)
3	0.600	-10.277	0.376	-20.426	(1 3)	-1.245	-1.375	-7.136	(2 4)
4	1.100	-10.305	-0.527	-21.176	(1 3)	-2.062	-1.914	-7.886	(2 4)
5	1.575	-10.801	-1.594	-21.889	(1 3)	-3.118	-2.552	-8.599	(2 4)
6	2.000	-12.458	-2.399	-22.426	(2 3)	-3.597	-3.547	-9.336	(1 4)
7	2.500	-13.881	-3.316	-23.176	(2 3)	-5.744	-5.081	-10.086	(1 4)
8	2.800	-14.967	-3.931	-23.626	(2 3)	-7.421	-6.110	-10.536	(1 4)
JTAN	3.150	-16.477	-4.710	-24.151	(2 3)	-9.784	-7.413	-11.061	(1 4)

COMBINE 2

AXIAL MAXIMUM / AXIAL MINIMUM

= = MEMBER 1 (1 - 2) G = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	-10.339	24.175	0.080	(2 3)	-14.900	26.290	-1.775	(1 4)
1	0.300	-4.829	21.616	0.080	(2 3)	-8.165	23.674	-1.775	(1 4)
2	0.750	2.240	17.778	0.080	(2 3)	0.604	19.750	-1.775	(1 4)
3	1.200	7.875	13.939	0.080	(2 3)	7.770	15.826	-1.775	(1 4)
4	2.275	15.535	4.769	0.080	(2 3)	18.406	6.452	-1.775	(1 4)
5	3.275	15.314	-3.761	0.080	(2 3)	20.093	-2.268	-1.775	(1 4)
6	4.275	8.013	-12.291	0.080	(2 3)	13.871	-10.988	-1.775	(1 4)
7	5.450	-9.612	-22.313	0.080	(2 3)	-3.549	-21.234	-1.775	(1 4)
8	5.900	-18.950	-26.152	0.080	(2 3)	-13.112	-25.158	-1.775	(1 4)
9	6.350	-29.723	-29.990	0.080	(2 3)	-24.277	-29.082	-1.775	(1 4)
JTAN	6.550	-34.971	-31.696	0.080	(2 3)	-29.753	-30.826	-1.775	(1 4)

= = MEMBER 2 (2 - 3) G = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	-25.365	13.807	0.906	(2 4)	-34.731	31.596	-1.162	(1 3)
1	0.200	-22.665	13.195	0.906	(2 4)	-29.503	29.890	-1.162	(1 3)
2	0.650	-17.037	11.818	0.906	(2 4)	-16.776	26.052	-1.162	(1 3)
3	1.100	-12.029	10.441	0.906	(2 4)	-9.462	22.213	-1.162	(1 3)
4	2.275	-1.873	6.845	0.906	(2 4)	8.025	12.191	-1.162	(1 3)
5	3.275	3.442	3.795	0.906	(2 4)	15.226	3.661	-1.162	(1 3)
6	4.275	5.698	0.725	0.906	(2 4)	15.346	-4.869	-1.162	(1 3)
7	5.350	4.709	-2.564	0.906	(2 4)	7.580	-14.039	-1.162	(1 3)
8	5.800	3.246	-3.941	0.906	(2 4)	1.899	-17.878	-1.162	(1 3)
9	6.250	1.162	-5.318	0.906	(2 4)	-5.215	-21.716	-1.162	(1 3)
JTAN	6.550	-0.571	-6.236	0.906	(2 4)	-10.755	-24.275	-1.162	(1 3)

= = MEMBER 3 (4 - 5) G = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	18.691	-30.963	-4.097	(2 4)	16.950	-28.988	-6.587	(1 3)
1	0.300	10.669	-27.665	-4.097	(2 4)	10.040	-26.141	-6.587	(1 3)
2	0.650	2.436	-23.890	-4.097	(2 4)	2.893	-22.820	-6.587	(1 3)
3	1.775	-16.082	-12.295	-4.097	(2 4)	-13.409	-12.143	-6.587	(1 3)
4	3.275	-23.004	1.890	-4.097	(2 4)	-19.317	2.092	-6.587	(1 3)
5	4.775	-11.335	14.818	-4.097	(2 4)	-7.134	16.327	-6.587	(1 3)
6	6.000	10.680	23.931	-4.097	(2 4)	16.234	27.952	-6.587	(1 3)
7	6.350	18.876	26.414	-4.097	(2 4)	25.126	31.273	-6.587	(1 3)
JTAN	6.550	23.921	27.797	-4.097	(2 4)	30.650	33.171	-6.587	(1 3)

= = MEMBER 4 (5 - 6) G = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	30.832	-33.271	-4.710	(2 3)	23.644	-19.986	-7.413	(1 4)
1	0.200	25.289	-31.373	-4.710	(2 3)	19.921	-18.629	-7.413	(1 4)
2	0.550	16.361	-28.052	-4.710	(2 3)	14.013	-16.316	-7.413	(1 4)
3	1.775	-7.130	-16.427	-4.710	(2 3)	-0.399	-8.847	-7.413	(1 4)
4	3.275	-19.462	-2.192	-4.710	(2 3)	-8.103	-1.025	-7.413	(1 4)
5	4.775	-13.705	12.043	-4.710	(2 3)	-4.895	5.341	-7.413	(1 4)
6	5.900	2.485	22.720	-4.710	(2 3)	3.218	9.158	-7.413	(1 4)
7	6.250	9.597	26.041	-4.710	(2 3)	6.597	10.179	-7.413	(1 4)
JTAN	6.550	16.477	28.[illegible]88	-4.710	(2 3)	9.784	10.990	-7.413	(1 4)

COMBINE 2

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	10.339	0.080	-19.426	(2 3)	14.900	-1.775	-23.638	(1 4)
1	0.300	10.393	0.290	-19.876	(2 3)	14.418	-1.422	-24.088	(1 4)
2	0.450	10.446	0.413	-20.101	(2 3)	14.220	-1.216	-24.313	(1 4)
3	0.600	10.518	0.549	-20.326	(2 3)	14.054	-0.989	-24.538	(1 4)
4	1.100	10.921	1.088	-21.076	(2 3)	13.777	-0.086	-25.288	(1 4)
5	1.575	11.585	1.726	-21.789	(2 3)	13.981	0.981	-26.000	(1 4)
6	2.000	12.458	2.399	-22.426	(2 3)	14.632	2.108	-26.638	(1 4)
7	2.500	13.881	3.316	-23.176	(2 3)	16.060	3.642	-27.388	(1 4)
8	2.800	14.967	3.931	-23.626	(2 3)	17.305	4.671	-27.338	(1 4)
JTAN	3.150	16.477	4.710	-24.151	(2 3)	19.165	5.974	-28.363	(1 4)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	-4.628	1.439	-41.880	(1 4)	0.000	0.000	-53.895	(2 3)
1	0.300	-4.196	1.439	-42.180	(1 4)	0.000	0.000	-54.195	(2 3)
2	0.450	-3.980	1.439	-42.330	(1 4)	0.000	0.000	-54.345	(2 3)
3	0.600	-3.764	1.439	-42.480	(1 4)	0.000	0.000	-54.495	(2 3)
4	1.100	-3.045	1.439	-42.980	(1 4)	0.000	0.000	-54.995	(2 3)
5	1.575	-2.361	1.439	-43.455	(1 4)	0.000	0.000	-55.470	(2 3)
6	2.000	-1.749	1.439	-43.380	(1 4)	0.000	0.000	-55.895	(2 3)
7	2.500	-1.030	1.439	-44.380	(1 4)	0.000	0.000	-56.395	(2 3)
8	2.800	-0.598	1.439	-44.680	(1 4)	0.000	0.000	-56.695	(2 3)
JTAN	3.150	-0.095	1.439	-45.030	(1 4)	0.000	0.000	-57.045	(2 3)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-0.571	-0.906	-6.236	(2 4)	-10.755	1.162	-19.526	(1 3)
1	0.300	-0.673	-1.116	-6.686	(2 4)	-10.457	0.809	-19.976	(1 3)
2	0.450	-1.049	-1.239	-6.911	(2 4)	-10.351	0.603	-20.201	(1 3)
3	0.600	-1.245	-1.375	-7.136	(2 4)	-10.277	0.376	-20.426	(1 3)
4	1.100	-2.062	-1.914	-7.386	(2 4)	-10.305	-0.527	-21.176	(1 3)
5	1.575	-3.118	-2.552	-8.599	(2 4)	-10.301	-1.594	-21.889	(1 3)
6	2.000	-4.342	-3.225	-9.236	(2 4)	-11.713	-2.721	-22.526	(1 3)
7	2.500	-6.178	-4.142	-9.986	(2 4)	-13.447	-4.255	-23.276	(1 3)
8	2.800	-7.512	-4.757	-10.436	(2 4)	-14.876	-5.294	-23.726	(1 3)
JTAN	3.150	-9.311	-5.536	-10.961	(2 4)	-16.950	-6.587	-24.251	(1 3)

COMBINE 3

	L	MOMENT MAXIMUM M	Q	N	CASE	MOMENT MINIMUM M	Q	N	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-3.719	8.097	-1.367	(2 5)	-4.135	8.197	-2.609	(1 5)
1	0.300	-1.428	7.179	-1.367	(2 5)	-1.814	7.279	-2.609	(1 5)
2	0.750	1.493	5.802	-1.367	(2 5)	1.152	5.902	-2.609	(1 5)
3	1.200	3.794	4.425	-1.367	(2 5)	3.498	4.525	-2.609	(1 5)
4	2.275	6.782	1.135	-1.367	(2 5)	6.594	1.235	-2.609	(1 5)
5	3.275	6.387	-1.925	-1.367	(2 5)	6.299	-1.825	-2.609	(1 5)
6	4.275	2.944	-4.685	-2.609	(1 5)	2.932	-4.985	-1.367	(2 5)
7	5.450	-4.908	-8.480	-2.609	(1 5)	-5.038	-8.580	-1.367	(2 5)
8	5.900	-9.034	-9.857	-2.609	(1 5)	-9.209	-9.957	-1.367	(2 5)
9	6.350	-13.780	-11.234	-2.609	(1 5)	-13.999	-11.334	-1.367	(2 5)
JTAN	6.550	-16.088	-11.846	-2.609	(1 5)	-16.327	-11.946	-1.367	(2 5)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-16.088	11.846	-2.609	(1 5)	-16.327	11.946	-1.367	(2 5)
1	0.200	-13.780	11.234	-2.609	(1 5)	-13.999	11.334	-1.367	(2 5)
2	0.650	-9.034	9.857	-2.609	(1 5)	-9.209	9.957	-1.367	(2 5)
3	1.100	-4.908	8.480	-2.609	(1 5)	-5.038	8.580	-1.367	(2 5)
4	2.275	2.944	4.685	-2.609	(1 5)	2.932	4.985	-1.367	(2 5)
5	3.275	6.387	1.925	-1.367	(2 5)	6.299	1.825	-2.609	(1 5)
6	4.275	6.782	-1.135	-1.367	(2 5)	6.594	-1.235	-2.609	(1 5)
7	5.350	3.794	-4.425	-1.367	(2 5)	3.498	-4.525	-2.609	(1 5)
8	5.800	1.493	-5.802	-1.367	(2 5)	1.152	-5.902	-2.609	(1 5)
9	6.250	-1.428	-7.179	-1.367	(2 5)	-1.814	-7.279	-2.609	(1 5)
JTAN	6.550	-3.719	-8.097	-1.367	(2 5)	-4.135	-8.197	-2.609	(1 5)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	11.231	-12.910	-8.605	(1 5)	10.758	-12.810	-6.729	(2 5)
1	0.300	7.539	-11.704	-8.605	(1 5)	7.096	-11.604	-6.729	(2 5)
2	0.650	3.689	-10.297	-8.605	(1 5)	3.281	-10.197	-6.729	(2 5)
3	1.775	-5.351	-5.774	-8.605	(1 5)	-5.646	-5.674	-6.729	(2 5)
4	3.275	-9.489	0.256	-8.605	(1 5)	-9.635	0.356	-6.729	(2 5)
5	4.775	-4.579	6.386	-6.729	(2 5)	-4.583	6.286	-8.605	(1 5)
6	6.000	6.260	11.310	-6.729	(2 5)	6.133	11.210	-8.605	(1 5)
7	6.350	10.465	12.717	-6.729	(2 5)	10.303	12.617	-8.605	(1 5)
JTAN	6.550	13.089	13.521	-6.729	(2 5)	12.907	13.421	-8.605	(1 5)
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	13.089	-13.521	-6.729	(2 5)	12.907	-13.421	-8.605	(1 5)
1	0.200	10.465	-12.717	-6.729	(2 5)	10.303	-12.617	-8.605	(1 5)
2	0.550	6.260	-11.310	-6.729	(2 5)	6.133	-11.210	-8.605	(1 5)
3	1.775	-4.579	-6.386	-6.729	(2 5)	-4.583	-6.286	-8.605	(1 5)
4	3.275	-9.489	-0.256	-8.605	(1 5)	-9.635	-0.356	-6.729	(2 5)
5	4.775	-5.351	5.774	-8.605	(1 5)	-5.646	5.674	-6.729	(2 5)
6	5.900	3.689	10.297	-8.605	(1 5)	3.281	10.197	-6.729	(2 5)
7	6.250	7.539	11.704	-8.605	(1 5)	7.096	11.604	-6.729	(2 5)
JTAN	6.550	11.231	12.910	-8.605	(1 5)	10.758	12.810	-6.729	(2 5)

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COMBINE 3

	---L---	MOMENT MAXIMUM ----M----	----Q----	----N----	----CASE----	MOMENT MINIMUM ----M----	----Q----	----N----	----CASE----
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	4.135	-2.609	-8.197	(1 5)	3.719	-1.367	-8.097	(2 5)
1	0.300	3.453	-1.926	-8.647	(1 5)	3.389	-0.827	-8.547	(2 5)
2	0.450	3.286	-0.538	-8.772	(2 5)	3.191	-1.554	-8.872	(1 5)
3	0.600	3.228	-0.238	-8.997	(2 5)	2.987	-1.162	-9.097	(1 5)
4	1.100	3.376	0.652	-9.747	(2 5)	2.760	0.291	-9.847	(1 5)
5	1.575	4.051	2.011	-10.459	(2 5)	3.268	1.880	-10.559	(1 5)
6	2.000	5.145	3.152	-11.097	(2 5)	4.400	3.474	-11.197	(1 5)
7	2.500	7.082	4.620	-11.847	(2 5)	6.648	5.559	-11.947	(1 5)
8	2.800	8.608	5.565	-12.297	(2 5)	8.518	6.917	-12.397	(1 5)
JTAN	3.150	11.231	8.605	-12.922	(1 5)	10.758	6.729	-12.822	(2 5)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-23.893	(2 5)	0.000	0.000	-23.693	(1 5)
1	0.300	0.000	0.000	-24.193	(2 5)	0.000	0.000	-23.993	(1 5)
2	0.450	0.000	0.000	-24.343	(2 5)	0.000	0.000	-24.143	(1 5)
3	0.600	0.000	0.000	-24.493	(2 5)	0.000	0.000	-24.293	(1 5)
4	1.100	0.000	0.000	-24.993	(2 5)	0.000	0.000	-24.793	(1 5)
5	1.575	0.000	0.000	-25.268	(1 5)	0.000	0.000	-25.468	(2 5)
6	2.000	0.000	0.000	-25.693	(1 5)	0.000	0.000	-25.893	(2 5)
7	2.500	0.000	0.000	-26.193	(1 5)	0.000	0.000	-26.393	(2 5)
8	2.800	0.000	0.000	-26.493	(1 5)	0.000	0.000	-26.693	(2 5)
JTAN	3.150	0.000	0.000	-26.843	(1 5)	0.000	0.000	-27.043	(2 5)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-3.719	1.367	-8.097	(2 5)	-4.135	2.609	-8.197	(1 5)
1	0.300	-3.389	0.627	-8.547	(2 5)	-3.453	1.926	-8.647	(1 5)
2	0.450	-3.191	1.554	-8.872	(1 5)	-3.286	0.538	-8.772	(2 5)
3	0.600	-2.987	1.162	-9.097	(1 5)	-3.228	0.238	-8.997	(2 5)
4	1.100	-2.760	-0.291	-9.347	(1 5)	-3.376	-0.352	-9.747	(2 5)
5	1.575	-3.268	-1.880	-10.559	(1 5)	-4.051	-2.011	-10.459	(2 5)
6	2.000	-4.400	-3.474	-11.197	(1 5)	-5.145	-3.152	-11.097	(2 5)
7	2.500	-6.648	-5.559	-11.947	(1 5)	-7.082	-4.620	-11.847	(2 5)
8	2.800	-8.518	-6.917	-12.397	(1 5)	-8.608	-5.565	-12.297	(2 5)
JTAN	3.150	-10.758	-6.729	-12.822	(2 5)	-11.231	-8.605	-12.922	(1 5)

COMBINE 3

	L	SHEAR MAXIMUM M	Q	N	CASE	SHEAR MINIMUM M	Q	N	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-4.135	8.197	-2.609	(1 5)	-3.719	8.097	-1.367	(2 5)
1	0.300	-1.814	7.279	-2.609	(1 5)	-1.428	7.179	-1.367	(2 5)
2	0.750	1.152	5.902	-2.609	(1 5)	1.493	5.802	-1.367	(2 5)
3	1.200	3.498	4.525	-2.609	(1 5)	3.794	4.425	-1.367	(2 5)
4	2.275	6.594	1.235	-2.609	(1 5)	6.782	1.135	-1.367	(2 5)
5	3.275	6.299	-1.825	-2.609	(1 5)	6.387	-1.925	-1.367	(2 5)
6	4.275	2.944	-4.885	-2.609	(1 5)	2.932	-4.985	-1.367	(2 5)
7	5.450	-4.908	-8.480	-2.609	(1 5)	-5.038	-8.580	-1.367	(2 5)
8	5.900	-9.034	-9.857	-2.609	(1 5)	-9.209	-9.957	-1.367	(2 5)
9	6.350	-13.780	-11.234	-2.609	(1 5)	-13.999	-11.334	-1.367	(2 5)
JTAN	6.550	-16.088	-11.846	-2.609	(1 5)	-16.327	-11.946	-1.367	(2 5)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-16.327	11.946	-1.367	(2 5)	-16.088	11.846	-2.609	(1 5)
1	0.200	-13.999	11.334	-1.367	(2 5)	-13.780	11.234	-2.609	(1 5)
2	0.650	-9.209	9.957	-1.367	(2 5)	-9.034	9.857	-2.609	(1 5)
3	1.100	-5.038	8.580	-1.367	(2 5)	-4.908	8.480	-2.609	(1 5)
4	2.275	2.932	4.985	-1.367	(2 5)	2.944	4.885	-2.609	(1 5)
5	3.275	6.387	1.925	-1.367	(2 5)	6.299	1.825	-2.609	(1 5)
6	4.275	6.782	-1.135	-1.367	(2 5)	6.594	-1.235	-2.609	(1 5)
7	5.350	3.794	-4.425	-1.367	(2 5)	3.498	-4.525	-2.609	(1 5)
8	5.800	1.493	-5.802	-1.367	(2 5)	1.152	-5.902	-2.609	(1 5)
9	6.250	-1.428	-7.179	-1.367	(2 5)	-1.814	-7.279	-2.609	(1 5)
JTAN	6.550	-3.719	-8.097	-1.367	(2 5)	-4.135	-8.197	-2.609	(1 5)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	10.758	-12.810	-6.729	(2 5)	11.231	-12.910	-8.605	(1 5)
1	0.300	7.096	-11.604	-6.729	(2 5)	7.539	-11.704	-8.605	(1 5)
2	0.650	3.281	-10.197	-6.729	(2 5)	3.689	-10.297	-8.605	(1 5)
3	1.775	-5.646	-5.674	-6.729	(2 5)	-5.351	-5.774	-8.605	(1 5)
4	3.275	-9.635	0.356	-6.729	(2 5)	-9.489	0.256	-8.605	(1 5)
5	4.775	-4.579	6.386	-6.729	(2 5)	-4.583	6.286	-8.605	(1 5)
6	6.000	6.260	11.310	-6.729	(2 5)	6.133	11.210	-8.605	(1 5)
7	6.350	10.465	12.717	-6.729	(2 5)	10.303	12.617	-8.605	(1 5)
JTAN	6.550	13.089	13.521	-6.729	(2 5)	12.907	13.421	-8.605	(1 5)
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	12.907	-13.421	-8.605	(1 5)	13.089	-13.521	-6.729	(2 5)
1	0.200	10.303	-12.617	-8.605	(1 5)	10.465	-12.717	-6.729	(2 5)
2	0.550	6.133	-11.210	-8.605	(1 5)	6.260	-11.310	-6.729	(2 5)
3	1.775	-4.583	-6.286	-8.605	(1 5)	-4.579	-6.386	-6.729	(2 5)
4	3.275	-9.489	-0.256	-8.605	(1 5)	-9.635	-0.356	-6.729	(2 5)
5	4.775	-5.351	5.774	-8.605	(1 5)	-5.646	5.674	-6.729	(2 5)
6	5.900	3.689	10.297	-8.605	(1 5)	3.281	10.197	-6.729	(2 5)
7	6.250	7.539	11.704	-8.605	(1 5)	7.096	11.604	-6.729	(2 5)
JTAN	6.550	11.231	12.910	-8.605	(1 5)	10.758	12.810	-6.729	(2 5)

COMBINE 3

		SHEAR MAXIMUM				SHEAR MINIMUM		
---L---	----M---	----Q---	----N---	----CASE----	----M---	----Q---	----N---	----CASE----
= = MEMBER 5 (1 - 4) C = =								
ITAN 0.000	3.719	-1.367	-8.097	(2 5)	4.135	-2.609	-8.197	(1 5)
1 0.300	3.389	-0.827	-8.547	(2 5)	3.453	-1.926	-8.647	(1 5)
2 0.450	3.286	-0.538	-8.772	(2 5)	3.191	-1.554	-8.872	(1 5)
3 0.600	3.228	-0.238	-8.997	(2 5)	2.987	-1.162	-9.097	(1 5)
4 1.100	3.376	0.852	-9.747	(2 5)	2.760	0.291	-9.847	(1 5)
5 1.575	4.051	2.011	-10.459	(2 5)	3.268	1.880	-10.559	(1 5)
6 2.000	4.400	3.474	-11.197	(1 5)	5.145	3.152	-11.097	(2 5)
7 2.500	6.648	5.559	-11.947	(1 5)	7.082	4.620	-11.847	(2 5)
8 2.800	8.519	6.917	-12.397	(1 5)	8.608	5.565	-12.297	(2 5)
JTAN 3.150	11.231	8.605	-12.922	(1 5)	10.758	6.729	-12.822	(2 5)
= = MEMBER 6 (2 - 5) C = =								
ITAN 0.000	0.000	0.000	-23.693	(1 5)	0.000	0.000	-23.893	(2 5)
1 0.300	0.000	0.000	-23.393	(1 5)	0.000	0.000	-24.193	(2 5)
2 0.450	0.000	0.000	-24.143	(1 5)	0.000	0.000	-24.343	(2 5)
3 0.600	0.000	0.000	-24.293	(1 5)	0.000	0.000	-24.493	(2 5)
4 1.100	0.000	0.000	-24.793	(1 5)	0.000	0.000	-24.993	(2 5)
5 1.575	0.000	0.000	-25.266	(1 5)	0.000	0.000	-25.468	(2 5)
6 2.000	0.000	0.000	-25.693	(1 5)	0.000	0.000	-25.893	(2 5)
7 2.500	0.000	0.000	-26.193	(1 5)	0.000	0.000	-26.393	(2 5)
8 2.800	0.000	0.000	-26.493	(1 5)	0.000	0.000	-26.693	(2 5)
JTAN 3.150	0.000	0.000	-26.843	(1 5)	0.000	0.000	-27.043	(2 5)
= = MEMBER 7 (3 - 6) C = =								
ITAN 0.000	-4.135	2.609	-8.197	(1 5)	-3.719	1.367	-8.097	(2 5)
1 0.300	-3.453	1.926	-8.647	(1 5)	-3.389	0.827	-8.547	(2 5)
2 0.450	-3.191	1.554	-8.872	(1 5)	-3.286	0.538	-8.772	(2 5)
3 0.600	-2.987	1.162	-9.097	(1 5)	-3.228	0.238	-8.997	(2 5)
4 1.100	-2.760	-0.291	-9.847	(1 5)	-3.376	-0.852	-9.747	(2 5)
5 1.575	-3.268	-1.680	-10.559	(1 5)	-4.051	-2.011	-10.459	(2 5)
6 2.000	-5.145	-3.152	-11.097	(2 5)	-4.400	-3.474	-11.197	(1 5)
7 2.500	-7.082	-4.620	-11.847	(2 5)	-6.648	-5.559	-11.947	(1 5)
8 2.800	-8.608	-5.565	-12.297	(2 5)	-6.516	-6.917	-12.397	(1 5)
JTAN 3.150	-10.758	-6.729	-12.822	(2 5)	-11.231	-8.605	-12.922	(1 5)

COMBINE 3

= = MEMBER 1 (1 - 2) G = =

	AXIAL MAXIMUM L	M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	-3.719	8.097	-1.367	(2 5)	-4.135	8.197	-2.609	(1 5)
1	0.300	-1.428	7.175	-1.367	(2 5)	-1.814	7.279	-2.609	(1 5)
2	0.750	1.493	5.802	-1.367	(2 5)	1.152	5.902	-2.609	(1 5)
3	1.200	3.794	4.425	-1.367	(2 5)	3.498	4.525	-2.609	(1 5)
4	2.275	6.782	1.135	-1.367	(2 5)	6.594	1.235	-2.609	(1 5)
5	3.275	6.387	-1.925	-1.367	(2 5)	6.299	-1.825	-2.609	(1 5)
6	4.275	2.932	-4.985	-1.367	(2 5)	2.944	-4.885	-2.609	(1 5)
7	5.450	-5.038	-8.580	-1.367	(2 5)	-4.908	-8.480	-2.609	(1 5)
8	5.900	-9.209	-9.957	-1.367	(2 5)	-9.034	-9.857	-2.609	(1 5)
9	6.350	-13.999	-11.334	-1.367	(2 5)	-13.780	-11.234	-2.609	(1 5)
JTAN	6.550	-16.327	-11.946	-1.367	(2 5)	-16.088	-11.846	-2.609	(1 5)

= = MEMBER 2 (2 - 3) G = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	-16.327	11.946	-1.367	(2 5)	-16.088	11.846	-2.609	(1 5)
1	0.200	-13.999	11.334	-1.367	(2 5)	-13.780	11.234	-2.609	(1 5)
2	0.650	-9.209	9.957	-1.367	(2 5)	-9.034	9.857	-2.609	(1 5)
3	1.100	-5.038	8.580	-1.367	(2 5)	-4.908	8.480	-2.609	(1 5)
4	2.275	2.932	4.985	-1.367	(2 5)	2.944	4.885	-2.609	(1 5)
5	3.275	6.387	1.925	-1.367	(2 5)	6.299	1.825	-2.609	(1 5)
6	4.275	6.782	-1.135	-1.367	(2 5)	6.594	-1.235	-2.609	(1 5)
7	5.350	3.794	-4.425	-1.367	(2 5)	3.498	-4.525	-2.609	(1 5)
8	5.800	1.493	-5.802	-1.367	(2 5)	1.152	-5.902	-2.609	(1 5)
9	6.250	-1.428	-7.179	-1.367	(2 5)	-1.814	-7.279	-2.609	(1 5)
JTAN	6.550	-3.719	-8.097	-1.367	(2 5)	-4.135	-8.197	-2.609	(1 5)

= = MEMBER 3 (4 - 5) G = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	10.758	-12.810	-6.729	(2 5)	11.231	-12.910	-8.605	(1 5)
1	0.300	7.096	-11.604	-6.729	(2 5)	7.539	-11.704	-8.605	(1 5)
2	0.650	3.281	-10.197	-6.729	(2 5)	3.689	-10.297	-8.605	(1 5)
3	1.775	-5.646	-5.674	-6.729	(2 5)	-5.351	-5.774	-8.605	(1 5)
4	3.275	-9.635	0.356	-6.729	(2 5)	-9.489	0.256	-8.605	(1 5)
5	4.775	-4.579	6.386	-6.729	(2 5)	-4.583	6.286	-8.605	(1 5)
6	6.000	6.260	11.310	-6.729	(2 5)	6.133	11.210	-8.605	(1 5)
7	6.350	10.465	12.717	-6.729	(2 5)	10.303	12.617	-8.605	(1 5)
JTAN	6.550	13.089	13.521	-6.729	(2 5)	12.907	13.421	-8.605	(1 5)

= = MEMBER 4 (5 - 6) G = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	13.089	-13.521	-6.729	(2 5)	12.907	-13.421	-8.605	(1 5)
1	0.200	10.465	-12.717	-6.729	(2 5)	10.303	-12.617	-8.605	(1 5)
2	0.550	6.260	-11.310	-6.729	(2 5)	6.133	-11.210	-8.605	(1 5)
3	1.775	-4.579	-6.386	-6.729	(2 5)	-4.583	-6.286	-8.605	(1 5)
4	3.275	-9.635	-0.356	-6.729	(2 5)	-9.489	-0.256	-8.605	(1 5)
5	4.775	-5.646	5.674	-6.729	(2 5)	-5.351	5.774	-8.605	(1 5)
6	5.900	3.281	10.197	-6.729	(2 5)	3.689	10.297	-8.605	(1 5)
7	6.250	7.096	11.604	-6.729	(2 5)	7.539	11.704	-8.605	(1 5)
JTAN	6.550	10.758	12.810	-6.729	(2 5)	11.231	12.910	-8.605	(1 5)

COMBINE 3

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	3.719	-1.367	-8.097	(2 5)	4.135	-2.609	-8.197	(1 5)
1	0.300	3.389	-0.627	-8.547	(2 5)	3.453	-1.926	-8.647	(1 5)
2	0.450	3.286	-0.536	-8.772	(2 5)	3.191	-1.554	-8.872	(1 5)
3	0.600	3.228	-0.238	-8.997	(2 5)	2.987	-1.162	-9.097	(1 5)
4	1.100	3.376	0.852	-9.747	(2 5)	2.760	0.291	-9.847	(1 5)
5	1.575	4.051	2.011	-10.459	(2 5)	3.268	1.380	-10.559	(1 5)
6	2.000	5.145	3.152	-11.097	(2 5)	4.400	3.474	-11.197	(1 5)
7	2.500	7.082	4.620	-11.847	(2 5)	6.648	5.559	-11.947	(1 5)
8	2.800	8.608	5.565	-12.297	(2 5)	8.518	6.917	-12.397	(1 5)
JTAN	3.150	10.758	6.729	-12.822	(2 5)	11.231	8.605	-12.922	(1 5)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-23.693	(1 5)	0.000	0.000	-23.893	(2 5)
1	0.300	0.000	0.000	-23.993	(1 5)	0.000	0.000	-24.193	(2 5)
2	0.450	0.000	0.000	-24.143	(1 5)	0.000	0.000	-24.343	(2 5)
3	0.600	0.000	0.000	-24.293	(1 5)	0.000	0.000	-24.493	(2 5)
4	1.100	0.000	0.000	-24.793	(1 5)	0.000	0.000	-24.993	(2 5)
5	1.575	0.000	0.000	-25.268	(1 5)	0.000	0.000	-25.468	(2 5)
6	2.000	0.000	0.000	-25.693	(1 5)	0.000	0.000	-25.893	(2 5)
7	2.500	0.000	0.000	-26.193	(1 5)	0.000	0.000	-26.393	(2 5)
8	2.800	0.000	0.000	-26.493	(1 5)	0.000	0.000	-26.693	(2 5)
JTAN	3.150	0.000	0.000	-26.843	(1 5)	0.000	0.000	-27.043	(2 5)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-3.719	1.367	-8.097	(2 5)	-4.135	2.609	-8.197	(1 5)
1	0.300	-3.389	0.627	-8.547	(2 5)	-3.453	1.926	-8.647	(1 5)
2	0.450	-3.286	0.538	-8.772	(2 5)	-3.191	1.554	-8.872	(1 5)
3	0.600	-3.228	0.238	-8.997	(2 5)	-2.987	1.162	-9.097	(1 5)
4	1.100	-3.376	-0.852	-9.747	(2 5)	-2.760	-0.291	-9.847	(1 5)
5	1.575	-4.051	-2.011	-10.459	(2 5)	-3.268	-1.380	-10.559	(1 5)
6	2.000	-5.145	-3.152	-11.097	(2 5)	-4.400	-3.474	-11.197	(1 5)
7	2.500	-7.082	-4.620	-11.847	(2 5)	-6.648	-5.559	-11.947	(1 5)
8	2.800	-8.608	-5.565	-12.297	(2 5)	-8.518	-6.917	-12.397	(1 5)
JTAN	3.150	-10.758	-6.729	-12.822	(2 5)	-11.231	-8.605	-12.922	(1 5)

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COMBINE 4

SHEAR MAXIMUM / SHEAR MINIMUM

= = MEMBER 1 (1 - 2) G = =

	L	M (max)	V (max)	N (max)	CASE (max)	M (min)	V (min)	N (min)	CASE (min)
ITAN	0.000	-15.365	26.401	-3.489	(1 4 5)	-10.803	24.286	-1.634	(2 3 5)
1	0.300	-8.596	23.785	-3.489	(1 4 5)	-5.261	21.727	-1.634	(2 3 5)
2	0.750	0.222	19.861	-3.489	(1 4 5)	1.859	17.889	-1.634	(2 3 5)
3	1.200	7.439	15.937	-3.489	(1 4 5)	7.544	14.050	-1.634	(2 3 5)
4	2.275	18.194	6.564	-3.489	(1 4 5)	15.323	4.881	-1.634	(2 3 5)
5	3.275	19.993	-2.156	-3.489	(1 4 5)	15.214	-3.649	-1.634	(2 3 5)
6	4.275	13.882	-10.876	-3.489	(1 4 5)	8.024	-12.179	-1.634	(2 3 5)
7	5.450	-3.407	-21.122	-3.489	(1 4 5)	-9.470	-22.202	-1.634	(2 3 5)
8	5.900	-12.920	-25.046	-3.489	(1 4 5)	-18.759	-26.041	-1.634	(2 3 5)
9	6.350	-24.035	-28.970	-3.489	(1 4 5)	-29.481	-29.879	-1.634	(2 3 5)
JTAN	6.550	-29.489	-30.714	-3.489	(1 4 5)	-34.707	-31.585	-1.634	(2 3 5)

= = MEMBER 2 (2 - 3) G = =

	L	M (max)	V (max)	N (max)	CASE (max)	M (min)	V (min)	N (min)	CASE (min)
ITAN	0.000	-34.707	31.585	-1.634	(2 3 5)	-24.862	13.596	-2.050	(1 4 5)
1	0.200	-29.481	29.879	-1.634	(2 3 5)	-22.204	12.984	-2.050	(1 4 5)
2	0.650	-18.759	26.041	-1.634	(2 3 5)	-16.671	11.607	-2.050	(1 4 5)
3	1.100	-9.470	22.202	-1.634	(2 3 5)	-11.756	10.230	-2.050	(1 4 5)
4	2.275	8.024	12.179	-1.634	(2 3 5)	-1.850	6.634	-2.050	(1 4 5)
5	3.275	3.342	3.674	-0.808	(2 4 5)	15.126	3.549	-2.876	(1 3 5)
6	4.275	5.486	0.614	-0.808	(2 4 5)	15.135	-4.981	-2.876	(1 3 5)
7	5.350	4.378	-2.675	-0.808	(2 4 5)	7.248	-14.150	-2.876	(1 3 5)
8	5.800	2.864	-4.052	-0.808	(2 4 5)	1.518	-17.989	-2.876	(1 3 5)
9	6.250	0.731	-5.429	-0.808	(2 4 5)	-5.646	-21.827	-2.876	(1 3 5)
JTAN	6.550	-1.035	-6.347	-0.808	(2 4 5)	-11.219	-24.386	-2.876	(1 3 5)

= = MEMBER 3 (4 - 5) G = =

	L	M (max)	V (max)	N (max)	CASE (max)	M (min)	V (min)	N (min)	CASE (min)
ITAN	0.000	17.000	-28.999	-6.461	(2 3 5)	19.687	-31.175	-7.725	(1 4 5)
1	0.300	10.086	-26.152	-6.461	(2 3 5)	11.602	-27.876	-7.725	(1 4 5)
2	0.650	2.935	-22.631	-6.461	(2 3 5)	3.295	-24.102	-7.725	(1 4 5)
3	1.775	-13.380	-12.155	-6.461	(2 3 5)	-15.461	-12.507	-7.725	(1 4 5)
4	3.275	-19.304	2.080	-6.461	(2 3 5)	-22.700	1.679	-7.725	(1 4 5)
5	4.775	-7.138	16.315	-6.461	(2 3 5)	-11.348	14.407	-7.725	(1 4 5)
6	6.000	16.216	27.941	-6.461	(2 3 5)	10.409	23.720	-7.725	(1 4 5)
7	6.350	25.105	31.262	-6.461	(2 3 5)	16.530	26.203	-7.725	(1 4 5)
JTAN	6.550	30.626	33.160	-6.461	(2 3 5)	23.533	27.586	-7.725	(1 4 5)

= = MEMBER 4 (5 - 6) G = =

	L	M (max)	V (max)	N (max)	CASE (max)	M (min)	V (min)	N (min)	CASE (min)
ITAN	0.000	23.438	-19.574	-9.164	(1 4 5)	30.626	-33.160	-6.461	(2 3 5)
1	0.200	19.739	-18.517	-9.164	(1 4 5)	25.105	-31.262	-6.461	(2 3 5)
2	0.550	13.868	-16.205	-9.164	(1 4 5)	16.216	-27.941	-6.461	(2 3 5)
3	1.775	-0.907	-8.736	-9.164	(1 4 5)	-7.138	-16.315	-6.461	(2 3 5)
4	3.275	-7.944	-0.913	-9.164	(1 4 5)	-19.304	-2.080	-6.461	(2 3 5)
5	4.775	-13.084	12.255	-8.338	(1 3 5)	-4.865	5.352	-7.287	(2 4 5)
6	5.900	3.344	22.931	-8.338	(1 3 5)	3.260	9.169	-7.287	(2 4 5)
7	6.250	10.530	26.252	-8.338	(1 3 5)	6.643	10.190	-7.287	(2 4 5)
JTAN	6.550	17.473	29.099	-8.338	(1 3 5)	9.834	11.001	-7.287	(2 4 5)

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COMBINE 4

		MOMENT MAXIMUM				MOMENT MINIMUM			
	---L---	----M----	----Q----	----N----	----CASE----	----M----	----Q----	----N----	----CASE----
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-10.803	24.286	-1.634	(2 3 5)	-15.365	26.401	-3.489	(1 4 5)
1	0.300	-5.261	21.727	-1.634	(2 3 5)	-8.596	23.785	-3.489	(1 4 5)
2	0.750	1.859	17.889	-1.634	(2 3 5)	0.222	19.861	-3.489	(1 4 5)
3	1.200	7.735	15.837	-2.247	(2 4 5)	7.248	14.150	-2.876	(1 3 5)
4	2.275	18.383	5.463	-2.247	(2 4 5)	15.135	4.981	-2.876	(1 3 5)
5	3.275	20.081	-2.257	-2.247	(2 4 5)	15.126	-3.549	-2.876	(1 3 5)
6	4.275	13.882	-10.876	-3.489	(1 4 5)	8.024	-12.179	-1.634	(2 3 5)
7	5.450	-3.407	-21.122	-3.489	(1 4 5)	-9.470	-22.202	-1.634	(2 3 5)
8	5.900	-12.920	-25.046	-3.489	(1 4 5)	-16.759	-26.041	-1.634	(2 3 5)
9	6.350	-24.035	-28.970	-3.489	(1 4 5)	-29.481	-29.879	-1.634	(2 3 5)
JTAN	6.550	-29.489	-30.714	-3.489	(1 4 5)	-34.707	-31.585	-1.634	(2 3 5)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-24.862	13.596	-2.050	(1 4 5)	-34.707	31.585	-1.634	(2 3 5)
1	0.200	-22.204	12.984	-2.050	(1 4 5)	-29.481	29.879	-1.634	(2 3 5)
2	0.650	-16.671	11.607	-2.050	(1 4 5)	-18.759	26.041	-1.634	(2 3 5)
3	1.100	-9.341	22.102	-2.876	(1 3 5)	-11.887	10.330	-0.808	(2 4 5)
4	2.275	8.036	12.079	-2.876	(1 3 5)	-1.862	6.734	-0.808	(2 4 5)
5	3.275	15.214	3.649	-1.634	(2 3 5)	3.254	3.574	-2.050	(1 4 5)
6	4.275	15.323	-4.881	-1.634	(2 3 5)	5.298	0.514	-2.050	(1 4 5)
7	5.350	7.544	-14.050	-1.634	(2 3 5)	4.082	-2.775	-2.050	(1 4 5)
8	5.800	2.864	-4.052	-0.808	(2 4 5)	1.518	-17.989	-2.876	(1 3 5)
9	6.250	0.731	-5.429	-0.808	(2 4 5)	-5.646	-21.827	-2.876	(1 3 5)
JTAN	6.550	-1.035	-6.347	-0.808	(2 4 5)	-11.219	-24.386	-2.876	(1 3 5)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	19.687	-31.175	-7.725	(1 4 5)	17.000	-28.999	-6.461	(2 3 5)
1	0.300	11.602	-27.876	-7.725	(1 4 5)	10.086	-26.152	-6.461	(2 3 5)
2	0.650	3.344	-22.931	-8.338	(1 3 5)	2.886	-24.002	-5.848	(2 4 5)
3	1.775	-13.084	-12.255	-8.338	(1 3 5)	-15.757	-12.407	-5.848	(2 4 5)
4	3.275	-19.159	1.980	-8.338	(1 3 5)	-22.846	1.779	-5.848	(2 4 5)
5	4.775	-7.138	16.315	-6.461	(2 3 5)	-11.348	14.407	-7.725	(1 4 5)
6	6.000	16.216	27.941	-6.461	(2 3 5)	10.409	23.720	-7.725	(1 4 5)
7	6.350	25.105	31.262	-6.461	(2 3 5)	18.530	26.203	-7.725	(1 4 5)
JTAN	6.550	30.626	33.160	-6.461	(2 3 5)	23.533	27.586	-7.725	(1 4 5)
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	30.626	-33.160	-6.461	(2 3 5)	23.438	-19.874	-9.164	(1 4 5)
1	0.200	25.105	-31.262	-6.461	(2 3 5)	19.738	-18.517	-9.164	(1 4 5)
2	0.550	16.216	-27.941	-6.461	(2 3 5)	13.868	-16.205	-9.164	(1 4 5)
3	1.775	-0.903	-9.236	-7.287	(2 4 5)	-7.143	-16.215	-8.338	(1 3 5)
4	3.275	-7.944	-0.913	-9.164	(1 4 5)	-19.304	-2.080	-6.461	(2 3 5)
5	4.775	-4.570	5.452	-9.164	(1 4 5)	-13.380	12.155	-6.461	(2 3 5)
6	5.900	3.668	9.269	-9.164	(1 4 5)	2.935	22.831	-6.461	(2 3 5)
7	6.250	10.530	26.252	-8.338	(1 3 5)	6.643	10.190	-7.287	(2 4 5)
JTAN	6.550	17.473	29.039	-8.338	(1 3 5)	9.534	11.001	-7.287	(2 4 5)

COMBINE 4

	---L---	MOMENT MAXIMUM ----M---	----Q---	----N---	----CASE----------	MOMENT MINIMUM ----M---	----Q---	----N---	----CASE----------
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	15.365	-3.489	-23.749	(1 4 5)	10.803	-1.634	-19.538	(2 3 5)
1	0.300	14.418	-2.807	-24.199	(1 4 5)	10.393	-1.094	-19.988	(2 3 5)
2	0.450	14.120	-1.419	-24.324	(2 4 5)	10.155	-1.822	-20.313	(1 3 5)
3	0.600	13.929	-1.116	-24.549	(2 4 5)	9.911	-1.430	-20.538	(1 3 5)
4	1.100	13.637	-0.029	-25.299	(2 4 5)	9.550	0.023	-21.288	(1 3 5)
5	1.575	13.894	1.131	-26.011	(2 4 5)	9.931	1.613	-22.000	(1 3 5)
6	2.000	14.613	2.272	-26.649	(2 4 5)	10.949	3.207	-22.638	(1 3 5)
7	2.500	16.111	3.739	-27.399	(2 4 5)	13.064	5.291	-23.388	(1 3 5)
8	2.800	17.373	4.684	-27.849	(2 4 5)	14.853	6.650	-23.538	(1 3 5)
JTAN	3.150	19.687	7.725	-28.474	(1 4 5)	17.000	6.461	-24.263	(2 3 5)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	0.000	0.000	-53.673	(2 3 5)	-4.628	1.439	-41.657	(1 4 5)
1	0.300	0.000	0.000	-53.973	(2 3 5)	-4.196	1.439	-41.957	(1 4 5)
2	0.450	0.000	0.000	-54.123	(2 3 5)	-3.980	1.439	-42.107	(1 4 5)
3	0.600	0.000	0.000	-54.273	(2 3 5)	-3.764	1.439	-42.257	(1 4 5)
4	1.100	0.000	0.000	-54.773	(2 3 5)	-3.045	1.439	-42.757	(1 4 5)
5	1.575	0.000	0.000	-55.048	(1 3 5)	-2.361	1.439	-43.432	(2 4 5)
6	2.000	0.000	0.000	-55.473	(1 3 5)	-1.749	1.439	-43.857	(2 4 5)
7	2.500	0.000	0.000	-55.973	(1 3 5)	-1.030	1.439	-44.357	(2 4 5)
8	2.800	0.000	0.000	-56.273	(1 3 5)	-0.598	1.439	-44.657	(2 4 5)
JTAN	3.150	0.000	0.000	-56.623	(1 3 5)	-0.095	1.439	-45.007	(2 4 5)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-1.035	0.808	-6.347	(2 4 5)	-11.219	2.876	-19.638	(1 3 5)
1	0.300	-0.873	0.268	-6.797	(2 4 5)	-10.457	2.194	-20.088	(1 3 5)
2	0.450	-0.759	0.996	-7.122	(1 4 5)	-10.250	0.806	-20.213	(2 3 5)
3	0.600	-0.639	0.604	-7.347	(1 4 5)	-10.152	0.505	-20.438	(2 3 5)
4	1.100	-0.691	-0.849	-8.097	(1 4 5)	-10.166	-0.584	-21.188	(2 3 5)
5	1.575	-1.464	-2.439	-8.810	(1 4 5)	-10.714	-1.744	-21.900	(2 3 5)
6	2.000	-2.833	-4.033	-9.447	(1 4 5)	-11.694	-2.885	-22.538	(2 3 5)
7	2.500	-5.361	-6.117	-10.197	(1 4 5)	-13.498	-4.352	-23.288	(2 3 5)
8	2.800	-7.398	-7.476	-10.647	(1 4 5)	-14.944	-5.297	-23.738	(2 3 5)
JTAN	3.150	-9.834	-7.287	-11.072	(2 4 5)	-17.473	-8.338	-24.363	(1 3 5)

COMBINE 4

	---L---	---M--- (SHEAR MAXIMUM)	---Q--- (SHEAR MAXIMUM)	---N--- (SHEAR MAXIMUM)	---CASE--- (SHEAR MAXIMUM)	---M--- (SHEAR MINIMUM)	---Q--- (SHEAR MINIMUM)	---N--- (SHEAR MINIMUM)	---CASE--- (SHEAR MINIMUM)
= = MEMBER 5 (1 - 4) C = =									
ITAN	0.000	10.803	-1.634	-19.538	(2 3 5)	15.365	-3.489	-23.749	(1 4 5)
1	0.300	10.393	-1.094	-19.988	(2 3 5)	14.418	-2.807	-24.199	(1 4 5)
2	0.450	10.250	-0.806	-20.213	(2 3 5)	14.025	-2.435	-24.424	(1 4 5)
3	0.600	10.152	-0.505	-20.438	(2 3 5)	13.689	-2.043	-24.649	(1 4 5)
4	1.100	10.166	0.584	-21.188	(2 3 5)	13.021	-0.590	-25.399	(1 4 5)
5	1.575	10.714	1.744	-21.900	(2 3 5)	13.110	1.000	-26.111	(1 4 5)
6	2.000	10.949	3.207	-22.636	(1 3 5)	14.613	2.272	-26.649	(2 4 5)
7	2.500	13.064	5.291	-23.388	(1 3 5)	16.111	3.739	-27.399	(2 4 5)
8	2.800	14.853	6.650	-23.838	(1 3 5)	17.373	4.684	-27.849	(2 4 5)
JTAN	3.150	17.473	8.338	-24.363	(1 3 5)	19.214	5.848	-28.374	(2 4 5)
= = MEMBER 6 (2 - 5) C = =									
ITAN	0.000	-4.628	1.439	-41.657	(1 4 5)	0.000	0.000	-53.673	(2 3 5)
1	0.300	-4.196	1.439	-41.957	(1 4 5)	0.000	0.000	-53.973	(2 3 5)
2	0.450	-3.980	1.439	-42.107	(1 4 5)	0.000	0.000	-54.123	(2 3 5)
3	0.600	-3.764	1.439	-42.257	(1 4 5)	0.000	0.000	-54.273	(2 3 5)
4	1.100	-3.045	1.439	-42.757	(1 4 5)	0.000	0.000	-54.773	(2 3 5)
5	1.575	-2.361	1.439	-43.232	(1 4 5)	0.000	0.000	-55.248	(2 3 5)
6	2.000	-1.749	1.439	-43.657	(1 4 5)	0.000	0.000	-55.673	(2 3 5)
7	2.500	-1.030	1.439	-44.157	(1 4 5)	0.000	0.000	-56.173	(2 3 5)
8	2.800	-0.598	1.439	-44.457	(1 4 5)	0.000	0.000	-56.473	(2 3 5)
JTAN	3.150	-0.095	1.439	-44.807	(1 4 5)	0.000	0.000	-56.823	(2 3 5)
= = MEMBER 7 (3 - 6) C = =									
ITAN	0.000	-11.219	2.976	-19.638	(1 3 5)	-1.035	0.908	-6.347	(2 4 5)
1	0.300	-10.457	2.194	-20.088	(1 3 5)	-0.873	0.268	-6.797	(2 4 5)
2	0.450	-10.155	1.822	-20.313	(1 3 5)	-0.854	-0.020	-7.022	(2 4 5)
3	0.600	-9.911	1.430	-20.538	(1 3 5)	-0.879	-0.321	-7.247	(2 4 5)
4	1.100	-9.550	-0.023	-21.238	(1 3 5)	-1.307	-1.410	-7.997	(2 4 5)
5	1.575	-9.931	-1.613	-22.000	(1 3 5)	-2.247	-2.570	-8.710	(2 4 5)
6	2.000	-11.694	-2.885	-22.538	(2 3 5)	-2.833	-4.033	-9.447	(1 4 5)
7	2.500	-13.498	-4.352	-23.288	(2 3 5)	-5.361	-6.117	-10.197	(1 4 5)
8	2.800	-14.944	-5.297	-23.738	(2 3 5)	-7.398	-7.476	-10.647	(1 4 5)
JTAN	3.150	-17.000	-6.461	-24.263	(2 3 5)	-10.307	-9.164	-11.172	(1 4 5)

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COMBINE 4

	---L---	AXIAL MAXIMUM ----M---	----Q---	----N---	----CASE----	AXIAL MINIMUM ----M---	----Q---	----N---	----CASE----
= = MEMBER	1 (1 - 2) G = =								
ITAN	0.000	-10.803	24.286	-1.634	(2 3 5)	-15.365	26.401	-3.489	(1 4 5)
1	0.300	-5.261	21.727	-1.634	(2 3 5)	-6.596	23.785	-3.489	(1 4 5)
2	0.750	1.859	17.889	-1.634	(2 3 5)	0.222	19.861	-3.489	(1 4 5)
3	1.200	7.544	14.050	-1.634	(2 3 5)	7.439	15.937	-3.489	(1 4 5)
4	2.275	15.323	4.881	-1.634	(2 3 5)	18.194	6.564	-3.489	(1 4 5)
5	3.275	15.214	-3.649	-1.634	(2 3 5)	19.993	-2.156	-3.489	(1 4 5)
6	4.275	8.024	-12.179	-1.634	(2 3 5)	13.882	-10.876	-3.489	(1 4 5)
7	5.450	-9.470	-22.202	-1.634	(2 3 5)	-3.407	-21.122	-3.489	(1 4 5)
8	5.900	-18.759	-26.041	-1.634	(2 3 5)	-12.920	-25.046	-3.489	(1 4 5)
9	6.350	-29.481	-29.879	-1.634	(2 3 5)	-24.035	-28.970	-3.489	(1 4 5)
JTAN	6.550	-34.707	-31.585	-1.634	(2 3 5)	-29.489	-30.714	-3.489	(1 4 5)
= = MEMBER	2 (2 - 3) G = =								
ITAN	0.000	-25.101	13.696	-0.808	(2 4 5)	-34.467	31.485	-2.876	(1 3 5)
1	0.200	-22.423	13.084	-0.808	(2 4 5)	-29.261	29.779	-2.876	(1 3 5)
2	0.650	-16.845	11.707	-0.808	(2 4 5)	-18.584	25.941	-2.876	(1 3 5)
3	1.100	-11.887	10.330	-0.808	(2 4 5)	-9.341	22.102	-2.876	(1 3 5)
4	2.275	-1.862	6.734	-0.808	(2 4 5)	8.036	12.079	-2.876	(1 3 5)
5	3.275	3.342	3.674	-0.808	(2 4 5)	15.126	3.549	-2.876	(1 3 5)
6	4.275	5.486	0.614	-0.808	(2 4 5)	15.135	-4.981	-2.876	(1 3 5)
7	5.350	4.378	-2.675	-0.808	(2 4 5)	7.248	-14.150	-2.876	(1 3 5)
8	5.800	2.864	-4.052	-0.808	(2 4 5)	1.518	-17.989	-2.876	(1 3 5)
9	6.250	0.731	-5.429	-0.808	(2 4 5)	-5.646	-21.827	-2.876	(1 3 5)
JTAN	6.550	-1.035	-6.347	-0.808	(2 4 5)	-11.219	-24.386	-2.876	(1 3 5)
= = MEMBER	3 (4 - 5) G = =								
ITAN	0.000	19.214	-31.075	-5.848	(2 4 5)	17.473	-29.099	-8.338	(1 3 5)
1	0.300	11.158	-27.776	-5.848	(2 4 5)	10.530	-26.252	-8.338	(1 3 5)
2	0.650	2.866	-24.002	-5.848	(2 4 5)	3.344	-22.931	-8.338	(1 3 5)
3	1.775	-15.757	-12.407	-5.848	(2 4 5)	-13.084	-12.255	-8.338	(1 3 5)
4	3.275	-22.846	1.779	-5.848	(2 4 5)	-19.158	1.980	-8.338	(1 3 5)
5	4.775	-11.344	14.507	-5.848	(2 4 5)	-7.143	16.215	-8.338	(1 3 5)
6	6.000	10.536	23.820	-5.848	(2 4 5)	16.089	27.841	-8.338	(1 3 5)
7	6.350	18.692	26.303	-5.848	(2 4 5)	24.943	31.162	-8.338	(1 3 5)
JTAN	6.550	23.715	27.686	-5.848	(2 4 5)	30.444	33.060	-8.338	(1 3 5)
= = MEMBER	4 (5 - 6) G = =								
ITAN	0.000	30.626	-33.160	-6.461	(2 3 5)	23.438	-19.874	-9.164	(1 4 5)
1	0.200	25.105	-31.262	-6.461	(2 3 5)	19.738	-18.517	-9.164	(1 4 5)
2	0.550	16.216	-27.941	-6.461	(2 3 5)	13.868	-16.205	-9.164	(1 4 5)
3	1.775	-7.133	-16.315	-6.461	(2 3 5)	-0.907	-8.736	-9.164	(1 4 5)
4	3.275	-19.304	-2.080	-6.461	(2 3 5)	-7.944	-0.913	-9.164	(1 4 5)
5	4.775	-13.380	12.155	-6.461	(2 3 5)	-4.570	5.452	-9.164	(1 4 5)
6	5.900	2.935	22.831	-6.461	(2 3 5)	3.668	9.269	-9.164	(1 4 5)
7	6.250	10.086	26.152	-6.461	(2 3 5)	7.086	10.290	-9.164	(1 4 5)
JTAN	6.550	17.000	28.999	-6.461	(2 3 5)	10.307	11.101	-9.164	(1 4 5)

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COMBINE 4

= = MEMBER 5 (1 - 4) C = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	10.803	-1.634	-19.538	(2 3 5)	15.365	-3.489	-23.749	(1 4 5)
1	0.300	10.393	-1.094	-19.988	(2 3 5)	14.418	-2.807	-24.199	(1 4 5)
2	0.450	10.250	-0.806	-20.213	(2 3 5)	14.025	-2.435	-24.424	(1 4 5)
3	0.600	10.152	-0.505	-20.438	(2 3 5)	13.689	-2.043	-24.649	(1 4 5)
4	1.100	10.166	0.584	-21.188	(2 3 5)	13.021	-0.590	-25.399	(1 4 5)
5	1.575	10.714	1.744	-21.900	(2 3 5)	13.110	1.000	-26.111	(1 4 5)
6	2.000	11.694	2.885	-22.538	(2 3 5)	13.868	2.594	-26.749	(1 4 5)
7	2.500	13.498	4.352	-23.288	(2 3 5)	15.677	4.678	-27.499	(1 4 5)
8	2.800	14.944	5.297	-23.738	(2 3 5)	17.282	6.037	-27.949	(1 4 5)
JTAN	3.150	17.000	6.461	-24.263	(2 3 5)	19.687	7.725	-28.474	(1 4 5)

= = MEMBER 6 (2 - 5) C = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	-4.628	1.439	-41.657	(1 4 5)	0.000	0.000	-53.673	(2 3 5)
1	0.300	-4.196	1.439	-41.957	(1 4 5)	0.000	0.000	-53.973	(2 3 5)
2	0.450	-3.980	1.439	-42.107	(1 4 5)	0.000	0.000	-54.123	(2 3 5)
3	0.600	-3.764	1.439	-42.257	(1 4 5)	0.000	0.000	-54.273	(2 3 5)
4	1.100	-3.045	1.439	-42.757	(1 4 5)	0.000	0.000	-54.773	(2 3 5)
5	1.575	-2.361	1.439	-43.232	(1 4 5)	0.000	0.000	-55.248	(2 3 5)
6	2.000	-1.749	1.439	-43.657	(1 4 5)	0.000	0.000	-55.673	(2 3 5)
7	2.500	-1.030	1.439	-44.157	(1 4 5)	0.000	0.000	-56.173	(2 3 5)
8	2.800	-0.598	1.439	-44.457	(1 4 5)	0.000	0.000	-56.473	(2 3 5)
JTAN	3.150	-0.095	1.439	-44.807	(1 4 5)	0.000	0.000	-56.823	(2 3 5)

= = MEMBER 7 (3 - 6) C = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	-1.035	0.608	-6.347	(2 4 5)	-11.219	2.876	-19.638	(1 3 5)
1	0.300	-0.873	0.268	-6.797	(2 4 5)	-10.457	2.194	-20.088	(1 3 5)
2	0.450	-0.854	-0.020	-7.022	(2 4 5)	-10.155	1.822	-20.313	(1 3 5)
3	0.600	-0.879	-0.321	-7.247	(2 4 5)	-9.911	1.430	-20.538	(1 3 5)
4	1.100	-1.307	-1.410	-7.997	(2 4 5)	-9.550	-0.023	-21.288	(1 3 5)
5	1.575	-2.247	-2.570	-8.710	(2 4 5)	-9.931	-1.613	-22.000	(1 3 5)
6	2.000	-3.578	-3.711	-9.347	(2 4 5)	-10.949	-3.207	-22.638	(1 3 5)
7	2.500	-5.795	-5.178	-10.097	(2 4 5)	-13.064	-5.291	-23.388	(1 3 5)
8	2.800	-7.489	-6.123	-10.547	(2 4 5)	-14.853	-6.650	-23.838	(1 3 5)
JTAN	3.150	-9.834	-7.287	-11.072	(2 4 5)	-17.473	-8.338	-24.363	(1 3 5)

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PICK UP 1

	L	M (MOMENT MAXIMUM)	Q	N	COM / CASE	M (MOMENT MINIMUM)	Q	N	COM / CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-3.254	7.985	0.347	(1; 2)	-15.365	26.401	-3.489	(4; 1 4 5)
1	0.300	-0.997	7.067	0.347	(1; 2)	-8.596	23.785	-3.489	(4; 1 4 5)
2	0.750	2.240	17.776	0.080	(2; 2 3)	0.222	19.861	-3.489	(4; 1 4 5)
3	1.200	8.066	15.726	-0.533	(2; 2 4)	3.498	4.525	-2.609	(3; 1 5)
4	2.275	18.594	6.352	-0.533	(2; 2 4)	6.594	1.235	-2.609	(3; 1 5)
5	3.275	20.181	-2.368	-0.533	(2; 2 4)	6.299	-1.825	-2.609	(3; 1 5)
6	4.275	13.882	-10.676	-3.489	(4; 1 4 5)	2.921	-5.096	0.347	(1; 2)
7	5.450	-3.407	-21.122	-3.489	(4; 1 4 5)	-9.612	-22.313	0.080	(2; 2 3)
8	5.900	-9.034	-9.657	-2.609	(3; 1 5)	-18.950	-26.152	0.080	(2; 2 3)
9	6.350	-13.780	-11.234	-2.609	(3; 1 5)	-29.723	-29.990	0.080	(2; 2 3)
JTAN	6.550	-16.088	-11.646	-2.609	(3; 1 5)	-34.971	-31.696	0.080	(2; 2 3)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-16.088	11.646	-2.609	(3; 1 5)	-34.971	31.696	0.080	(2; 2 3)
1	0.200	-13.780	11.234	-2.609	(3; 1 5)	-29.723	29.990	0.080	(2; 2 3)
2	0.650	-9.034	9.857	-2.609	(3; 1 5)	-18.950	26.152	0.080	(2; 2 3)
3	1.100	-4.908	8.480	-2.609	(3; 1 5)	-12.029	10.441	0.906	(2; 2 4)
4	2.275	8.036	12.079	-2.876	(4; 1 3 5)	-1.873	6.845	0.906	(2; 2 4)
5	3.275	15.314	3.761	0.080	(2; 2 3)	3.254	3.574	-2.050	(4; 1 4 5)
6	4.275	15.535	-4.769	0.080	(2; 2 3)	5.298	0.514	-2.050	(4; 1 4 5)
7	5.350	7.875	-13.939	0.080	(2; 2 3)	3.498	-4.525	-2.609	(3; 1 5)
8	5.800	3.246	-3.941	0.906	(2; 2 4)	1.152	-5.902	-2.609	(3; 1 5)
9	6.250	1.162	-5.318	0.906	(2; 2 4)	-5.646	-21.827	-2.876	(4; 1 3 5)
JTAN	6.550	-0.571	-6.236	0.906	(2; 2 4)	-11.219	-24.386	-2.876	(4; 1 3 5)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	19.687	-31.175	-7.725	(4; 1 4 5)	10.235	-12.698	-4.978	(1; 2)
1	0.300	11.602	-27.676	-7.725	(4; 1 4 5)	6.607	-11.492	-4.978	(1; 2)
2	0.650	3.689	-10.297	-8.605	(3; 1 5)	2.436	-23.890	-4.097	(2; 2 4)
3	1.775	-5.351	-5.774	-8.605	(3; 1 5)	-16.082	-12.295	-4.097	(2; 2 4)
4	3.275	-9.489	0.256	-8.605	(3; 1 5)	-23.004	1.890	-4.097	(2; 2 4)
5	4.775	-4.570	6.497	-4.978	(1; 2)	-11.348	14.407	-7.725	(4; 1 4 5)
6	6.000	16.361	28.052	-4.710	(2; 2 3)	6.133	11.210	-8.605	(3; 1 5)
7	6.350	25.289	31.373	-4.710	(2; 2 3)	10.303	12.617	-8.605	(3; 1 5)
JTAN	6.550	30.832	33.271	-4.710	(2; 2 3)	12.907	13.421	-8.605	(3; 1 5)
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	30.832	-33.271	-4.710	(2; 2 3)	12.907	-13.421	-8.605	(3; 1 5)
1	0.200	25.289	-31.373	-4.710	(2; 2 3)	10.303	-12.617	-8.605	(3; 1 5)
2	0.550	16.361	-28.052	-4.710	(2; 2 3)	6.133	-11.210	-8.605	(3; 1 5)
3	1.775	-0.894	-8.947	-5.536	(2; 2 4)	-7.143	-16.215	-8.338	(4; 1 3 5)
4	3.275	-7.944	-0.913	-9.164	(4; 1 4 5)	-19.462	-2.192	-4.710	(2; 2 3)
5	4.775	-4.570	5.452	-9.164	(4; 1 4 5)	-13.705	12.043	-4.710	(2; 2 3)
6	5.900	3.689	10.297	-8.605	(3; 1 5)	2.485	22.720	-4.710	(2; 2 3)
7	6.250	10.530	26.252	-8.338	(4; 1 3 5)	6.154	10.078	-5.536	(2; 2 4)
JTAN	6.550	17.473	29.099	-8.338	(4; 1 3 5)	5.311	10.890	-5.536	(2; 2 4)

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PICK UP 1

MOMENT MAXIMUM / MOMENT MINIMUM

= = MEMBER 5 (1 - 4) C = =

MOMENT MAXIMUM

	---L---	----M---	----Q---	----N---	-COM-	----CASE-----
ITAN	0.000	15.365	-3.489	-23.749	(4;	1 4 5)
1	0.300	14.418	-1.422	-24.088	(2;	1 4)
2	0.450	14.315	-0.200	-24.212	(2;	2 4)
3	0.600	14.295	-0.064	-24.437	(2;	2 4)
4	1.100	14.392	0.475	-25.187	(2;	2 4)
5	1.575	14.764	1.113	-25.900	(2;	2 4)
6	2.000	15.377	1.786	-26.537	(2;	2 4)
7	2.500	16.494	2.703	-27.287	(2;	2 4)
8	2.800	17.396	3.318	-27.737	(2;	2 4)
JTAN	3.150	19.687	7.725	-28.474	(4;	1 4 5)

MOMENT MINIMUM

	----M---	----Q---	----N---	-COM-	----CASE-----
ITAN	3.254	0.347	-7.985	(1;	2)
1	3.389	-0.827	-8.547	(3;	2 5)
2	3.191	-1.554	-8.872	(3;	1 5)
3	2.987	-1.162	-9.097	(3;	1 5)
4	2.760	0.291	-9.847	(3;	1 5)
5	3.268	1.880	-10.559	(3;	1 5)
6	4.400	3.474	-11.197	(3;	1 5)
7	6.648	5.559	-11.947	(3;	1 5)
8	8.512	6.917	-12.397	(3;	1 5)
JTAN	10.235	4.978	-12.710	(1;	2)

= = MEMBER 6 (2 - 5) C = =

MOMENT MAXIMUM

	---L---	----M---	----Q---	----N---	-COM-	----CASE-----
ITAN	0.000	0.000	0.000	-53.895	(2;	2 3)
1	0.300	0.000	0.000	-54.195	(2;	2 3)
2	0.450	0.000	0.000	-54.345	(2;	2 3)
3	0.600	0.000	0.000	-54.495	(2;	2 3)
4	1.100	0.000	0.000	-54.995	(2;	2 3)
5	1.575	0.000	0.000	-55.270	(2;	1 3)
6	2.000	0.000	0.000	-55.695	(2;	1 3)
7	2.500	0.000	0.000	-55.973	(4;	1 3 5)
8	2.800	0.000	0.000	-56.273	(4;	1 3 5)
JTAN	3.150	0.000	0.000	-56.623	(4;	1 3 5)

MOMENT MINIMUM

	----M---	----Q---	----N---	-COM-	----CASE-----
ITAN	-4.628	1.439	-41.880	(2;	1 4)
1	-4.196	1.439	-42.180	(2;	1 4)
2	-3.980	1.439	-42.330	(2;	1 4)
3	-3.764	1.439	-42.480	(2;	1 4)
4	-3.045	1.439	-42.980	(2;	1 4)
5	-2.361	1.439	-43.655	(2;	2 4)
6	-1.749	1.439	-44.080	(2;	2 4)
7	-1.030	1.439	-44.580	(2;	2 4)
8	-0.598	1.439	-44.880	(2;	2 4)
JTAN	-0.095	1.439	-45.230	(2;	2 4)

= = MEMBER 7 (3 - 6) C = =

MOMENT MAXIMUM

	---L---	----M---	----Q---	----N---	-COM-	----CASE-----
ITAN	0.000	-0.571	-0.906	-6.236	(2;	2 4)
1	0.300	-0.873	0.268	-6.797	(4;	2 4 5)
2	0.450	-0.759	0.996	-7.122	(4;	1 4 5)
3	0.600	-0.639	0.604	-7.347	(4;	1 4 5)
4	1.100	-0.691	-0.849	-8.097	(4;	1 4 5)
5	1.575	-1.464	-2.439	-8.810	(4;	1 4 5)
6	2.000	-2.833	-4.033	-9.447	(4;	1 4 5)
7	2.500	-5.361	-6.117	-10.197	(4;	1 4 5)
8	2.800	-7.393	-7.476	-10.647	(4;	1 4 5)
JTAN	3.150	-9.311	-5.536	-10.961	(2;	2 4)

MOMENT MINIMUM

	----M---	----Q---	----N---	-COM-	----CASE-----
ITAN	-11.219	2.876	-19.638	(4;	1 3 5)
1	-10.457	0.809	-19.976	(2;	1 3)
2	-10.446	-0.413	-20.101	(2;	2 3)
3	-10.518	-0.549	-20.326	(2;	2 3)
4	-10.921	-1.088	-21.076	(2;	2 3)
5	-11.585	-1.726	-21.789	(2;	2 3)
6	-12.458	-2.399	-22.426	(2;	2 3)
7	-13.881	-3.316	-23.176	(2;	2 3)
8	-14.967	-3.931	-23.626	(2;	2 3)
JTAN	-17.473	-8.338	-24.363	(4;	1 3 5)

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PICK UP 1

	SHEAR MAXIMUM					SHEAR MINIMUM			
	---L---	----M---	----Q---	----N---	-COM- ----CASE-----	----M---	----Q---	----N---	-COM- ----CASE-----
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-15.365	26.401	-3.489	(4; 1 4 5)	-3.254	7.985	0.347	(1; 2)
1	0.300	-8.596	23.785	-3.489	(4; 1 4 5)	-0.997	7.067	0.347	(1; 2)
2	0.750	0.222	19.861	-3.489	(4; 1 4 5)	1.874	5.690	0.347	(1; 2)
3	1.200	7.439	15.937	-3.489	(4; 1 4 5)	4.125	4.313	0.347	(1; 2)
4	2.275	18.194	6.564	-3.489	(4; 1 4 5)	6.993	1.024	0.347	(1; 2)
5	3.275	6.299	-1.825	-2.609	(3; 1 5)	15.314	-3.761	0.080	(2; 2 3)
6	4.275	2.944	-4.885	-2.609	(3; 1 5)	8.013	-12.291	0.080	(2; 2 3)
7	5.450	-4.908	-8.480	-2.609	(3; 1 5)	-9.612	-22.313	0.080	(2; 2 3)
8	5.900	-9.034	-9.857	-2.609	(3; 1 5)	-16.950	-26.152	0.080	(2; 2 3)
9	6.350	-13.780	-11.234	-2.609	(3; 1 5)	-29.723	-29.990	0.080	(2; 2 3)
JTAN	6.550	-16.088	-11.846	-2.609	(3; 1 5)	-34.971	-31.696	0.080	(2; 2 3)
= = MEMBER 2 (2 - 3) G = =									
ITAN	0.000	-34.971	31.696	0.080	(2; 2 3)	-16.088	11.846	-2.609	(3; 1 5)
1	0.200	-29.723	29.990	0.080	(2; 2 3)	-13.780	11.234	-2.609	(3; 1 5)
2	0.650	-18.950	26.152	0.080	(2; 2 3)	-9.034	9.857	-2.609	(3; 1 5)
3	1.100	-9.612	22.313	0.080	(2; 2 3)	-4.908	8.480	-2.609	(3; 1 5)
4	2.275	8.013	12.291	0.080	(2; 2 3)	2.944	4.885	-2.609	(3; 1 5)
5	3.275	3.442	3.785	0.906	(2; 2 4)	6.299	1.825	-2.609	(3; 1 5)
6	4.275	5.698	0.725	0.906	(2; 2 4)	15.135	-4.981	-2.876	(4; 1 3 5)
7	5.350	4.709	-2.564	0.906	(2; 2 4)	7.248	-14.150	-2.876	(4; 1 3 5)
8	5.800	3.246	-3.941	0.906	(2; 2 4)	1.518	-17.989	-2.876	(4; 1 3 5)
9	6.250	1.162	-5.316	0.906	(2; 2 4)	-5.646	-21.827	-2.876	(4; 1 3 5)
JTAN	6.550	-0.571	-6.236	0.906	(2; 2 4)	-11.219	-24.386	-2.876	(4; 1 3 5)
= = MEMBER 3 (4 - 5) G = =									
ITAN	0.000	10.235	-12.696	-4.978	(1; 2)	19.687	-31.175	-7.725	(4; 1 4 5)
1	0.300	6.607	-11.492	-4.978	(1; 2)	11.602	-27.876	-7.725	(4; 1 4 5)
2	0.650	2.830	-10.085	-4.978	(1; 2)	3.295	-24.102	-7.725	(4; 1 4 5)
3	1.775	-5.972	-5.563	-4.978	(1; 2)	-15.461	-12.507	-7.725	(4; 1 4 5)
4	3.275	-19.462	2.192	-4.710	(2; 2 3)	-9.489	0.256	-8.605	(3; 1 5)
5	4.775	-7.130	16.427	-4.710	(2; 2 3)	-4.583	6.286	-8.605	(3; 1 5)
6	6.000	16.361	28.052	-4.710	(2; 2 3)	6.133	11.210	-8.605	(3; 1 5)
7	6.350	25.289	31.373	-4.710	(2; 2 3)	10.303	12.617	-8.605	(3; 1 5)
JTAN	6.550	30.832	33.271	-4.710	(2; 2 3)	12.907	13.421	-8.605	(3; 1 5)
= = MEMBER 4 (5 - 6) G = =									
ITAN	0.000	12.907	-13.421	-8.605	(3; 1 5)	30.832	-33.271	-4.710	(2; 2 3)
1	0.200	10.303	-12.617	-8.605	(3; 1 5)	25.289	-31.373	-4.710	(2; 2 3)
2	0.550	6.133	-11.210	-8.605	(3; 1 5)	16.361	-28.052	-4.710	(2; 2 3)
3	1.775	-4.583	-6.286	-8.605	(3; 1 5)	-7.130	-16.427	-4.710	(2; 2 3)
4	3.275	-9.489	-0.256	-8.605	(3; 1 5)	-19.462	-2.192	-4.710	(2; 2 3)
5	4.775	-13.084	12.255	-8.338	(4; 1 3 5)	-5.190	5.241	-5.536	(2; 2 4)
6	5.900	3.344	22.931	-8.338	(4; 1 3 5)	2.809	9.058	-5.536	(2; 2 4)
7	6.250	10.530	26.252	-8.338	(4; 1 3 5)	6.154	10.078	-5.536	(2; 2 4)
JTAN	6.550	17.473	29.099	-8.338	(4; 1 3 5)	9.311	10.890	-5.536	(2; 2 4)

PICK UP 1

	SHEAR MAXIMUM						SHEAR MINIMUM				
	---L---	----M---	----Q---	----N---	-COM-	----CASE-----	----M---	----Q---	----N---	-COM-	----CASE-----
= = MEMBER 5 (1 - 4) C = =											
ITAN	0.000	3.254	0.347	-7.985	(1;	2)	15.365	-3.489	-23.749	(4;	1 4 5)
1	0.300	3.389	0.557	-8.435	(1;	2)	14.418	-2.807	-24.199	(4;	1 4 5)
2	0.450	3.482	0.681	-8.660	(1;	2)	14.025	-2.435	-24.424	(4;	1 4 5)
3	0.600	3.594	0.816	-8.885	(1;	2)	13.689	-2.043	-24.649	(4;	1 4 5)
4	1.100	*4.131	1.356	-9.635	(1;	2)	13.021	-0.590	-25.399	(4;	1 4 5)
5	1.575	4.051	2.011	-10.459	(3;	2 5)	13.981	0.981	-26.000	(2;	1 4)
6	2.000	4.400	3.474	-11.197	(3;	1 5)	15.377	1.786	-26.537	(2;	2 4)
7	2.500	*6.648	5.559	-11.947	(3;	1 5)	16.494	2.703	-27.287	(2;	2 4)
8	2.800	8.518	6.917	-12.397	(3;	1 5)	17.396	3.318	-27.737	(2;	2 4)
JTAN	3.150	11.231	8.605	-12.922	(3;	1 5)	18.691	4.097	-28.262	(2;	2 4)
= = MEMBER 6 (2 - 5) C = =											
ITAN	0.000	-4.628	1.439	-41.880	(2;	1 4)	0.000	0.000	-53.895	(2;	2 3)
1	0.300	-4.196	1.439	-42.180	(2;	1 4)	0.000	0.000	-54.195	(2;	2 3)
2	0.450	-3.980	1.439	-42.330	(2;	1 4)	0.000	0.000	-54.345	(2;	2 3)
3	0.600	-3.764	1.439	-42.480	(2;	1 4)	0.000	0.000	-54.495	(2;	2 3)
4	1.100	-3.045	1.439	-42.980	(2;	1 4)	0.000	0.000	-54.995	(2;	2 3)
5	1.575	-2.361	1.439	-43.455	(2;	1 4)	0.000	0.000	-55.470	(2;	2 3)
6	2.000	-1.749	1.439	-43.880	(2;	1 4)	0.000	0.000	-55.895	(2;	2 3)
7	2.500	-1.030	1.439	-44.380	(2;	1 4)	0.000	0.000	-56.395	(2;	2 3)
8	2.800	-0.598	1.439	-44.680	(2;	1 4)	0.000	0.000	-56.695	(2;	2 3)
JTAN	3.150	-0.095	1.439	-45.030	(2;	1 4)	0.000	0.000	-57.045	(2;	2 3)
= = MEMBER 7 (3 - 6) C = =											
ITAN	0.000	-11.219	2.876	-19.638	(4;	1 3 5)	-0.571	-0.906	-6.236	(2;	2 4)
1	0.300	-10.457	2.194	-20.088	(4;	1 3 5)	-0.873	-1.116	-6.686	(2;	2 4)
2	0.450	-10.155	1.822	-20.313	(4;	1 3 5)	-1.049	-1.239	-6.911	(2;	2 4)
3	0.600	-9.911	1.430	-20.538	(4;	1 3 5)	-1.245	-1.375	-7.136	(2;	2 4)
4	1.100	-9.550	-0.023	-21.288	(4;	1 3 5)	-2.062	-1.914	-7.886	(2;	2 4)
5	1.575	-10.801	-1.594	-21.889	(2;	1 3)	-2.247	-2.570	-8.710	(4;	2 4 5)
6	2.000	-12.458	-2.399	-22.426	(2;	2 3)	-2.833	-4.033	-9.447	(4;	1 4 5)
7	2.500	-13.881	-3.316	-23.176	(2;	2 3)	-5.361	-6.117	-10.197	(4;	1 4 5)
8	2.800	-14.967	-3.931	-23.626	(2;	2 3)	-7.398	-7.476	-10.647	(4;	1 4 5)
JTAN	3.150	-16.477	-4.710	-24.151	(2;	2 3)	-10.307	-9.164	-11.172	(4;	1 4 5)

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PICK UP 1

	AXIAL MAXIMUM						AXIAL MINIMUM				
	---L---	---M---	---Q---	---N---	-COM-	----CASE-----	---M---	---Q---	---N---	-COM-	----CASE-----
= = MEMBER 1 (1 - 2) G = =											
ITAN	0.000	-3.254	7.985	0.347	(1;	2)	-15.365	26.401	-3.489	(4;	1 4 5)
1	0.300	-0.997	7.067	0.347	(1;	2)	-8.596	23.785	-3.489	(4;	1 4 5)
2	0.750	1.874	5.690	0.347	(1;	2)	0.222	19.861	-3.489	(4;	1 4 5)
3	1.200	4.125	4.313	0.347	(1;	2)	7.439	15.937	-3.489	(4;	1 4 5)
4	2.275	6.993	1.024	0.347	(1;	2)	18.194	6.564	-3.489	(4;	1 4 5)
5	3.275	6.487	-2.036	0.347	(1;	2)	19.993	-2.156	-3.489	(4;	1 4 5)
6	4.275	2.921	-5.096	0.347	(1;	2)	13.882	-10.876	-3.489	(4;	1 4 5)
7	5.450	-5.179	-8.692	0.347	(1;	2)	-3.407	-21.122	-3.489	(4;	1 4 5)
8	5.900	-9.400	-10.069	0.347	(1;	2)	-12.920	-25.046	-3.489	(4;	1 4 5)
9	6.350	-14.241	-11.446	0.347	(1;	2)	-24.035	-28.970	-3.489	(4;	1 4 5)
JTAN	6.550	-16.592	-12.058	0.347	(1;	2)	-29.489	-30.714	-3.489	(4;	1 4 5)
= = MEMBER 2 (2 - 3) G = =											
ITAN	0.000	-25.365	13.607	0.906	(2;	2 4)	-34.467	31.485	-2.876	(4;	1 3 5)
1	0.200	-22.665	13.195	0.906	(2;	2 4)	-29.261	29.779	-2.876	(4;	1 3 5)
2	0.650	-17.037	11.618	0.906	(2;	2 4)	-18.584	25.941	-2.876	(4;	1 3 5)
3	1.100	-12.029	10.441	0.906	(2;	2 4)	-9.341	22.102	-2.876	(4;	1 3 5)
4	2.275	-1.873	6.645	0.906	(2;	2 4)	8.036	12.079	-2.876	(4;	1 3 5)
5	3.275	3.442	3.785	0.906	(2;	2 4)	15.126	3.549	-2.876	(4;	1 3 5)
6	4.275	5.698	0.725	0.906	(2;	2 4)	15.135	-4.981	-2.876	(4;	1 3 5)
7	5.350	4.709	-2.564	0.906	(2;	2 4)	7.248	-14.150	-2.876	(4;	1 3 5)
8	5.800	3.246	-3.941	0.906	(2;	2 4)	1.518	-17.989	-2.876	(4;	1 3 5)
9	6.250	1.162	-5.318	0.906	(2;	2 4)	-5.646	-21.827	-2.876	(4;	1 3 5)
JTAN	6.550	-0.571	-6.236	0.906	(2;	2 4)	-11.219	-24.386	-2.876	(4;	1 3 5)
= = MEMBER 3 (4 - 5) G = =											
ITAN	0.000	18.691	-30.963	-4.097	(2;	2 4)	11.231	-12.910	-8.605	(3;	1 5)
1	0.300	10.669	-27.665	-4.097	(2;	2 4)	7.539	-11.704	-8.605	(3;	1 5)
2	0.650	2.436	-23.890	-4.097	(2;	2 4)	3.689	-10.297	-8.605	(3;	1 5)
3	1.775	-16.082	-12.295	-4.097	(2;	2 4)	-5.351	-5.774	-8.605	(3;	1 5)
4	3.275	-23.004	1.890	-4.097	(2;	2 4)	-9.489	0.256	-8.605	(3;	1 5)
5	4.775	-11.335	14.618	-4.097	(2;	2 4)	-4.583	6.286	-8.605	(3;	1 5)
6	6.000	10.680	23.931	-4.097	(2;	2 4)	6.133	11.210	-8.605	(3;	1 5)
7	6.350	18.876	26.414	-4.097	(2;	2 4)	10.303	12.617	-8.605	(3;	1 5)
JTAN	6.550	23.921	27.797	-4.097	(2;	2 4)	12.907	13.421	-8.605	(3;	1 5)
= = MEMBER 4 (5 - 6) G = =											
ITAN	0.000	30.832	-33.271	-4.710	(2;	2 3)	23.438	-19.874	-9.164	(4;	1 4 5)
1	0.200	25.289	-31.373	-4.710	(2;	2 3)	19.738	-18.517	-9.164	(4;	1 4 5)
2	0.550	16.361	-28.052	-4.710	(2;	2 3)	13.868	-16.205	-9.164	(4;	1 4 5)
3	1.775	-7.130	-16.427	-4.710	(2;	2 3)	-0.907	-8.736	-9.164	(4;	1 4 5)
4	3.275	-19.462	-2.192	-4.710	(2;	2 3)	-7.944	-0.913	-9.164	(4;	1 4 5)
5	4.775	-13.705	12.043	-4.710	(2;	2 3)	-4.570	5.452	-9.164	(4;	1 4 5)
6	5.900	2.485	22.720	-4.710	(2;	2 3)	3.668	9.269	-9.164	(4;	1 4 5)
7	6.250	9.597	26.041	-4.710	(2;	2 3)	7.086	10.290	-9.164	(4;	1 4 5)
JTAN	6.550	16.477	28.338	-4.710	(2;	2 3)	10.307	11.101	-9.164	(4;	1 4 5)

PICK UP 1

		AXIAL MAXIMUM					AXIAL MINIMUM				
	---L---	----M---	----Q---	----N---	-COM-	----CASE-----	----M---	----Q---	----N---	-COM-	----CASE-----

= = MEMBER 5 (1 - 4) C = =

	L	M	Q	N	COM	CASE	M	Q	N	COM	CASE
ITAN	0.000	3.254	0.347	-7.985	(1;	2)	15.365	-3.489	-23.749	(4;	1 4 5)
1	0.300	3.389	0.557	-8.435	(1;	2)	14.418	-2.807	-24.199	(4;	1 4 5)
2	0.450	3.482	0.681	-8.660	(1;	2)	14.025	-2.435	-24.424	(4;	1 4 5)
3	0.600	3.594	0.816	-8.885	(1;	2)	13.689	-2.043	-24.649	(4;	1 4 5)
4	1.100	4.131	1.356	-9.635	(1;	2)	13.021	-0.590	-25.399	(4;	1 4 5)
5	1.575	4.922	1.993	-10.348	(1;	2)	13.110	1.000	-26.111	(4;	1 4 5)
6	2.000	5.908	2.666	-10.985	(1;	2)	13.868	2.594	-26.749	(4;	1 4 5)
7	2.500	7.465	3.584	-11.735	(1;	2)	15.677	4.678	-27.499	(4;	1 4 5)
8	2.800	8.631	4.199	-12.185	(1;	2)	17.282	6.037	-27.949	(4;	1 4 5)
JTAN	3.150	10.235	4.978	-12.710	(1;	2)	19.687	7.725	-28.474	(4;	1 4 5)

= = MEMBER 6 (2 - 5) C = =

	L	M	Q	N	COM	CASE	M	Q	N	COM	CASE
ITAN	0.000	0.000	0.000	-23.693	(3;	1 5)	0.000	0.000	-53.895	(2;	2 3)
1	0.300	0.000	0.000	-23.993	(3;	1 5)	0.000	0.000	-54.195	(2;	2 3)
2	0.450	0.000	0.000	-24.143	(3;	1 5)	0.000	0.000	-54.345	(2;	2 3)
3	0.600	0.000	0.000	-24.293	(3;	1 5)	0.000	0.000	-54.495	(2;	2 3)
4	1.100	0.000	0.000	-24.793	(3;	1 5)	0.000	0.000	-54.995	(2;	2 3)
5	1.575	0.000	0.000	-25.268	(3;	1 5)	0.000	0.000	-55.470	(2;	2 3)
6	2.000	0.000	0.000	-25.693	(3;	1 5)	0.000	0.000	-55.895	(2;	2 3)
7	2.500	0.000	0.000	-26.193	(3;	1 5)	0.000	0.000	-56.395	(2;	2 3)
8	2.800	0.000	0.000	-26.493	(3;	1 5)	0.000	0.000	-56.695	(2;	2 3)
JTAN	3.150	0.000	0.000	-26.843	(3;	1 5)	0.000	0.000	-57.045	(2;	2 3)

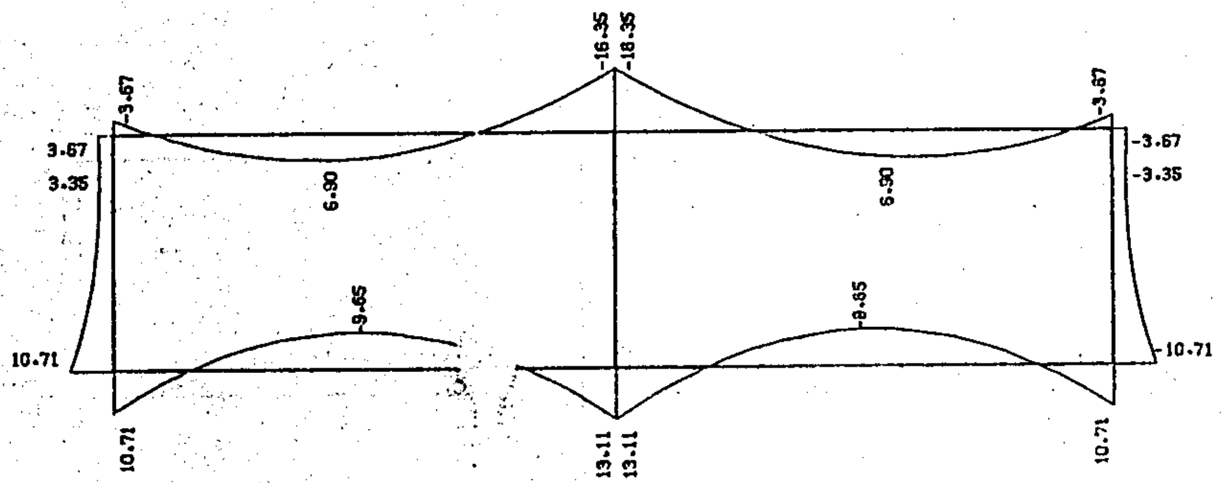
= = MEMBER 7 (3 - 6) C = =

	L	M	Q	N	COM	CASE	M	Q	N	COM	CASE
ITAN	0.000	-0.571	-0.906	-6.236	(2;	2 4)	-11.219	2.876	-19.638	(4;	1 3 5)
1	0.300	-0.873	-1.116	-6.686	(2;	2 4)	-10.457	2.194	-20.088	(4;	1 3 5)
2	0.450	-1.049	-1.239	-6.911	(2;	2 4)	-10.155	1.822	-20.313	(4;	1 3 5)
3	0.600	-1.245	-1.375	-7.136	(2;	2 4)	-9.911	1.430	-20.538	(4;	1 3 5)
4	1.100	-2.062	-1.914	-7.886	(2;	2 4)	-9.550	-0.023	-21.288	(4;	1 3 5)
5	1.575	-3.118	-2.552	-8.599	(2;	2 4)	-9.931	-1.613	-22.000	(4;	1 3 5)
6	2.000	-4.342	-3.225	-9.236	(2;	2 4)	-10.949	-3.207	-22.638	(4;	1 3 5)
7	2.500	-6.179	-4.142	-9.986	(2;	2 4)	-13.064	-5.291	-23.388	(4;	1 3 5)
8	2.800	-7.512	-4.757	-10.436	(2;	2 4)	-14.853	-6.650	-23.838	(4;	1 3 5)
JTAN	3.150	-9.311	-5.536	-10.961	(2;	2 4)	-17.473	-8.338	-24.363	(4;	1 3 5)

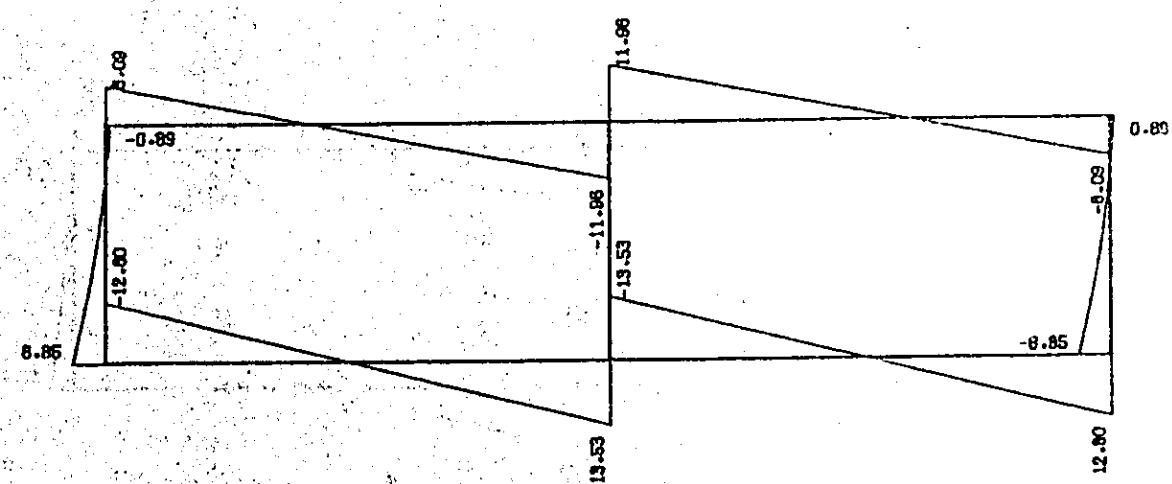
C10

CASE 1 (SHI+DO (0.5))

BENDING MOMENT



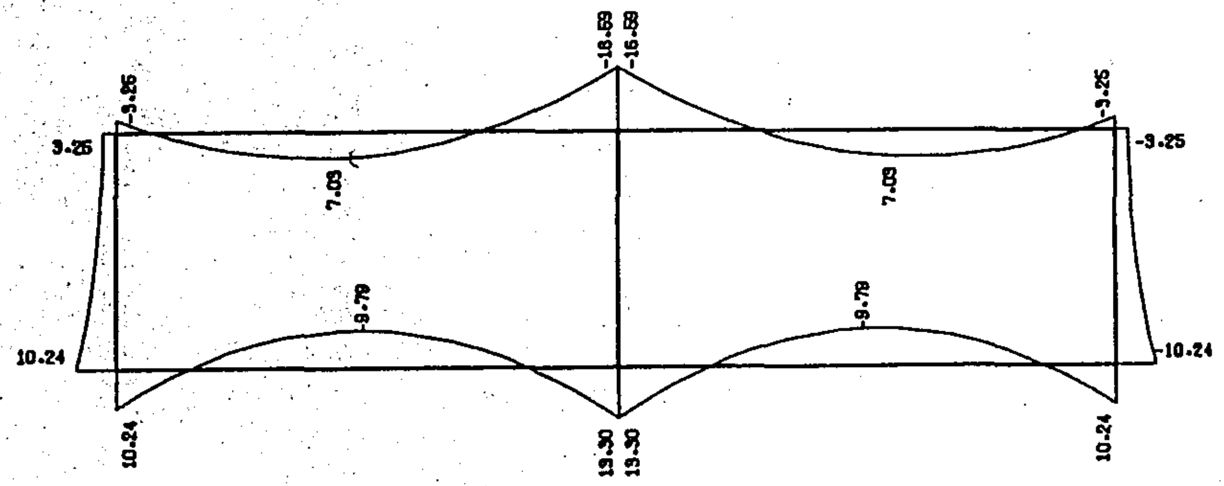
SHEARING FORCE



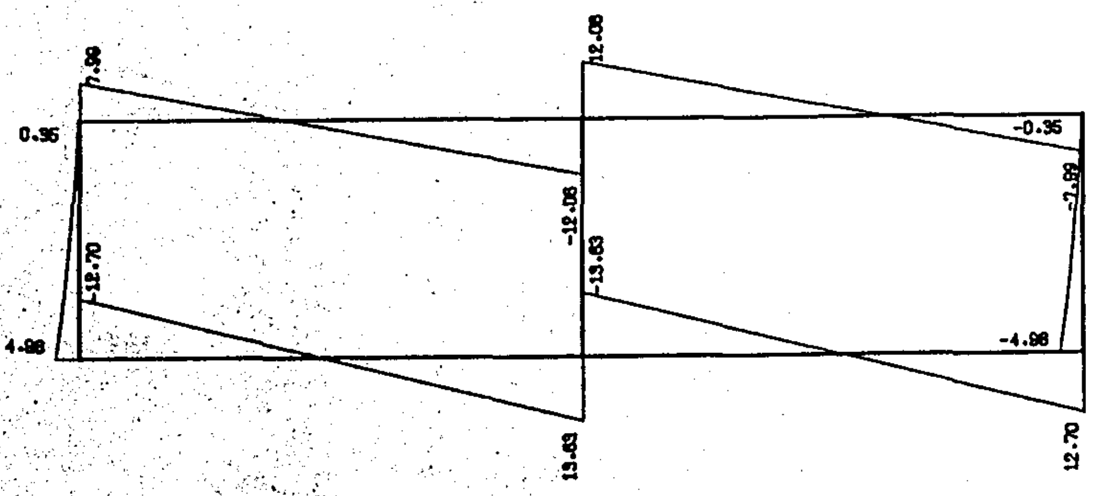
C10

CASE 2 (SHI+DO (0.3))

BENDING MOMENT



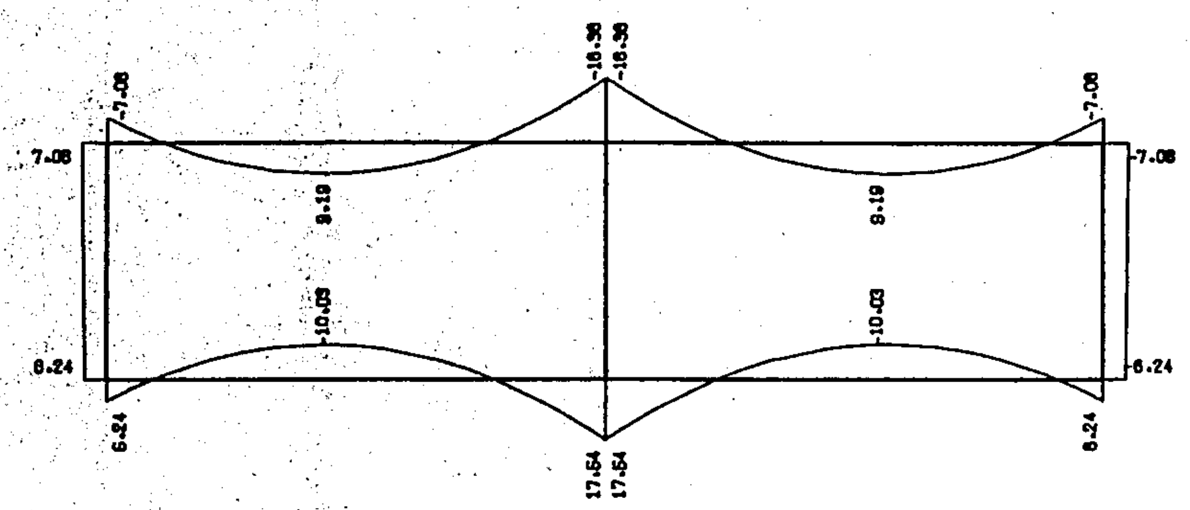
SHEARING FORCE



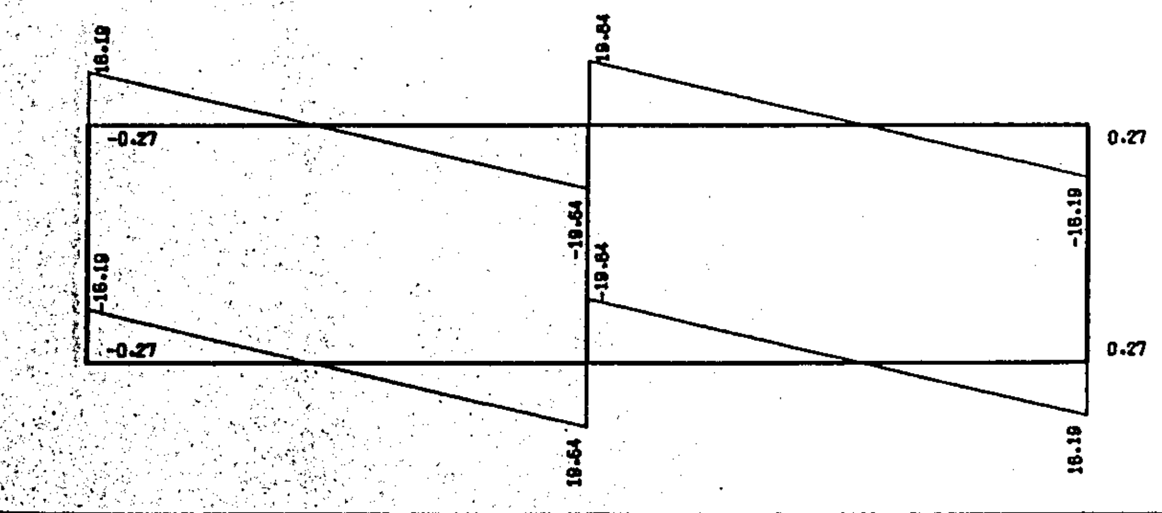
C10

CASE 3 (KATSU+SYOU 1)

BENDING MOMENT



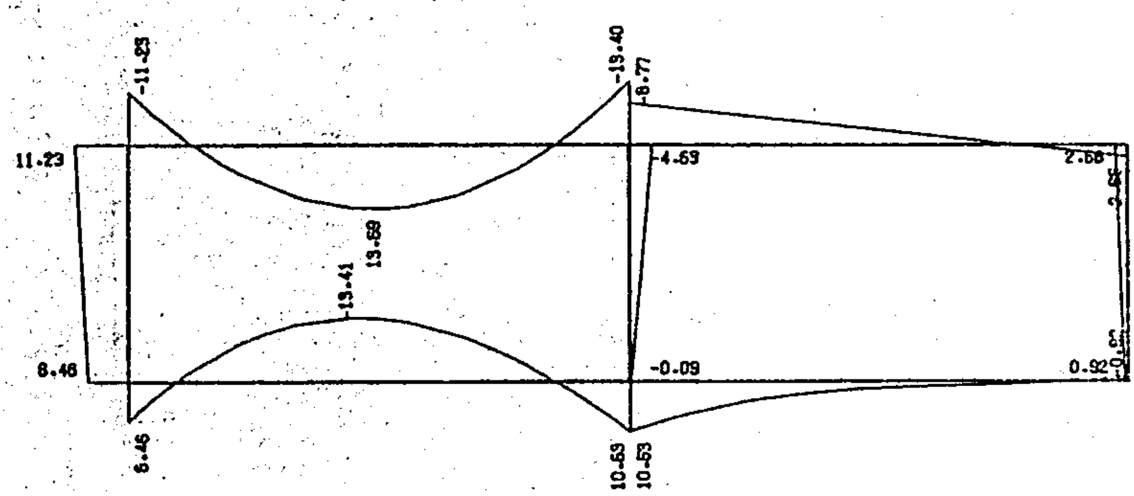
SHEARING FORCE



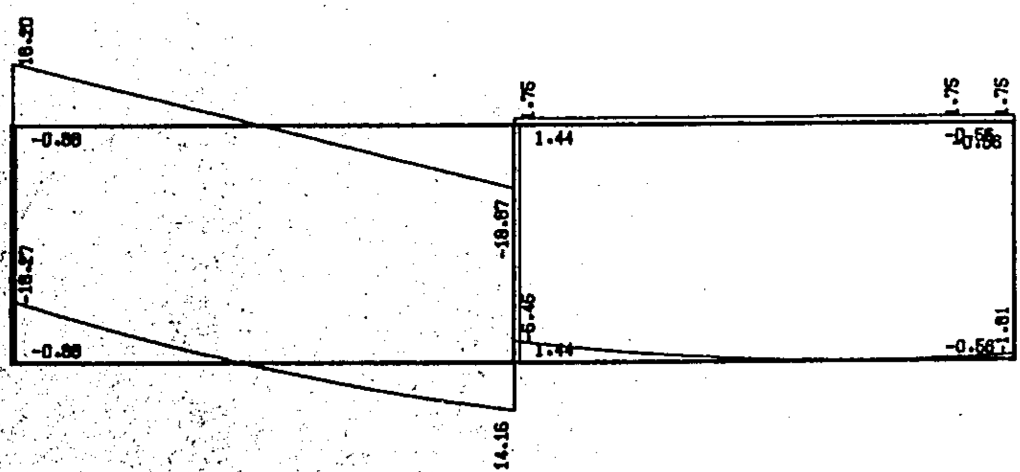
C10

CASE 4 (KATSU+SYOU 2)

BENDING MOMENT



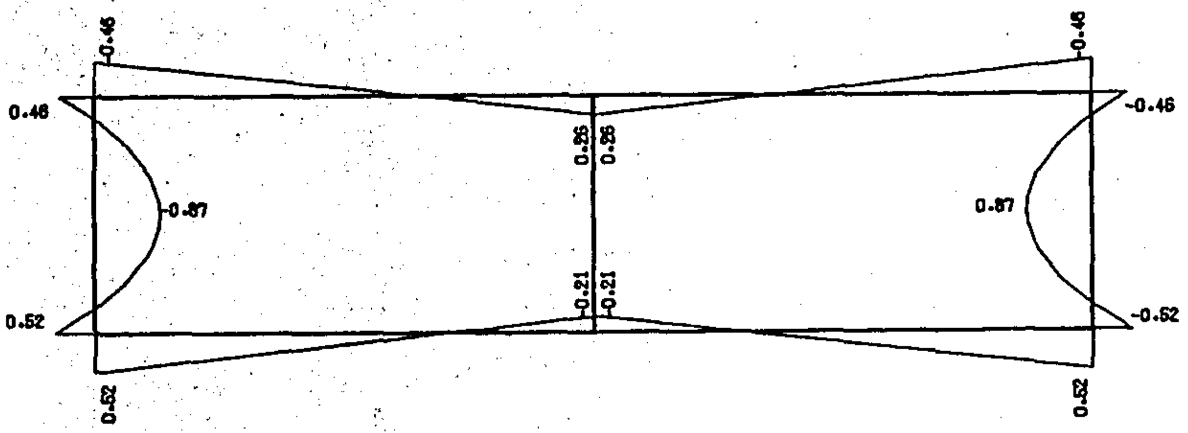
SHEARING FORCE



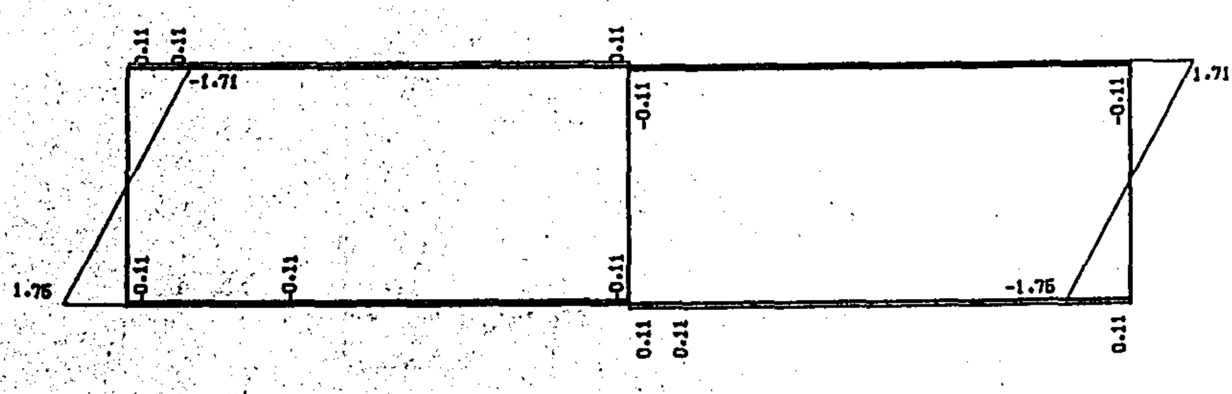
C10

CASE 5 (KATSUDO)

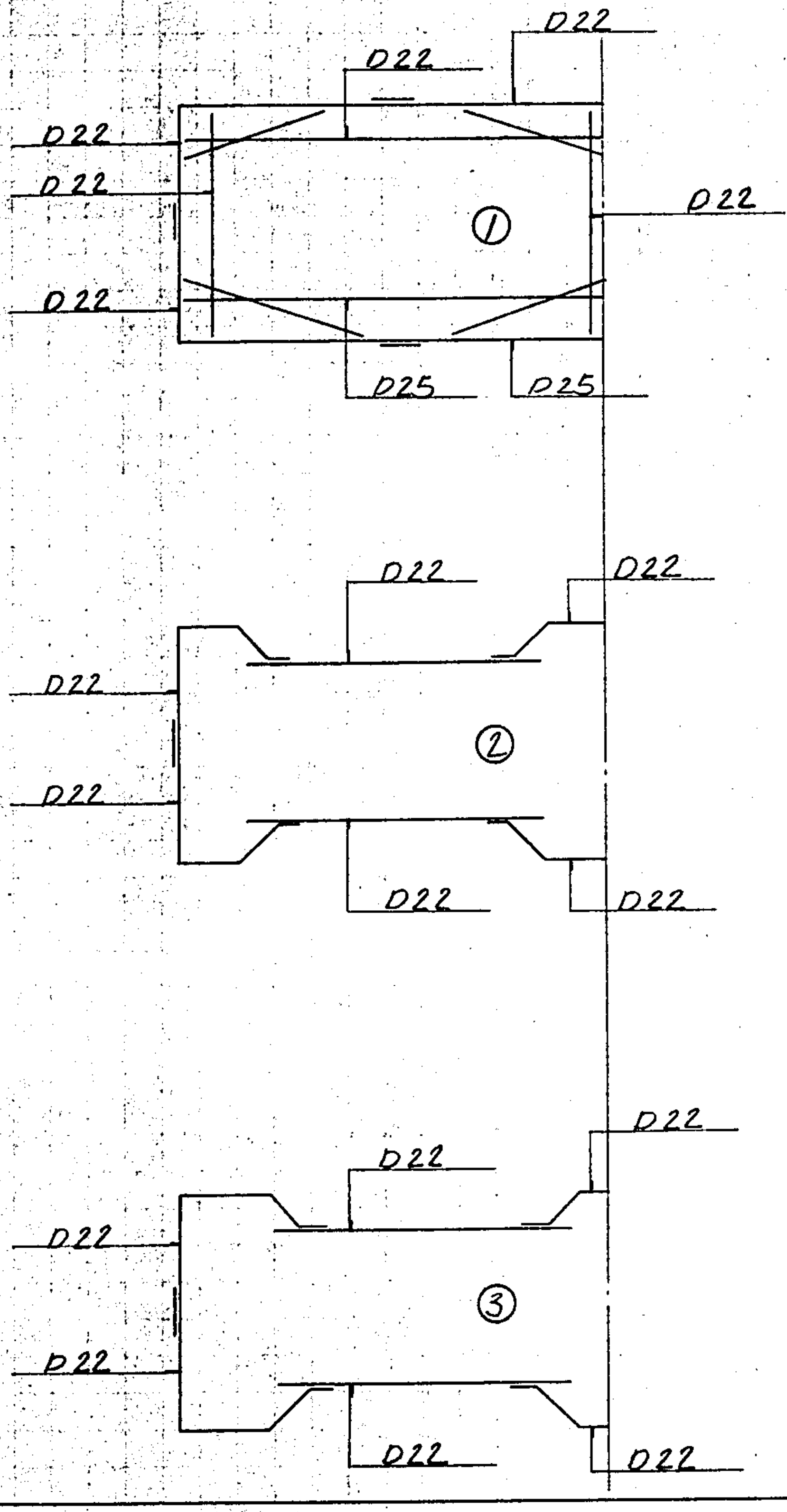
BENDING MOMENT



SHEARING FORCE



REINFORCEMENT FRAME



C10 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

	NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2	NO.(4) 1-2	NO.(5) 1-2
B (CM)	100.00	100.00	100.00	100.00	100.00
H (CM)	90.00	60.00	60.00	60.00	90.00
D (CM)	84.00	54.00	54.00	54.00	84.00
D' (CM)	0.00	6.00	6.00	6.00	0.00
D'' (CM)	6.00	6.00	6.00	6.00	6.00
	8.00 D-22	6.00 D-22	8.00 D-22	6.00 D-22	8.00 D-22
AS (CM2)	30.968	23.226	30.968	23.226	30.968
P	0.00368	0.00430	0.00573	0.00430	0.00368
		4.00 D-22	4.00 D-22	4.00 D-22	
AS' (CM2)	0.000	15.484	15.484	15.484	0.000
P'	0.00000	0.00286	0.00286	0.00286	0.00000
M (T*M)	3.67	4.13	6.49	5.18	16.59
N (T)	0.90	0.35	0.35	0.35	0.35
S (T)	0.00	0.00	0.00	0.00	0.00
EO (CM)	407.777	###.###	###.###	###.###	###.###
E (CM)	446.777	###.###	###.###	###.###	###.###
E' (CM)	362.777	###.###	###.###	###.###	###.###
E'/E	0.811	0.960	0.974	0.968	0.982
D'/D	0.000	0.111	0.111	0.111	0.000
D/E	0.188	0.044	0.028	0.035	0.017
N*E/B*D2	0.569	1.445	2.254	1.805	2.370
K		0.284	0.319	0.283	
LC		0.152	0.167	0.151	
C	0.136				0.128
BETA	34.296				37.867
SGM C(KG/CM2)	4.16	9.49	13.44	11.89	18.45
SGM S(KG/CM2)	142.96	357.21	429.03	449.83	698.86
TAU (KG/CM2)	0.00	0.00	0.00	0.00	0.00

C10 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(6) 4-5	NO.(7) 4-5	NO.(8) 4-5
B	(CM)	100.00	100.00	100.00
H	(CM)	70.00	70.00	70.00
D	(CM)	61.00	63.00	61.00
D'	(CM)	0.00	9.00	0.00
D''	(CM)	9.00	7.00	9.00
		8.00 D-22	8.00 D-22	8.00 D-22
AS	(CM2)	30.968	30.968	30.968
P		0.00507	0.00491	0.00507
			4.00 D-22	
AS'	(CM2)	0.000	15.484	0.000
P'		0.00000	0.00245	0.00000
M	(T*M)	10.71	9.79	13.30
N	(T)	6.85	4.98	4.98
S	(T)	0.00	0.00	0.00
EO	(CM)	156.350	196.586	267.068
E	(CM)	182.350	224.586	293.068
E'	(CM)	121.350	170.586	232.068
E'/E		0.665	0.759	0.791
D'/D		0.000	0.142	0.000
D/E		0.334	0.280	0.208
N*E/B*D2		3.356	2.817	3.922
K			0.339	
LC			0.168	
C		0.161		0.154
BETA		25.668		28.022
SGM C	(KG/CM2)	20.75	16.70	25.45
SGM S	(KG/CM2)	532.72	487.98	713.38
TAU	(KG/CM2)	0.00	0.00	0.00

C10 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

	NO.(9) 1-4.3-6	NO.(10) 1-4.3-6	NO.(11) 1-4.3-6	NO.(12) 1-4.3-6
B (CM)	100.00	100.00	100.00	100.00
H (CM)	60.00	60.00	60.00	60.00
D (CM)	54.00	54.00	54.00	54.00
D' (CM)	0.00	6.00	6.00	0.00
D'' (CM)	6.00	6.00	6.00	6.00
	4.00 D-22	4.00 D-22	4.00 D-22	4.00 D-22
AS (CM2)	15.484	15.484	15.484	15.484
P	0.00286	0.00286	0.00286	0.00286
		4.00 D-22	4.00 D-22	
AS' (CM2)	0.000	15.484	15.484	0.000
P'	0.00000	0.00286	0.00286	0.00000
M (T*M)	3.45	3.59	4.92	8.63
N (T)	8.54	8.89	10.35	12.19
S (T)	0.00	0.00	0.00	0.00
EO (CM)	40.398	40.382	47.536	70.795
E (CM)	64.398	64.382	71.536	94.795
E' (CM)	10.398	16.382	23.536	40.795
E'/E	0.161	0.254	0.329	0.430
D'/D	0.000	0.111	0.111	0.000
D/E	0.838	0.838	0.754	0.569
N*E/B*D2	1.886	1.962	2.539	3.962
K		0.404	0.371	
LC		0.202	0.189	
C	0.181			0.150
BETA	20.553			29.245
SGM C(KG/CM2)	10.40	9.68	13.39	26.35
SGM S(KG/CM2)	213.83	214.12	340.14	770.83
TAU (KG/CM2)	0.00	0.00	0.00	0.00

C10 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(13) 2-5	NO.(14) 2-5
B	(CM)	100.00	100.00
H	(CM)	40.00	40.00
D	(CM)	34.00	34.00
D'	(CM)	0.00	0.00
D''	(CM)	6.00	6.00
		4.00 D-22	4.00 D-22
AS	(CM2)	15.484	15.484
P		0.00455	0.00455
AS'	(CM2)	0.000	0.000
P'		0.00000	0.00000
M	(T*M)	0.00	0.00
N	(T)	24.72	26.72
S	(T)	0.00	0.00
EO	(CM)	0.004	0.003
E	(CM)	14.004	14.003
E'	(CM)	-19.995	-19.996
E'/E		-1.427	-1.427
D'/D		0.000	0.000
D/E		2.427	2.427
N*E/B*D2		2.994	3.236
K			
LC			
C		1.056	1.056
BETA		-11.955	-11.956
SGM C	(KG/CM2)	6.52	7.05
SGM S	(KG/CM2)	-78.05	-84.37
TAU	(KG/CM2)	0.00	0.00

C10 FATIGUE

STRESS

SGM CA = 0.000 (KG/M2)
SGM SA = 0.000 (KG/M2)
TAU A = 0.000 (KG/M2)

	NO.(1)	NO.(2)	NO.(3)	NO.(4)	NO.(5)
B (CM)	100.00	100.00	100.00	100.00	100.00
H (CM)	90.00	60.00	60.00	60.00	90.00
D (CM)	84.00	54.00	54.00	54.00	84.00
D' (CM)	0.00	6.00	6.00	6.00	0.00
D'' (CM)	6.00	6.00	6.00	6.00	6.00
	8.00 D-22	6.00 D-22	8.00 D-22	6.00 D-22	8.00 D-22
AS (CM2)	30.968	23.226	30.968	23.226	30.968
P	0.00368	0.00430	0.00573	0.00430	0.00368
		4.00 D-22	4.00 D-22	4.00 D-22	
AS' (CM2)	0.000	15.484	15.484	15.484	0.000
P'	0.00000	0.00286	0.00286	0.00286	0.00000
M (T*M)	15.37	8.07	20.18	9.61	34.97
N (T)	3.49	0.53	0.53	0.08	0.08
S (T)	0.00	0.00	0.00	0.00	0.00
EO (CM)	440.401	###.###	###.###	###.###	###.###
E (CM)	479.401	###.###	###.###	###.###	###.###
E' (CM)	395.401	###.###	###.###	###.###	###.###
E'/E	0.824	0.968	0.987	0.996	0.998
D'/D	0.000	0.111	0.111	0.111	0.000
D/E	0.175	0.034	0.014	0.004	0.001
N*E/B*D2	2.371	2.811	6.964	3.302	4.960
K		0.283	0.317	0.280	
LC		0.151	0.166	0.150	
C	0.136				0.127
BETA	34.572				38.184
SGM C(KG/CM2)	17.43	18.52	41.70	21.98	38.82
SGM S(KG/CM2)	602.63	701.11	1342.33	846.06	1487.56
TAU (KG/CM2)	0.00	0.00	0.00	0.00	0.00

C10 FATIGUE

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(6) 4-5	NO.(7) 4-5	NO.(8) 4-5
B	(CM)	100.00	100.00	100.00
H	(CM)	70.00	70.00	70.00
D	(CM)	61.00	63.00	61.00
D'	(CM)	0.00	9.00	0.00
D''	(CM)	9.00	7.00	9.00
		8.00 D-22	8.00 D-22	8.00 D-22
AS	(CM2)	30.968	30.968	30.968
P		0.00507	0.00491	0.00507
			4.00 D-22	
AS'	(CM2)	0.000	15.484	0.000
P'		0.00000	0.00245	0.00000
M	(T*M)	19.69	23.00	30.83
N	(T)	7.73	4.10	4.71
S	(T)	0.00	0.00	0.00
EO	(CM)	254.721	560.975	654.564
E	(CM)	280.721	588.975	680.564
E'	(CM)	219.721	534.975	619.564
E'/E		0.782	0.908	0.910
D'/D		0.000	0.142	0.000
D/E		0.217	0.106	0.089
N*E/B*D2		5.831	6.084	8.614
K			0.314	
LC			0.158	
C		0.154		0.147
BETA		27.855		30.127
SGM C	(KG/CM2)	37.72	38.48	58.29
SGM S	(KG/CM2)	1050.82	1257.07	1756.20
TAU	(KG/CM2)	0.00	0.00	0.00

C10 FATIGUE

STRESS

SGM CA = 0.000 (KG/M2)
SGM SA = 0.000 (KG/M2)
TAU A = 0.000 (KG/M2)

	NO.(9) 1-4.3-6	NO.(10) 1-4.3-6	NO.(11) 1-4.3-6	NO.(12) 1-4.3-6
B (CM)	100.00	100.00	100.00	100.00
H (CM)	60.00	60.00	60.00	60.00
D (CM)	54.00	54.00	54.00	54.00
D' (CM)	0.00	6.00	6.00	0.00
D'' (CM)	6.00	6.00	6.00	6.00
	8.00 D-22	4.00 D-22	4.00 D-22	4.00 D-22
AS (CM2)	30.968	15.484	15.484	15.484
P	0.00573	0.00286	0.00286	0.00286
		4.00 D-22	4.00 D-22	
AS' (CM2)	0.000	15.484	15.484	0.000
P'	0.00000	0.00286	0.00286	0.00000
M (T*M)	14.42	14.30	14.76	17.40
N (T)	24.09	24.44	25.90	27.74
S (T)	0.00	0.00	0.00	0.00
EO (CM)	59.858	58.510	56.988	62.725
E (CM)	83.858	82.510	80.988	86.725
E' (CM)	29.858	34.510	32.988	32.725
E'/E	0.356	0.418	0.407	0.377
D'/D	0.000	0.111	0.111	0.000
D/E	0.643	0.654	0.666	0.622
N*E/B*D2	6.927	6.915	7.193	8.250
K		0.340	0.343	
LC		0.176	0.177	
C	0.192			0.155
BETA	17.986			27.651
SGM C(KG/CM2)	35.91	39.18	40.42	53.12
SGM S(KG/CM2)	645.95	1140.67	1158.81	1467.99
TAU (KG/CM2)	0.00	0.00	0.00	0.00

C10 FATIGUE

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(13) 2-5	NO.(14) 2-5
B	(CM)	100.00	100.00
H	(CM)	40.00	40.00
D	(CM)	34.00	34.00
D'	(CM)	0.00	0.00
D''	(CM)	6.00	6.00
		4.00 D-22	4.00 D-22
AS	(CM2)	15.484	15.484
P		0.00455	0.00455
AS'	(CM2)	0.000	0.000
P'		0.00000	0.00000
M	(T*M)	3.76	0.60
N	(T)	42.48	44.88
S	(T)	0.00	0.00
EO	(CM)	8.851	1.336
E	(CM)	22.851	15.336
E'	(CM)	-11.148	-18.663
E'/E		-0.487	-1.216
D'/D		0.000	0.000
D/E		1.487	2.216
N*E/B*D2		8.397	5.954
K			
LC			
C		0.331	1.248
BETA		0.192	-7.978
SGM C	(KG/CM2)	25.35	14.00
SGM S	(KG/CM2)	4.89	-111.77
TAU	(KG/CM2)	0.00	0.00

Stress calculation

Stress calculation of slab

1-2 (1) (for slab calculation)

Section	B = 100, H = 118	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 51.40 cm² (8-D29) AS' = 0 〃 (-D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 12.58 t m	Mdℓi = 44.18 t m	M = t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 7.4 kg / cm² σs = 243 〃 τ = — 〃	σc = 26.3 kg / cm² σs = 817 〃 τ = — 〃	σc = 26.3 kg / cm² σs = 817 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{817 - 243}{817} = 0.70 \qquad 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 $\ell = 10.825$ m σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 243 + (1 - 243 / 5000) \times 1800 = 1960 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-2 (2) (for slab calculation)

Section	B = 100, H = 68	Standard strength for design σck = 240 kg/cm² Re-bar SD30 AS = 38.54 cm² (6-D29) AS′ = 25.70 cm² (4-D29)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 7.49 t m	Mdℓi = 10.71 t m	M = 10.71 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 11.4 kg/cm² σs = 344 〃 τ = — 〃	σc = 16.7 kg/cm² σs = 1307 〃 τ = — 〃	σc = 16.7 kg/cm² σs = 1307 〃 τ = — 〃
Allowable stress	σca = 90 kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90 kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90 kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1307 - 344}{1307} = 0.74 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000 kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200 kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 10.825 σrao = 1800 kg/cm²

$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$

$= 344 + (1 - 344 / 5000) \times 1800 = 2020$ kg/cm²

Stress calculation

Stress calculation of slab

1-2 (3)

(for slab calculation)

Section	B = 100, H = 68	Standard strength for design $\sigma ck = 240\ kg/cm^2$; Re-bar SD30; $AS = 51.40\ cm^2$ (8-D29); $AS' = 25.70$ 〃 (4-D29)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	$Md = 16.68$ tm	$Md\ell i = 36.09$ tm	$M = 36.09$ tm
Shearing force	$Sd =$ — t	$Sd\ell i =$ — t	$S =$ — t
Stress	$\sigma c = 22.9\ kg/cm^2$ $\sigma s = 594$ 〃 $\tau =$ — 〃	$\sigma c = 49.3\ kg/cm^2$ $\sigma s = 1307$ 〃 $\tau =$ — 〃	$\sigma c = 49.3\ kg/cm^2$ $\sigma s = 1307$ 〃 $\tau =$ — 〃
Allowable stress	$\sigma ca = 90kg/cm^2$ $\sigma sa = 1000$ 〃 $\tau a =$ — 〃	$\sigma ca = 90kg/cm^2$ $\sigma sa = 1800$ 〃 $\tau a =$ — 〃	$\sigma ca = 90kg/cm^2$ $\sigma sa = 1800$ 〃 $\tau a =$ — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1307-594}{1307} = 0.55 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000kg/cm^2$,
$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200kg/cm^2$)

2. Allowable stress of re-bar in terms of fatigue

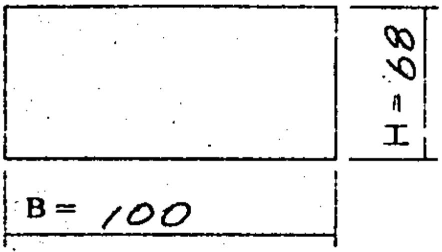
Span for fatigue analysis Ks-16 $\ell = 10.825$ $\sigma rao = 1800\ kg/cm^2$

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 594 + (1 - 594/5000) \times 1800 = 2180\ kg/cm^2$$

Stress calculation

Stress calculation of slab

1 − 2 (4) (for slab calculation)

Section		Standard strength for design σ_{ck} = 240 kg / ㎠ Re-bar SD30 AS = 38.54㎠ (6 − D29) AS′ = 25.70 (4 − D29)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 12.57 t m	Mdℓi = 23.43 t m	M = 23.43 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σ_c = 19.0 kg / ㎠ σ_s = 586 〃 τ = — 〃	σ_c = 35.2 kg / ㎠ σ_s = 1117 〃 τ = — 〃	σ_c = 35.2 kg / ㎠ σ_s = 1117 〃 τ = — 〃
Allowable stress	σ_{ca} = 90kg / ㎠ σ_{sa} = 1000 〃 τ_a = — 〃	σ_{ca} = 90kg / ㎠ σ_{sa} = 1800 〃 τ_a = — 〃	σ_{ca} = 90kg / ㎠ σ_{sa} = 1800 〃 τ_a = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma_{\ell i}}{\sigma_d + \sigma_{\ell i}} = \frac{1117 - 586}{1117} = 0.48 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σ_{sa} = 1000kg / ㎠,

$\alpha \leq 0.25 \rightarrow$ Static σ_{sa} = 1200kg / ㎠)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis KS-16 $\ell = 10.^{m}825$ σ_{rao} = 1800kg / ㎠

$$\sigma_{sa} = \sigma_{min} + (1 - \sigma_{min} / 5000) \times \sigma_{rao}$$

$$= 586 + (1 - 586 / 5000) \times 1800 = 2170 \text{ kg / ㎠}$$

Stress calculation

Stress calculation of slab

1-2(5) (for slab calculation)

Section	B = 100, H = 118 Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 51.40cm² (8-D29) AS' = 0 ″ (-D)		
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 41.02 tm	Mdℓi = 82.98 tm	M = 82.98 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 24.1 kg/cm² σs = 792 ″ τ = — ″	σc = 48.5 kg/cm² σs = 1622 ″ τ = — ″	σc = 48.5 kg/cm² σs = 1622 ″ τ = — ″
Allowable stress	σca = 90kg/cm² σsa = 1000 ″ τa = — ″	σca = 90kg/cm² σsa = 1800 ″ τa = — ″	σca = 90kg/cm² σsa = 1800 ″ τa = — ″

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1622-792}{1622} = 0.51 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 ℓ = 10.825 m σrao = 1800 kg/cm²

$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$

$= 792 + (1 - 792/5000) \times 1800 = 2300$ kg/cm²

Stress calculation

Stress calculation of slab

4 − 5 (6)

(for slab calculation)

Section	B = 100, H = 145 Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 51.40 cm² (8 − D29) AS′ = 0 ″ (− D)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 25.86 tm	Mdℓi = 45.36 tm	M = 45.36 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 11.4 kg / cm² σs = 330 ″ τ = — ″	σc = 19.6 kg / cm² σs = 646 ″ τ = — ″	σc = 19.6 kg / cm² σs = 646 ″ τ = — ″
Allowable stress	σca = 90kg / cm² σsa = 1000 ″ τa = — ″	σca = 90kg / cm² σsa = 1800 ″ τa = — ″	σca = 90kg / cm² σsa = 1800 ″ τa = — ″

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{646 - 330}{646} = 0.49 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 10.825 $\sigma rao = 1800$ kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 330 + (1 - 330 / 5000) \times 1800 = 2010 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

4-5(7)

(for slab calculation)

Section	B = 100, H = 95 Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 38.54cm² (6 − D29) AS' = 25.70 (4 − D29)		
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 5.18 tm	Mdℓi = 18.76 tm	M = 18.76 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 4.8 kg/cm² σs = 92 〃 τ = — 〃	σc = 16.6 kg/cm² σs = 514 〃 τ = — 〃	σc = 16.6 kg/cm² σs = 514 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{514 - 92}{514} = 0.82 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 ℓ = 10.825 m σrao = 1800 kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 92 + (1 - 92 / 5000) \times 1800 = 1860 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

4 - 5 (8)

(for slab calculation)

Section	B = 100, H = 25	Standard strength for design $\sigma ck = 240\ kg/cm^2$; Re-bar SD30; AS = 51.40 cm^2 (8-D29); AS' = 25.70 cm^2 (4-D29)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 26.94 tm	Mdli = 50.49 tm	M = 50.49 tm
Shearing force	Sd = — t	Sdli = — t	S = — t
Stress	σc = 21.3 kg/cm^2 σs = 605 〃 τ = — 〃	σc = 39.3 kg/cm^2 σs = 1196 〃 τ = — 〃	σc = 39.3 kg/cm^2 σs = 1196 〃 τ = — 〃
Allowable stress	σca = 90 kg/cm^2 σsa = 1000 〃 τa = — 〃	σca = 90 kg/cm^2 σsa = 1800 〃 τa = — 〃	σca = 90 kg/cm^2 σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma l i}{\sigma d + \sigma l i} = \frac{1196 - 605}{1196} = 0.49 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000 kg/cm^2$,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200 kg/cm^2$)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 l = 10.825 σrao = 1800 kg/cm^2

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 605 + (1 - 605 / 5000) \times 1800 = 2180\ kg/cm^2$$

Stress calculation

Stress calculation of slab

4 - 5 (9) (for slab calculation)

Section	B = 100, H = 96 Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 38.54 cm² (6 - D29) AS' = 25.70 " (4 - D29)		
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 12.90 tm	Mdℓi = 31.96 tm	M = 31.96 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 11.6 kg / cm² σs = 312 " τ = — "	σc = 27.6 kg / cm² σs = 970 " τ = — "	σc = 27.6 kg / cm² σs = 970 " τ = — "
Allowable stress	σca = 90kg / cm² σsa = 1000 " τa = — "	σca = 90kg / cm² σsa = 1800 " τa = — "	σca = 90kg / cm² σsa = 1800 " τa = — "

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{970 - 312}{970} = 0.68 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 10.825 σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 312 + (1 - 312 / 5000) \times 1800 = 2000 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

4-5(10)

(for slab calculation)

Section	Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 H = 145 AS = 51.40cm² (8-D29) AS' = 0 〃 (-D) B =		
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 32.31 tm	Mdℓi = 70.12 tm	M = 70.12 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 14.0 kg/cm² σs = 451 〃 τ = — 〃	σc = 29.8 kg/cm² σs = 1058 〃 τ = — 〃	σc = 29.8 kg/cm² σs = 1058 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1058 - 451}{1058} = 0.57 \qquad 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis cs-16 ℓ = 10.825 m σrao = 1800 kg/cm²

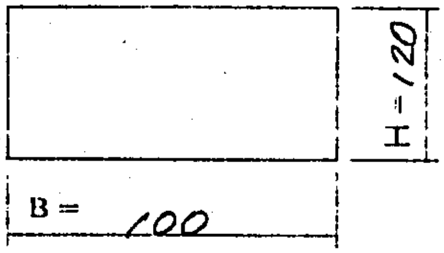
$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 451 + (1 - 451 / 5000) \times 1800 = 2090 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-4, 3-6 (11) (for slab calculation)

Section		Standard strength for design σck = 240 kg / cm² ; Re-bar SD30 ; AS = 51.40 cm² (8 − D29) ; AS′ = 0 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 12.52 t m	Mdℓi = 42.39 t m	M = 42.39 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 7.9 kg / cm² σs = 135 〃 τ = — 〃	σc = 26.4 kg / cm² σs = 526 〃 τ = — 〃	σc = 26.4 kg / cm² σs = 526 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{526-135}{526} = 0.74 \qquad 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ES-16 ℓ = 10.825 σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 135 + (1 - 135 / 5000) \times 1800 = 1890 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-4, 3-6 (12)

(for slab calculation)

Section	H = 70, B = 100	Standard strength for design $\sigma ck = 240\ kg/cm^2$; Re-bar SD30; AS = 51.40 cm^2 (8-D29); AS′ = 25.70 〃 (4-D29)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 13.26 t m	$M d \ell i$ = 40.25 t m	M = 40.25 t m
Shearing force	Sd = — t	$S d \ell i$ = — t	S = — t
Stress	σc = 18.8 kg/cm^2 σs = 341 〃 τ = — 〃	σc = 56.4 kg/cm^2 σs = 1089 〃 τ = — 〃	σc = 50.4 kg/cm^2 σs = 1089 〃 τ = — 〃
Allowable stress	σca = 90 kg/cm^2 σsa = 1000 〃 τa = — 〃	σca = 90 kg/cm^2 σsa = 1800 〃 τa = — 〃	σca = 90 kg/cm^2 σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1089-341}{1089} = 0.69 > 0.25$$

($\alpha \geqq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000 kg/cm^2$,

$\alpha \leqq 0.25 \rightarrow$ Static $\sigma sa = 1200 kg/cm^2$)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis KS-16 ℓ = 10.825 σrao = 1800 kg/cm^2

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 341 + (1 - 341 / 5000) \times 1800 = 2019\ kg/cm^2$$

Stress calculation

Stress calculation of slab

1-4, 3-6 (13) (for slab calculation)

Section	B = 100, H = 70	Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 51.40cm² (8-D29) AS' = 25.70cm² (4-D29)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 15.80 t m	Mdℓi = 39.45 t m	M = t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 22.3 kg/cm² σs = 414 〃 τ = — 〃	σc = 55.5 kg/cm² σs = 1047 〃 τ = — 〃	σc = 55.5 kg/cm² σs = 1047 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1047 - 414}{1047} = 0.60 > 0.25$$

($\alpha \geqq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg/cm²,

$\alpha \leqq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ES-16 ℓ = 10.825 σrao = 1800 kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 414 + (1 - 414 / 5000) \times 1800 = 2060 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-4.3-6 (14)

(for slab calculation)

Section	B = 100, H = 70	Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 51.40cm² (8-D29) AS' = 25.704 (4-D29)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 19.39 tm	Mdli = 41.33 tm	M = 41.33 tm
Shearing force	Sd = — t	Sdli = — t	S = — t
Stress	σc = 27.2 kg/cm² σs = 525 〃 τ = — 〃	σc = 58.1 kg/cm² σs = 1100 〃 τ = — 〃	σc = 58.1 kg/cm² σs = 1100 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma l i}{\sigma d + \sigma l i} = \frac{1100 - 525}{1100} = 0.52 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 l = 10.825 σrao = 1800 kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 525 + (1 - 525 / 5000) \times 1800 = 2140 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-4, 3-6 (15) (for slab calculation)

Section	Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = cm² (8 - D29) AS' = 0 〃 (- D) H = 120 B = 100

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 22.07 tm	Mdℓi = 42.38 tm	M = 42.38 tm
Shearing force	Sd = — t	Sdℓi = — t	S. = — t
Stress	σc = 13.7 kg/cm² σs = 275 〃 τ = — 〃	σc = 26.6 kg/cm² σs = 491 〃 τ = — 〃	σc = 26.6 kg/cm² σs = 491 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{491 - 275}{491} = 0.44 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 $\ell = 10.825$ $\sigma rao = 1800$ kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 275 + (1 - 275 / 5000) \times 1800 = 1980 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

2 − 5 (16) (for slab calculation)

Section	B = 100, H = 55	Standard strength for design σck = 240 kg / cm² Re-bar SD30 AS = 25.70 cm² (4 − D29) AS′ = 0 〃 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 0 t m	Mdℓi = 14.96 t m	M = t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 7.5 kg / cm² σs = −85 〃 τ = — 〃	σc = 48.3 kg / cm² σs = 399 〃 τ = — 〃	σc = 48.3 kg / cm² σs = 399 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{399 - 85}{399} = 0.79 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 10.825 m σrao = 1800kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 85 + (1 - 85 / 5000) \times 1800 = 1850 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

2-5(17) (for slab calculation)

Section	H = 55 B = 100	Standard strength for design $\sigma ck = 240\ kg/cm^2$ Re-bar SD30 AS = 25.70 cm^2 (4−D29) AS′ = 0 〃 (−D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 0 tm	Mdℓi = 4.96 tm	M = 4.96 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 8 kg/cm^2 σs = −91 〃 τ = — 〃	σc = 22.4 kg/cm^2 σs = −22 〃 τ = — 〃	σc = 22.4 kg/cm^2 σs = −22 〃 τ = — 〃
Allowable stress	σca = 90 kg/cm^2 σsa = 1000 〃 τa = — 〃	σca = 90 kg/cm^2 σsa = 1800 〃 τa = — 〃	σca = 90 kg/cm^2 σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{22-91}{-91} = 0.76 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000 kg/cm^2$,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200 kg/cm^2$)

2. Allowable stress of re-bar in terms of fatigue

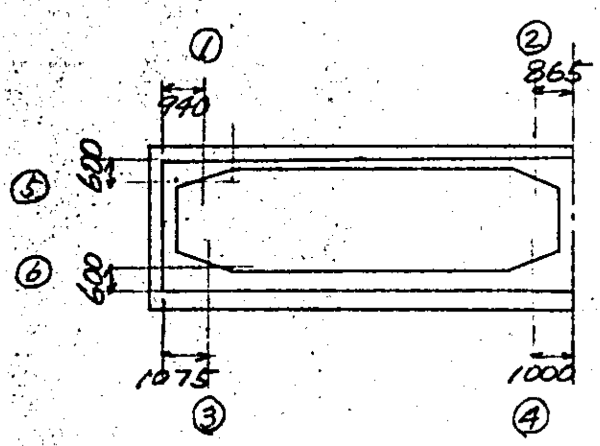
Span for fatigue analysis ks-16 ℓ = 10.^{m}825 σrao = 1800 kg/cm^2

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= -91 + (1 - 91 / 5000) \times 1800 = 1860\ kg/cm^2$$

Calculation of shearing force

Sections of calculation of shearing stress



$$\tau = \frac{S}{b \cdot d}$$

b = 100 cm

h = Thickness of member

d″ = Thickness of concrete cover of tension bar

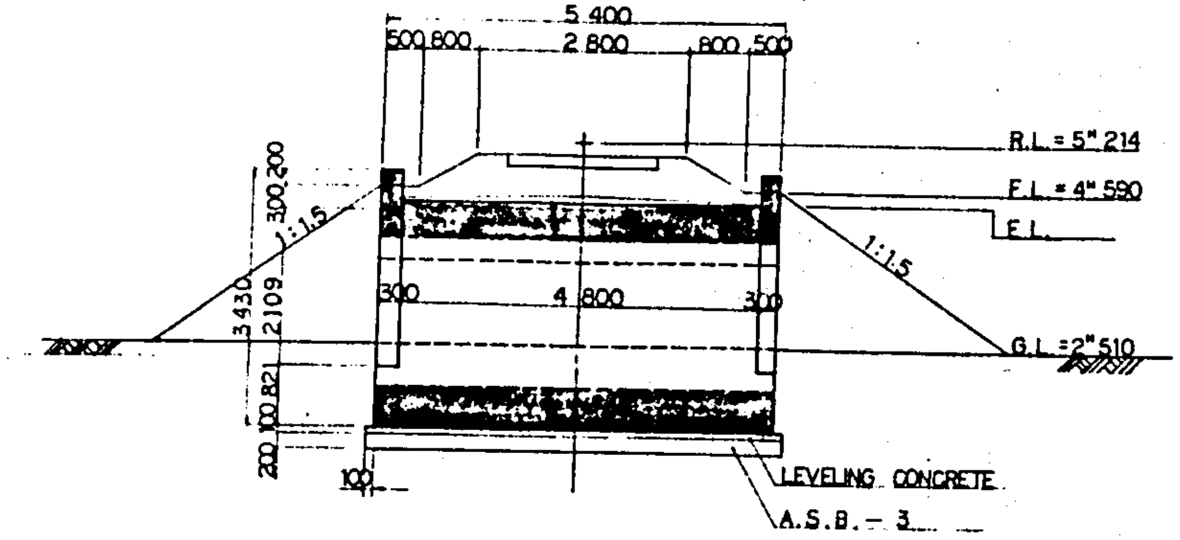
d = Effective height

Sections of calculation	h (cm)	d′ (cm)	d = h-d′ (cm)	S (kg)	τ (kg / cm²)	ρ (%)	τa (kg / cm²)
1	98	7	91	31481	3.5	0.56	4.3
2	98	7	91	38966	4.2	0.56	4.3
3	121	9	112	35104	3.1	0.46	3.9
4	121	9	112	39688	3.5	0.46	3.9
5	94	7	87	4264	0.5	0.59	4.3
6	106	7	99	8566	0.9	0.53	4.3

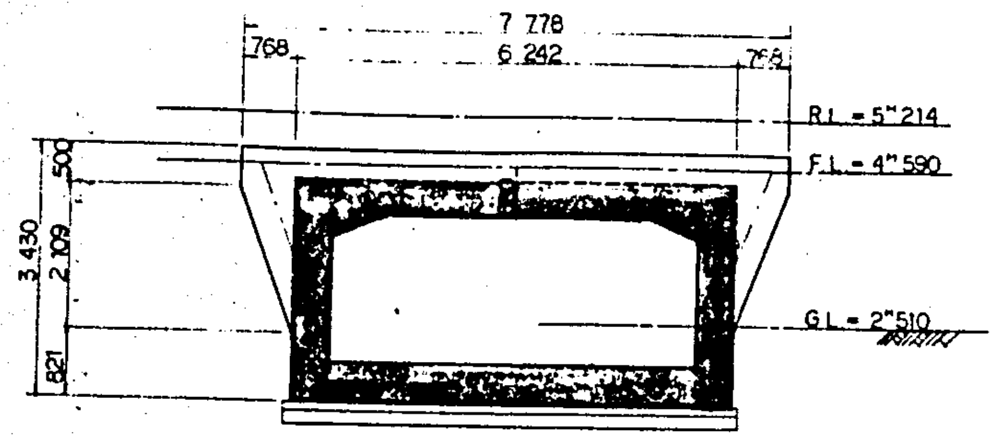
§7. Cb18 BOX CULVERT

($5.^{m}00$ x $2.^{m}00$)

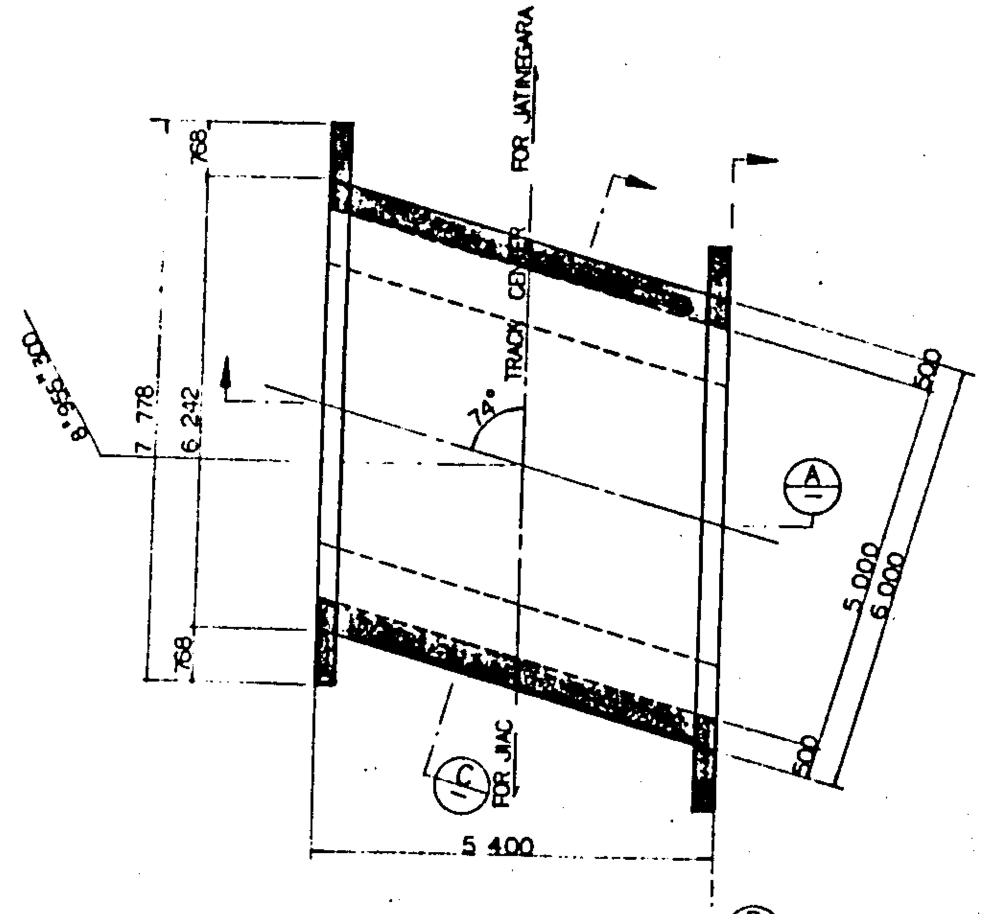
1 Configuration



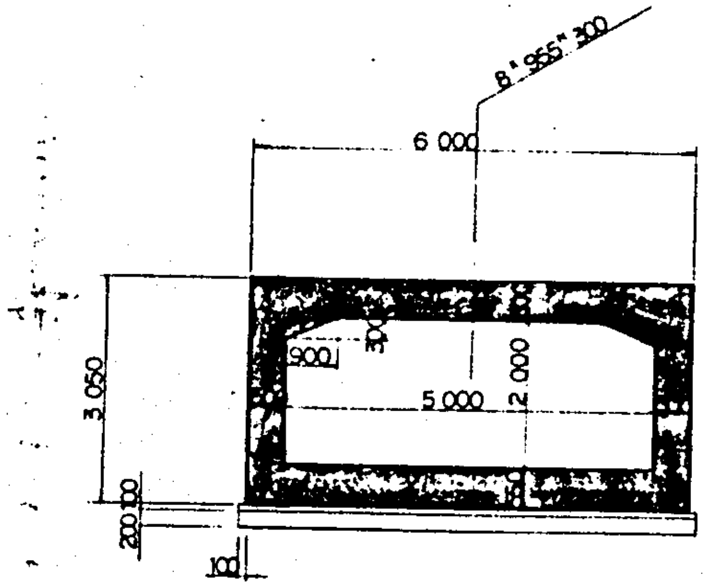
SECTION (A)
SCALE 1:50



SECTION (B)
SCALE 1:50



PLAN SCALE 1:50

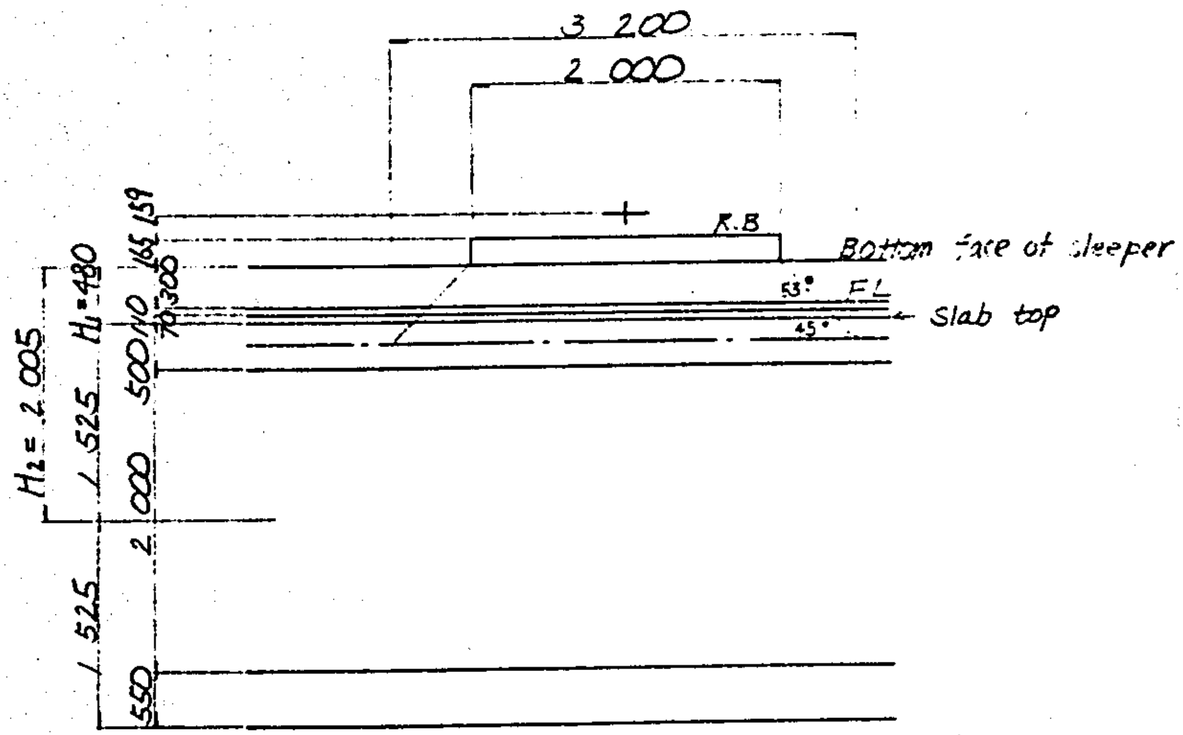


SECTION (C)
SCALE 1:50

NOTES:

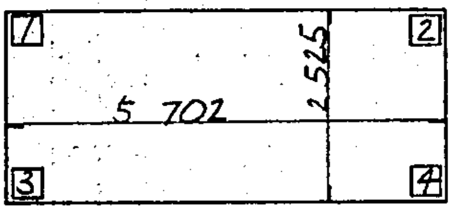
1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE INDICATED
2. REFERENCE DRAWING FOR BAR ARRANGEMENT: CE-027
3. GRADING CONCRETE SHALL BE SIMULTANEOUSLY PLACED WITH SLAB CONCRETE

2. Configuration and dimension: Surcharge earth load



3. cross section

1. Axis of Rahmen(Rigid frame)



2. Cross sectional area: Moment of inertia of the area

1)Top slab

A =	1.00 × 0.50	= 0.500	m^2
I =	1 / 12×1.00×0.50^3	= 0.01042	m^4

2)Bottom slab

A =	1.00 × 0.55	= 0.550	m^2
I =	1 / 12×1.00×0.55^3	= 0.01386	m^4

3)Side wall

A =	1.00 × 0.50	= 0.500	m^2
I =	1 / 12×1.00×0.50^3	= 0.01042	m^4

4. Loads

Calcultion is carried out based on the unit width of Rahmen(Rigid frame).

4.1 Dead load

Weight of track assembly

$0.45\ t/m \div 3.20\ m = 0.14\ t/m^2$

(between track centers)

Track ballast

$1.9\ t/m^3 \times 0.47\ m = 0.89$ 〃

(R.B.～F.L.)

Subgrade material

(upper layer)	$1.9\ t/m^3$	$\times 0.11\ m$	$= 0.21$ 〃
Grading concrete	$2.35\ t/m^3$	$\times 0.07\ m$	$= 0.16$ 〃
Weight of top slab	$2.5\ t/m^3$	$\times 0.50\ m$	$= 1.25$ 〃

$W_d = 2.65\ t/m^2$

Weight of side wall

$2.5\ t/m^3 \times 0.50\ m \times 2.525 = 3.16\ t/m$

Weight of bottom slab

$2.65 + 3.16 \times 2 \times 1 / 5.702 = 3.76\ t/m^2$

4.2 Train load

Uniformly distributed load, equivalent to KS-16 loading

$\ell = 5.702\ m$ Surcharge earth (Sleeper bottom - Slab top) is assumed as 0.48m ,then $P_m = 3.16\ t/m^2$

$P_s = 3.16 \times 1.2 = 3.79\ t/m^2$

4.3 Impact coefficient

$$i = i_o \left\{ \frac{2.5 - H}{1.5} \right\}$$

$$= 0.47$$

$H \leq 1.0^m \quad i = i_o$

$H \geq 2.5^m \quad i = 0$

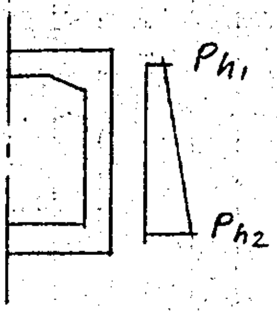
4.4 Earth pressure

1) Ordinary case, earth pressure due to dead load

Horizontal earth pressure acting at the depth of H

Bottom face of sleeper

$$Ph = K \cdot \gamma \cdot H$$



Ph : Horizontal earth pressure per unit area

γ: Unit weight of earth $= 1.8\ t/m^3$

H: Depth of earth (depth above slab top is the equivalent value)

K: Coefficient of static earth pressure $= 0.5$

$K = 0.5$

$H_1 = 1/1.8 \times (2.65 - 1.25 - 0.16) = 0.69\ m$

$Ph1 = K \cdot \gamma \cdot H_1$

$= 0.5 \times 1.8 \times (0.69 + 0.07 + 0.50/2) = 0.91\ t/m^2$

$Ph2 = Ph1 + K \gamma H_2$

$= 0.91 + 0.5 \times 1.8 \times 2.525 = 3.18\ t/m^2$

$K = 0.3$

$Ph1 = 0.3 \times 1.8 \times (0.69 + 0.07 + 0.50/2) = 0.54\ t/m^2$

$Ph2 = 0.54 + 0.3 \times 1.8 \times 2.525 = 1.90\ t/m^2$

2) Horizontal earth pressure caused by train load

$$Ph\ell = K \cdot Pv\ell$$

$Ph\ell$: Effect of train load acting at the side. (uniformly distributed load) (t / m²)

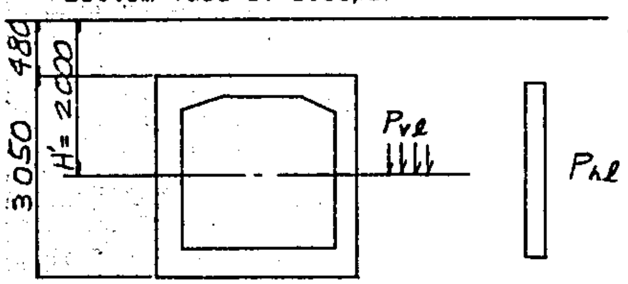
$Pv\ell$: Effect of train load in vertical direction at the depth of the level of culvert center (t / m²)

K : Coefficient of horizontal earth pressure (generally assumed as 0.5)

H′ : Depth of the level of culvert center (m)

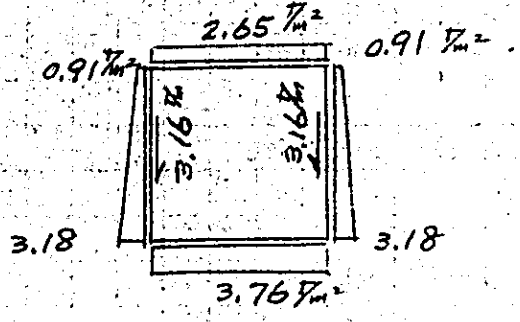
$$Ph\ell = K \cdot Pv\ell$$
$$= 0.5 \times 2.60$$
$$= 1.30 \ t / m^2$$

Bottom face of sleeper

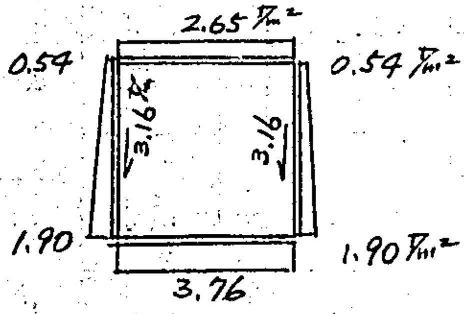


4.5 Loading condition

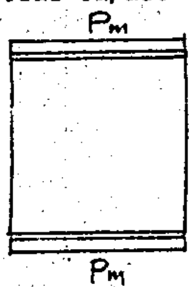
case1 Dead load + Earth pressure (0.5)



case2 Dead load + Earth pressure (0.3)



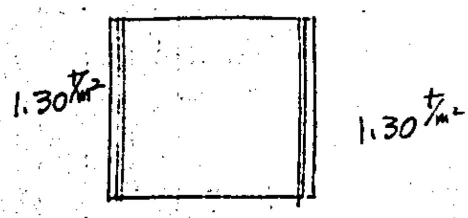
case3 Live load Impact



$P_m = 3.16 \times 1.47 = 4.65$ t / m²

$P_s = 3.79 \times 1.47 = 5.57$ 〃

case4 Earth pressure due to live load



Combination of loads

Case	Combination of loads
①	Dead load +Surcharge earth load +Earth pressure (K = 0.5)
②	Dead load +Surcharge earth load +Earth pressure (K = 0.3)
③	live load +Impact
④	live load, Earth pressure

Difine	Case
1	① ②
2	③
3	④

Combine	Difine	Coefficient of increased load
	1	1.00
	1 + 2	1.00
	1 + 3	1.00
	1 + 2 + 3	1.00

Pick up	Combine	
1	1, 2, 3, 4	

R E A C T I O N

	SUPPORT	X (TON)	Y (TON)	Z (TON.M)
LOAD - 1	CASE 1 (SHI+DO (0.5))			
	3	0.000	-0.008	0.000
	4	0.000	-0.008	0.000
LOAD - 3	CASE 3 (KATSU+SYOU)			
	3	0.000	0.000	0.000
	4	0.000	0.000	0.000

	SUPPORT	X (TON)	Y (TON)	Z (TON.M)
LOAD - 2	CASE 2 (SHI+DO (0.3))			
	3	0.000	-0.008	0.000
	4	0.000	-0.008	0.000
LOAD - 4	CASE 4 (KATSUDO)			
	3	0.000	0.000	0.000
	4	0.000	0.000	0.000

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D E F L E C T I O N

LOAD - 1 CASE 1 (SHI+DO (0.5))

JOINT	X (MM)	Y (MM)	Z (MMRAD)
1	-0.005	-0.017	-0.210
2	-0.010	-0.017	0.210
3	0.000	0.000	0.239
4	-0.015	0.000	-0.239

LOAD - 3 CASE 3 (KATSU+SYOU)

JOINT	X (MM)	Y (MM)	Z (MMRAD)
1	0.002	-0.025	-0.382
2	0.000	-0.025	0.382
3	0.000	0.000	0.365
4	0.002	0.000	-0.365

LOAD - 2 CASE 2 (SHI+DO (0.3))

JOINT	X (MM)	Y (MM)	Z (MMRAD)
1	-0.004	-0.017	-0.223
2	-0.006	-0.017	0.223
3	0.000	0.000	0.252
4	-0.010	0.000	-0.252

LOAD - 4 CASE 4 (KATSUDO)

JOINT	X (MM)	Y (MM)	Z (MMRAD)
1	[illegible]	0.000	0.021
2	-0.007	0.000	-0.021
3	0.000	0.000	-0.020
4	-0.006	0.000	0.020

LOAD 1 CASE 1 (SHI+DO (0.5))

	L	M	(M)	Q	N
= = MEMBER 1 (1 - 2) G = =					
ITAN	0.000	-5.111	-5.111	7.555	-1.335
1	0.250	-3.305	-5.111	6.893	-1.335
2	0.650	-0.760	-2.301	5.833	-1.335
3	0.900	0.615	-0.760	5.170	-1.335
4	1.150	1.825	0.615	4.508	-1.335
5	1.851	4.334	3.589	2.650	-1.335
6	2.351	5.328	4.914	1.325	-1.335
7	2.851	5.659	5.659	0.000	-1.335
JTAN	5.702	-5.111	-5.111	-7.555	-1.335
MAX	2.851	5.659		0.000	-1.335
= = MEMBER 2 (3 - 4) G = =					
ITAN	0.000	7.054		-10.720	-3.829
1	0.250	4.492		-9.780	-3.829
2	0.525	1.944		-8.746	-3.829
3	1.851	-6.347		-3.760	-3.829
4	2.351	-7.757		-1.880	-3.829
5	2.851	-8.227		0.000	-3.829
JTAN	5.702	7.054		10.720	-3.829
MAX	2.851	-8.227		0.000	-3.829
= = MEMBER 3 (1 - 3) C = =					
ITAN	0.000	5.111		-1.335	-7.555
1	0.250	4.808		-1.079	-7.868
2	0.650	4.477		-0.553	-8.368
3	1.000	4.381		0.025	-8.805
4	1.600	4.754		1.272	-9.555
5	2.000	5.460		2.283	-10.055
6	2.250	6.118		2.988	-10.368
JTAN	2.525	7.054		3.829	-10.711
MAX	1.000	4.381		0.025	-8.805
= = MEMBER 4 (2 - 4) C = =					
ITAN	0.000	-5.111		1.335	-7.555
1	0.250	-4.808		1.079	-7.868
2	0.650	-4.477		0.553	-8.368
3	1.000	-4.381		-0.025	-8.805
4	1.600	-4.754		-1.272	-9.555
5	2.000	-5.460		-2.283	-10.055
6	2.250	-6.118		-2.988	-10.368
JTAN	2.525	-7.054		-3.829	-10.711
MAX	1.000	-4.381		-0.025	-8.805

LOAD 2 CASE 2 (SHI+DO (0.3))

	L	M	(M)	Q	N
= = MEMBER 1 (1 - 2) G = =					
ITAN	0.000	-4.984	-4.984	7.555	-0.502
1	0.250	-3.178	-4.984	6.893	-0.502
2	0.650	-0.633	-2.174	5.833	-0.502
3	0.900	0.742	-0.633	5.170	-0.502
4	1.150	1.952	0.742	4.508	-0.502
5	1.851	4.461	3.715	2.650	-0.502
6	2.351	5.454	5.040	1.325	-0.502
7	2.851	5.786	5.786	0.000	-0.502
JTAN	5.702	-4.984	-4.984	-7.555	-0.502
MAX	2.851	5.786		0.000	-0.502
= = MEMBER 2 (3 - 4) G = =					
ITAN	0.000	6.882		-10.720	-2.578
1	0.250	4.320		-9.780	-2.578
2	0.525	1.772		-8.746	-2.578
3	1.851	-6.519		-3.760	-2.578
4	2.351	-7.929		-1.880	-2.578
5	2.851	-8.399		0.000	-2.578
JTAN	5.702	6.882		10.720	-2.578
MAX	2.851	-8.399		0.000	-2.578
= = MEMBER 3 (1 - 3) C = =					
ITAN	0.000	4.984		-0.502	-7.555
1	0.250	4.877		-0.351	-7.868
2	0.650	4.796		-0.038	-8.368
3	1.000	4.842		0.307	-8.805
4	1.600	5.239		1.051	-9.555
5	2.000	5.777		1.655	-10.055
6	2.250	6.243		2.076	-10.368
JTAN	2.525	6.882		2.578	-10.711
MAX	0.650	4.796		-0.038	-8.368
= = MEMBER 4 (2 - 4) C = =					
ITAN	0.000	-4.984		0.502	-7.555
1	0.250	-4.877		0.351	-7.868
2	0.650	-4.796		0.038	-8.368
3	1.000	-4.842		-0.307	-8.805
4	1.600	-5.239		-1.051	-9.555
5	2.000	-5.777		-1.655	-10.055
6	2.250	-6.243		-2.076	-10.368
JTAN	2.525	-6.882		-2.578	-10.711
MAX	0.650	-4.796		0.039	-8.368

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LOAD 3 CASE 3 (KATSU+SYOU)

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-8.832	-8.832	15.879	-0.406
1	0.250	-5.663	-8.832	14.487	-0.406
2	0.650	-1.198	-3.902	12.259	-0.406
3	0.900	1.216	-1.198	10.867	-0.406
4	1.150	3.339	1.216	9.474	-0.406
5	1.851	7.741	6.433	5.570	-0.406
6	2.351	9.484	8.758	2.785	-0.406
7	2.851	10.066	10.066	0.000	-0.406
JTAN	5.702	-8.832	-8.832	-15.879	-0.406
MAX	2.851	10.066		0.000	-0.406

= = MEMBER 2 (3 - 4) G = =

	L	M	(M)	Q	N
ITAN	0.000	7.807		-15.879	0.406
1	0.250	4.638		-14.487	0.406
2	0.525	1.488		-12.955	0.406
3	1.851	-8.766		-5.570	0.406
4	2.351	-10.510		-2.785	0.406
5	2.851	-11.091		0.000	0.406
JTAN	5.702	7.807		15.879	0.406
MAX	2.851	-11.091		0.000	0.406

= = MEMBER 3 (1 - 3) C = =

	L	M	(M)	Q	N
ITAN	0.000	8.832		-0.406	-13.257
1	0.250	8.731		-0.406	-13.257
2	0.650	8.569		-0.406	-13.257
3	1.000	8.426		-0.406	-13.257
4	1.600	8.183		-0.406	-13.257
5	2.000	8.020		-0.406	-13.257
6	2.250	7.919		-0.406	-13.257
JTAN	2.525	7.807		-0.406	-13.257

= = MEMBER 4 (2 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	-8.832		0.406	-13.257
1	0.250	-8.731		0.406	-13.257
2	0.650	-8.569		0.406	-13.257
3	1.000	-8.426		0.406	-13.257
4	1.600	-8.183		0.406	-13.257
5	2.000	-8.020		0.406	-13.257
6	2.250	-7.919		0.406	-13.257
JTAN	2.525	-7.807		0.406	-13.257

LOAD 4 CASE 4 (KATSUDO)

= = MEMBER 1 (1 - 2) G = =

	L	M	(M)	Q	N
ITAN	0.000	-0.205	-0.205	0.000	-1.618
1	0.250	-0.205	-0.205	0.000	-1.618
2	0.650	-0.205	-0.205	0.000	-1.618
3	0.900	-0.205	-0.205	0.000	-1.618
4	1.150	-0.205	-0.205	0.000	-1.618
5	1.851	-0.205	-0.205	0.000	-1.618
6	2.351	-0.205	-0.205	0.000	-1.618
7	2.851	-0.205	-0.205	0.000	-1.618
JTAN	5.702	-0.205	-0.205	0.000	-1.618

= = MEMBER 2 (3 - 4) G = =

	L	M	(M)	Q	N
ITAN	0.000	0.264		0.000	-1.664
1	0.250	0.264		0.000	-1.664
2	0.525	0.264		0.000	-1.664
3	1.851	0.264		0.000	-1.664
4	2.351	0.264		0.000	-1.664
5	2.851	0.264		0.000	-1.664
JTAN	5.702	0.264		0.000	-1.664
MAX	5.068	0.264		0.000	-1.664

= = MEMBER 3 (1 - 3) C = =

	L	M	(M)	Q	N
ITAN	0.000	0.205		-1.618	0.000
1	0.250	-0.158		-1.293	0.000
2	0.650	-0.572		-0.773	0.000
3	1.000	-0.763		-0.318	0.000
4	1.600	-0.719		0.462	0.000
5	2.000	-0.431		0.982	0.000
6	2.250	-0.145		1.307	0.000
JTAN	2.525	0.264		1.664	0.000
MAX	1.122	-0.792		-0.159	0.000

= = MEMBER 4 (2 - 4) C = =

	L	M	(M)	Q	N
ITAN	0.000	-0.205		1.618	0.000
1	0.250	0.158		1.293	0.000
2	0.650	0.572		0.773	0.000
3	1.000	0.763		0.318	0.000
4	1.600	0.719		-0.462	0.000
5	2.000	0.431		-0.982	0.000
6	2.250	0.145		-1.307	0.000
JTAN	2.525	-0.264		-1.664	0.000
MAX	[illegible]	0.792		[illegible]	[illegible]

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COMBINE 1

	---L---	MOMENT MAXIMUM ----M---	----Q---	----N---	----CASE----	MOMENT MINIMUM ----M---	----Q---	----N---	----CASE----
= = MEMBER	1 (1 - 2) G = =								
ITAN	0.000	-4.984	7.555	-0.502	(2)	-5.111	7.555	-1.335	(1)
1	0.250	-3.178	6.893	-0.502	(2)	-3.305	6.893	-1.335	(1)
2	0.650	-0.633	5.833	-0.502	(2)	-0.760	5.833	-1.335	(1)
3	0.900	0.742	5.170	-0.502	(2)	0.615	5.170	-1.335	(1)
4	1.150	1.952	4.508	-0.502	(2)	1.825	4.508	-1.335	(1)
5	1.851	4.461	2.650	-0.502	(2)	4.334	2.650	-1.335	(1)
6	2.351	5.454	1.325	-0.502	(2)	5.328	1.325	-1.335	(1)
7	2.851	5.786	0.000	-0.502	(2)	5.659	0.000	-1.335	(1)
JTAN	5.702	-4.984	-7.555	-0.502	(2)	-5.111	-7.555	-1.335	(1)
= = MEMBER	2 (3 - 4) G = =								
ITAN	0.000	7.054	-10.720	-3.829	(1)	6.882	-10.720	-2.578	(2)
1	0.250	4.492	-9.780	-3.829	(1)	4.320	-9.780	-2.578	(2)
2	0.525	1.944	-8.746	-3.829	(1)	1.772	-8.746	-2.578	(2)
3	1.851	-6.347	-3.760	-3.829	(1)	-6.519	-3.760	-2.578	(2)
4	2.351	-7.757	-1.880	-3.829	(1)	-7.929	-1.880	-2.578	(2)
5	2.851	-8.227	0.000	-3.829	(1)	-8.399	0.000	-2.578	(2)
JTAN	5.702	7.054	10.720	-3.829	(1)	6.882	10.720	-2.578	(2)
= = MEMBER	3 (1 - 3) C = =								
ITAN	0.000	5.111	-1.335	-7.555	(1)	4.984	-0.502	-7.555	(2)
1	0.250	4.877	-0.351	-7.868	(2)	4.808	-1.079	-7.868	(1)
2	0.650	4.796	-0.039	-8.368	(2)	4.477	-0.553	-8.368	(1)
3	1.000	4.842	0.307	-8.805	(2)	4.381	0.025	-8.805	(1)
4	1.600	5.239	1.051	-9.555	(2)	4.754	1.272	-9.555	(1)
5	2.000	5.777	1.655	-10.055	(2)	5.460	2.283	-10.055	(1)
6	2.250	6.243	2.076	-10.368	(2)	6.118	2.988	-10.368	(1)
JTAN	2.525	7.054	3.829	-10.711	(1)	6.882	2.578	-10.711	(2)
= = MEMBER	4 (2 - 4) C = =								
ITAN	0.000	-4.984	0.502	-7.555	(2)	-5.111	1.335	-7.555	(1)
1	0.250	-4.808	1.079	-7.868	(1)	-4.877	0.351	-7.868	(2)
2	0.650	-4.477	0.553	-8.368	(1)	-4.796	0.038	-8.368	(2)
3	1.000	-4.381	-0.025	-8.805	(1)	-4.842	-0.307	-8.805	(2)
4	1.600	-4.754	-1.272	-9.555	(1)	-5.239	-1.051	-9.555	(2)
5	2.000	-5.460	-2.283	-10.055	(1)	-5.777	-1.655	-10.055	(2)
6	2.250	-6.118	-2.988	-10.368	(1)	-6.243	-2.076	-10.368	(2)
JTAN	2.525	-6.882	-2.578	-10.711	(2)	-7.054	-3.829	-10.711	(1)

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COMBINE 1

	L	M (SHEAR MAXIMUM)	Q (SHEAR MAXIMUM)	N (SHEAR MAXIMUM)	CASE (SHEAR MAXIMUM)	M (SHEAR MINIMUM)	Q (SHEAR MINIMUM)	N (SHEAR MINIMUM)	CASE (SHEAR MINIMUM)
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-5.111	7.555	-1.335	(1)	-5.111	7.555	-1.335	(1)
1	0.250	-3.305	6.893	-1.335	(1)	-3.305	6.893	-1.335	(1)
2	0.650	-0.760	5.833	-1.335	(1)	-0.760	5.833	-1.335	(1)
3	0.900	0.615	5.170	-1.335	(1)	0.615	5.170	-1.335	(1)
4	1.150	1.825	4.508	-1.335	(1)	1.825	4.508	-1.335	(1)
5	1.651	4.334	2.650	-1.335	(1)	4.334	2.650	-1.335	(1)
6	2.351	5.328	1.325	-1.335	(1)	5.328	1.325	-1.335	(1)
7	2.851	5.659	0.000	-1.335	(1)	5.659	0.000	-1.335	(1)
JTAN	5.702	-5.111	-7.555	-1.335	(1)	-5.111	-7.555	-1.335	(1)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	7.054	-10.720	-3.829	(1)	7.054	-10.720	-3.829	(1)
1	0.250	4.492	-9.780	-3.829	(1)	4.492	-9.780	-3.829	(1)
2	0.525	1.944	-8.746	-3.829	(1)	1.944	-8.746	-3.829	(1)
3	1.851	-6.347	-3.760	-3.829	(1)	-6.347	-3.760	-3.829	(1)
4	2.351	-7.757	-1.880	-3.829	(1)	-7.757	-1.880	-3.829	(1)
5	2.851	-8.227	0.000	-3.829	(1)	-8.227	0.000	-3.829	(1)
JTAN	5.702	7.054	10.720	-3.829	(1)	7.054	10.720	-3.829	(1)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	4.984	-0.502	-7.555	(2)	5.111	-1.335	-7.555	(1)
1	0.250	4.877	-0.351	-7.868	(2)	4.808	-1.079	-7.868	(1)
2	0.650	4.796	-0.038	-8.368	(2)	4.477	-0.553	-8.368	(1)
3	1.000	4.842	0.307	-8.805	(2)	4.381	0.025	-8.805	(1)
4	1.600	4.754	1.272	-9.555	(1)	5.239	1.051	-9.555	(2)
5	2.000	5.460	2.283	-10.055	(1)	5.777	1.655	-10.055	(2)
6	2.250	6.118	2.988	-10.368	(1)	6.243	2.076	-10.368	(2)
JTAN	2.525	7.054	3.829	-10.711	(1)	6.882	2.578	-10.711	(2)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-5.111	1.335	-7.555	(1)	-4.984	0.502	-7.555	(2)
1	0.250	-4.808	1.079	-7.868	(1)	-4.877	0.351	-7.868	(2)
2	0.650	-4.477	0.553	-8.368	(1)	-4.796	0.038	-8.368	(2)
3	1.000	-4.381	-0.025	-8.805	(1)	-4.842	-0.307	-8.805	(2)
4	1.600	-5.239	-1.051	-9.555	(2)	-4.754	-1.272	-9.555	(1)
5	2.000	-5.777	-1.655	-10.055	(2)	-5.460	-2.283	-10.055	(1)
6	2.250	-6.243	-2.076	-10.368	(2)	-6.118	-2.988	-10.368	(1)
JTAN	2.525	-6.882	-2.578	-10.711	(2)	-7.054	-3.829	-10.711	(1)

TITLE..C18

COMBINE 1

	L	M (Axial Maximum)	Q (Axial Maximum)	N (Axial Maximum)	CASE	M (Axial Minimum)	Q (Axial Minimum)	N (Axial Minimum)	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-4.984	7.555	-0.502	(2)	-5.111	7.555	-1.335	(1)
1	0.250	-3.178	6.893	-0.502	(2)	-3.305	6.893	-1.335	(1)
2	0.650	-0.633	5.833	-0.502	(2)	-0.760	5.833	-1.335	(1)
3	0.900	0.742	5.170	-0.502	(2)	0.615	5.170	-1.335	(1)
4	1.150	1.952	4.508	-0.502	(2)	1.825	4.508	-1.335	(1)
5	1.851	4.461	2.650	-0.502	(2)	4.334	2.650	-1.335	(1)
6	2.351	5.454	1.325	-0.502	(2)	5.328	1.325	-1.335	(1)
7	2.851	5.786	0.000	-0.502	(2)	5.659	0.000	-1.335	(1)
JTAN	5.702	-4.984	-7.555	-0.502	(2)	-5.111	-7.555	-1.335	(1)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	6.882	-10.720	-2.578	(2)	7.054	-10.720	-3.829	(1)
1	0.250	4.320	-9.780	-2.578	(2)	4.492	-9.780	-3.829	(1)
2	0.525	1.772	-8.746	-2.578	(2)	1.944	-8.746	-3.829	(1)
3	1.851	-6.519	-3.760	-2.578	(2)	-6.347	-3.760	-3.829	(1)
4	2.351	-7.929	-1.880	-2.578	(2)	-7.757	-1.880	-3.829	(1)
5	2.851	-8.399	0.000	-2.578	(2)	-8.227	0.000	-3.829	(1)
JTAN	5.702	6.882	10.720	-2.578	(2)	7.054	10.720	-3.829	(1)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	5.111	-1.335	-7.555	(1)	5.111	-1.335	-7.555	(1)
1	0.250	4.808	-1.079	-7.868	(1)	4.808	-1.079	-7.868	(1)
2	0.650	4.477	-0.553	-8.368	(1)	4.477	-0.553	-8.368	(1)
3	1.000	4.381	0.025	-8.805	(1)	4.381	0.025	-8.805	(1)
4	1.600	4.754	1.272	-9.555	(1)	4.754	1.272	-9.555	(1)
5	2.000	5.460	2.283	-10.055	(1)	5.460	2.283	-10.055	(1)
6	2.250	6.118	2.988	-10.368	(1)	6.118	2.988	-10.368	(1)
JTAN	2.525	7.054	3.829	-10.711	(1)	7.054	3.829	-10.711	(1)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-5.111	1.335	-7.555	(1)	-5.111	1.335	-7.555	(1)
1	0.250	-4.808	1.079	-7.868	(1)	-4.808	1.079	-7.868	(1)
2	0.650	-4.477	0.553	-8.368	(1)	-4.477	0.553	-8.368	(1)
3	1.000	-4.381	-0.025	-8.805	(1)	-4.381	-0.025	-8.805	(1)
4	1.600	-4.754	-1.272	-9.555	(1)	-4.754	-1.272	-9.555	(1)
5	2.000	-5.460	-2.283	-10.055	(1)	-5.460	-2.283	-10.055	(1)
6	2.250	-6.118	-2.988	-10.368	(1)	-6.118	-2.988	-10.368	(1)
JTAN	2.525	-7.054	-3.829	-10.711	(1)	-7.054	-3.829	-10.711	(1)

COMBINE 2

= = MEMBER 1 (1 - 2) G = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	-13.817	23.435	-0.908	(2 3)	-13.943	23.435	-1.741	(1 3)
1	0.250	-8.842	21.380	-0.908	(2 3)	-8.968	21.380	-1.741	(1 3)
2	0.650	-1.831	18.092	-0.908	(2 3)	-1.957	18.092	-1.741	(1 3)
3	0.900	1.958	16.037	-0.908	(2 3)	1.831	16.037	-1.741	(1 3)
4	1.150	5.290	13.982	-0.908	(2 3)	5.164	13.982	-1.741	(1 3)
5	1.851	12.201	8.220	-0.908	(2 3)	12.075	8.220	-1.741	(1 3)
6	2.351	14.939	4.110	-0.908	(2 3)	14.812	4.110	-1.741	(1 3)
7	2.851	15.851	0.000	-0.908	(2 3)	15.725	0.000	-1.741	(1 3)
JTAN	5.702	-13.817	-23.435	-0.908	(2 3)	-13.943	-23.435	-1.741	(1 3)

= = MEMBER 2 (3 - 4) G = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	14.861	-26.599	-3.423	(1 3)	14.689	-26.599	-2.172	(2 3)
1	0.250	9.130	-24.267	-3.423	(1 3)	8.958	-24.267	-2.172	(2 3)
2	0.525	3.432	-21.701	-3.423	(1 3)	3.260	-21.701	-2.172	(2 3)
3	1.851	-15.113	-9.330	-3.423	(1 3)	-15.285	-9.330	-2.172	(2 3)
4	2.351	-18.267	-4.665	-3.423	(1 3)	-18.438	-4.665	-2.172	(2 3)
5	2.851	-19.318	0.000	-3.423	(1 3)	-19.490	0.000	-2.172	(2 3)
JTAN	5.702	14.861	26.599	-3.423	(1 3)	14.689	26.599	-2.172	(2 3)

= = MEMBER 3 (1 - 3) C = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	13.943	-1.741	-20.812	(1 3)	13.817	-0.908	-20.812	(2 3)
1	0.250	13.608	-0.757	-21.125	(2 3)	13.539	-1.485	-21.125	(1 3)
2	0.650	13.365	-0.444	-21.625	(2 3)	13.045	-0.959	-21.625	(1 3)
3	1.000	13.268	-0.099	-22.062	(2 3)	12.808	-0.381	-22.062	(1 3)
4	1.600	13.422	0.645	-22.812	(2 3)	12.937	0.866	-22.812	(1 3)
5	2.000	13.798	1.249	-23.312	(2 3)	13.481	1.877	-23.312	(1 3)
6	2.250	14.162	1.670	-23.625	(2 3)	14.037	2.583	-23.625	(1 3)
JTAN	2.525	14.861	3.423	-23.969	(1 3)	14.689	2.172	-23.969	(2 3)

= = MEMBER 4 (2 - 4) C = =

	L	M (max)	Q (max)	N (max)	CASE (max)	M (min)	Q (min)	N (min)	CASE (min)
ITAN	0.000	-13.817	0.908	-20.812	(2 3)	-13.943	1.741	-20.812	(1 3)
1	0.250	-13.539	1.485	-21.125	(1 3)	-13.608	0.757	-21.125	(2 3)
2	0.650	-13.045	0.959	-21.625	(1 3)	-13.365	0.444	-21.625	(2 3)
3	1.000	-12.808	0.381	-22.062	(1 3)	-13.268	0.099	-22.062	(2 3)
4	1.600	-12.937	-0.866	-22.812	(1 3)	-13.422	-0.645	-22.812	(2 3)
5	2.000	-13.481	-1.877	-23.312	(1 3)	-13.798	-1.249	-23.312	(2 3)
6	2.250	-14.037	-2.583	-23.625	(1 3)	-14.162	-1.674	-23.625	(2 3)
JTAN	2.525	-14.689	-2.172	-23.969	(2 3)	-14.861	-3.423	-23.969	(1 3)

COMBINE 2

		SHEAR MAXIMUM				SHEAR MINIMUM			
	---L---	----M---	----Q---	----N---	----CASE----------	----M---	----Q---	----N---	----CASE----------

= = MEMBER 1 (1 - 2) G = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	-13.943	23.435	-1.741	(1 3)	-13.943	23.435	-1.741	(1 3)
1	0.250	-8.968	21.380	-1.741	(1 3)	-8.968	21.380	-1.741	(1 3)
2	0.650	-1.957	18.092	-1.741	(1 3)	-1.957	18.092	-1.741	(1 3)
3	0.900	1.831	16.037	-1.741	(1 3)	1.831	16.037	-1.741	(1 3)
4	1.150	5.164	13.982	-1.741	(1 3)	5.164	13.982	-1.741	(1 3)
5	1.851	12.075	8.220	-1.741	(1 3)	12.075	8.220	-1.741	(1 3)
6	2.351	14.812	4.110	-1.741	(1 3)	14.812	4.110	-1.741	(1 3)
7	2.851	15.725	0.000	-1.741	(1 3)	15.725	0.000	-1.741	(1 3)
JTAN	5.702	-13.943	-23.435	-1.741	(1 3)	-13.943	-23.435	-1.741	(1 3)

= = MEMBER 2 (3 - 4) G = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	14.861	-26.599	-3.423	(1 3)	14.861	-26.599	-3.423	(1 3)
1	0.250	9.130	-24.267	-3.423	(1 3)	9.130	-24.267	-3.423	(1 3)
2	0.525	3.432	-21.701	-3.423	(1 3)	3.432	-21.701	-3.423	(1 3)
3	1.851	-15.113	-9.330	-3.423	(1 3)	-15.113	-9.330	-3.423	(1 3)
4	2.351	-18.267	-4.665	-3.423	(1 3)	-18.267	-4.665	-3.423	(1 3)
5	2.851	-19.318	0.000	-3.423	(1 3)	-19.318	0.000	-3.423	(1 3)
JTAN	5.702	14.861	26.599	-3.423	(1 3)	14.861	26.599	-3.423	(1 3)

= = MEMBER 3 (1 - 3) C = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	13.817	-0.908	-20.812	(2 3)	13.943	-1.741	-20.812	(1 3)
1	0.250	13.608	-0.757	-21.125	(2 3)	13.539	-1.485	-21.125	(1 3)
2	0.650	13.365	-0.444	-21.625	(2 3)	13.045	-0.959	-21.625	(1 3)
3	1.000	13.268	-0.099	-22.062	(2 3)	12.808	-0.381	-22.062	(1 3)
4	1.600	12.937	0.866	-22.812	(1 3)	13.422	0.645	-22.812	(2 3)
5	2.000	13.481	1.877	-23.312	(1 3)	13.798	1.249	-23.312	(2 3)
6	2.250	14.037	2.583	-23.625	(1 3)	14.162	1.670	-23.625	(2 3)
JTAN	2.525	14.861	3.423	-23.969	(1 3)	14.689	2.172	-23.969	(2 3)

= = MEMBER 4 (2 - 4) C = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	-13.943	1.741	-20.812	(1 3)	-13.817	0.908	-20.812	(2 3)
1	0.250	-13.539	1.485	-21.125	(1 3)	-13.608	0.757	-21.125	(2 3)
2	0.650	-13.045	0.959	-21.625	(1 3)	-13.365	0.444	-21.625	(2 3)
3	1.000	-12.808	0.381	-22.062	(1 3)	-13.268	0.099	-22.062	(2 3)
4	1.600	-13.422	-0.645	-22.812	(2 3)	-12.937	-0.866	-22.812	(1 3)
5	2.000	-13.798	-1.249	-23.312	(2 3)	-13.481	-1.877	-23.312	(1 3)
6	2.250	-14.162	-1.670	-23.625	(2 3)	-14.037	-2.583	-23.625	(1 3)
JTAN	2.525	-14.689	-2.172	-23.969	(2 3)	-14.861	-3.423	-23.969	(1 3)

COMBINE 2

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
= = MEMBER	1 (1 - 2) G = =								
ITAN	0.000	-13.817	23.435	-0.908	(2 3)	-13.943	23.435	-1.741	(1 3)
1	0.250	-8.842	21.380	-0.908	(2 3)	-8.968	21.380	-1.741	(1 3)
2	0.650	-1.831	18.092	-0.908	(2 3)	-1.957	18.092	-1.741	(1 3)
3	0.900	1.958	16.037	-0.908	(2 3)	1.831	16.037	-1.741	(1 3)
4	1.150	5.290	13.982	-0.908	(2 3)	5.164	13.982	-1.741	(1 3)
5	1.851	12.201	8.220	-0.908	(2 3)	12.075	8.220	-1.741	(1 3)
6	2.351	14.939	4.110	-0.908	(2 3)	14.812	4.110	-1.741	(1 3)
7	2.851	15.851	0.000	-0.908	(2 3)	15.725	0.000	-1.741	(1 3)
JTAN	5.702	-13.817	-23.435	-0.908	(2 3)	-13.943	-23.435	-1.741	(1 3)
= = MEMBER	2 (3 - 4) G = =								
ITAN	0.000	14.689	-26.599	-2.172	(2 3)	14.861	-26.599	-3.423	(1 3)
1	0.250	8.958	-24.267	-2.172	(2 3)	9.130	-24.267	-3.423	(1 3)
2	0.525	3.260	-21.701	-2.172	(2 3)	3.432	-21.701	-3.423	(1 3)
3	1.851	-15.285	-9.330	-2.172	(2 3)	-15.113	-9.330	-3.423	(1 3)
4	2.351	-18.438	-4.665	-2.172	(2 3)	-18.267	-4.665	-3.423	(1 3)
5	2.851	-19.490	0.000	-2.172	(2 3)	-19.318	0.000	-3.423	(1 3)
JTAN	5.702	14.689	26.599	-2.172	(2 3)	14.861	26.599	-3.423	(1 3)
= = MEMBER	3 (1 - 3) C = =								
ITAN	0.000	13.943	-1.741	-20.812	(1 3)	13.943	-1.741	-20.812	(1 3)
1	0.250	13.539	-1.485	-21.125	(1 3)	13.539	-1.485	-21.125	(1 3)
2	0.650	13.045	-0.959	-21.625	(1 3)	13.045	-0.959	-21.625	(1 3)
3	1.000	12.808	-0.381	-22.062	(1 3)	12.808	-0.381	-22.062	(1 3)
4	1.600	12.937	0.866	-22.812	(1 3)	12.937	0.866	-22.812	(1 3)
5	2.000	13.481	1.877	-23.312	(1 3)	13.481	1.877	-23.312	(1 3)
6	2.250	14.037	2.583	-23.625	(1 3)	14.037	2.583	-23.625	(1 3)
JTAN	2.525	14.861	3.423	-23.969	(1 3)	14.861	3.423	-23.969	(1 3)
= = MEMBER	4 (2 - 4) C = =								
ITAN	0.000	-13.943	1.741	-20.812	(1 3)	-13.943	1.741	-20.812	(1 3)
1	0.250	-13.539	1.485	-21.125	(1 3)	-13.539	1.485	-21.125	(1 3)
2	0.650	-13.045	0.959	-21.625	(1 3)	-13.045	0.959	-21.625	(1 3)
3	1.000	-12.808	0.381	-22.062	(1 3)	-12.808	0.381	-22.062	(1 3)
4	1.600	-12.937	-0.866	-22.812	(1 3)	-12.937	-0.866	-22.812	(1 3)
5	2.000	-13.481	-1.877	-23.312	(1 3)	-13.481	-1.877	-23.312	(1 3)
6	2.250	-14.037	-2.583	-23.625	(1 3)	-14.037	-2.583	-23.625	(1 3)
JTAN	2.525	-14.861	-3.423	-23.969	(1 3)	-14.861	-3.423	-23.969	(1 3)

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TITLE..C18

COMBINE 3

= = MEMBER 1 (1 - 2) G = =

		MOMENT MAXIMUM				MOMENT MINIMUM			
	---L---	----M---	----Q---	----N---	----CASE----	----M---	----Q---	----N---	----CASE----
ITAN	0.000	-5.190	7.555	-2.120	(2 4)	-5.316	7.555	-2.953	(1 4)
1	0.250	-3.384	6.893	-2.120	(2 4)	-3.510	6.893	-2.953	(1 4)
2	0.650	-0.839	5.833	-2.120	(2 4)	-0.965	5.833	-2.953	(1 4)
3	0.900	0.537	5.170	-2.120	(2 4)	0.410	5.170	-2.953	(1 4)
4	1.150	1.747	4.508	-2.120	(2 4)	1.620	4.508	-2.953	(1 4)
5	1.851	4.255	2.650	-2.120	(2 4)	4.129	2.650	-2.953	(1 4)
6	2.351	5.249	1.325	-2.120	(2 4)	5.122	1.325	-2.953	(1 4)
7	2.851	5.580	0.000	-2.120	(2 4)	5.454	0.000	-2.953	(1 4)
JTAN	5.702	-5.190	-7.555	-2.120	(2 4)	-5.316	-7.555	-2.953	(1 4)

= = MEMBER 2 (3 - 4) G = =

ITAN	0.000	7.318	-10.720	-5.493	(1 4)	7.146	-10.720	-4.243	(2 4)
1	0.250	4.756	-9.780	-5.493	(1 4)	4.584	-9.780	-4.243	(2 4)
2	0.525	2.208	-8.746	-5.493	(1 4)	2.036	-8.746	-4.243	(2 4)
3	1.851	-6.083	-3.760	-5.493	(1 4)	-6.255	-3.760	-4.243	(2 4)
4	2.351	-7.493	-1.880	-5.493	(1 4)	-7.665	-1.880	-4.243	(2 4)
5	2.851	-7.963	0.000	-5.493	(1 4)	-8.135	0.000	-4.243	(2 4)
JTAN	5.702	7.318	10.720	-5.493	(1 4)	7.146	10.720	-4.243	(2 4)

= = MEMBER 3 (1 - 3) C = =

ITAN	0.000	5.316	-2.953	-7.555	(1 4)	5.190	-2.120	-7.555	(2 4)
1	0.250	4.718	-1.644	-7.868	(2 4)	4.650	-2.372	-7.868	(1 4)
2	0.650	4.225	-0.811	-8.368	(2 4)	3.905	-1.326	-8.368	(1 4)
3	1.000	4.079	-0.011	-8.805	(2 4)	3.618	-0.293	-8.805	(1 4)
4	1.600	4.520	1.513	-9.555	(2 4)	4.035	1.734	-9.555	(1 4)
5	2.000	5.347	2.637	-10.055	(2 4)	5.030	3.265	-10.055	(1 4)
6	2.250	6.099	3.383	-10.368	(2 4)	5.974	4.295	-10.368	(1 4)
JTAN	2.525	7.318	5.493	-10.711	(1 4)	7.146	4.243	-10.711	(2 4)

= = MEMBER 4 (2 - 4) C = =

ITAN	0.000	-5.190	2.120	-7.555	(2 4)	-5.316	2.953	-7.555	(1 4)
1	0.250	-4.650	2.372	-7.868	(1 4)	-4.718	1.644	-7.868	(2 4)
2	0.650	-3.905	1.326	-8.368	(1 4)	-4.225	0.811	-8.368	(2 4)
3	1.000	-3.618	0.293	-8.805	(1 4)	-4.079	0.011	-8.805	(2 4)
4	1.600	-4.035	-1.734	-9.555	(1 4)	-4.520	-1.513	-9.555	(2 4)
5	2.000	-5.030	-3.265	-10.055	(1 4)	-5.347	-2.637	-10.055	(2 4)
6	2.250	-5.974	-4.295	-10.368	(1 4)	-6.099	-3.383	-10.368	(2 4)
JTAN	2.525	-7.146	-4.243	-10.711	(2 4)	-7.318	-5.493	-10.711	(1 4)

COMBINE 3

		SHEAR MAXIMUM				SHEAR MINIMUM			
	---L---	----M---	----Q---	----N---	----CASE----------	----M---	----Q---	----N---	----CASE----------

= = MEMBER 1 (1 - 2) G = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	-5.316	7.555	-2.953	(1 4)	-5.316	7.555	-2.953	(1 4)
1	0.250	-3.510	6.893	-2.953	(1 4)	-3.510	6.893	-2.953	(1 4)
2	0.650	-0.965	5.833	-2.953	(1 4)	-0.965	5.833	-2.953	(1 4)
3	0.900	0.410	5.170	-2.953	(1 4)	0.410	5.170	-2.953	(1 4)
4	1.150	1.620	4.508	-2.953	(1 4)	1.620	4.508	-2.953	(1 4)
5	1.851	4.129	2.650	-2.953	(1 4)	4.129	2.650	-2.953	(1 4)
6	2.351	5.122	1.325	-2.953	(1 4)	5.122	1.325	-2.953	(1 4)
7	2.851	5.454	0.000	-2.953	(1 4)	5.454	0.000	-2.953	(1 4)
JTAN	5.702	-5.316	-7.555	-2.953	(1 4)	-5.316	-7.555	-2.953	(1 4)

= = MEMBER 2 (3 - 4) G = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	7.318	-10.720	-5.493	(1 4)	7.318	-10.720	-5.493	(1 4)
1	0.250	4.756	-9.780	-5.493	(1 4)	4.756	-9.780	-5.493	(1 4)
2	0.525	2.208	-8.746	-5.493	(1 4)	2.208	-8.746	-5.493	(1 4)
3	1.851	-6.083	-3.760	-5.493	(1 4)	-6.083	-3.760	-5.493	(1 4)
4	2.351	-7.493	-1.880	-5.493	(1 4)	-7.493	-1.880	-5.493	(1 4)
5	2.851	-7.963	0.000	-5.493	(1 4)	-7.963	0.000	-5.493	(1 4)
JTAN	5.702	7.318	10.720	-5.493	(1 4)	7.318	10.720	-5.493	(1 4)

= = MEMBER 3 (1 - 3) C = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	5.190	-2.120	-7.555	(2 4)	5.316	-2.953	-7.555	(1 4)
1	0.250	4.718	-1.644	-7.868	(2 4)	4.650	-2.372	-7.868	(1 4)
2	0.650	4.225	-0.811	-8.368	(2 4)	3.905	-1.326	-8.368	(1 4)
3	1.000	4.079	-0.011	-8.805	(2 4)	3.618	-0.293	-8.805	(1 4)
4	1.600	4.035	1.734	-9.555	(1 4)	4.520	1.513	-9.555	(2 4)
5	2.000	5.030	3.265	-10.055	(1 4)	5.347	2.637	-10.055	(2 4)
6	2.250	5.974	4.295	-10.368	(1 4)	6.099	3.383	-10.368	(2 4)
JTAN	2.525	7.318	5.493	-10.711	(1 4)	7.146	4.243	-10.711	(2 4)

= = MEMBER 4 (2 - 4) C = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	-5.316	2.953	-7.555	(1 4)	-5.190	2.120	-7.555	(2 4)
1	0.250	-4.650	2.372	-7.868	(1 4)	-4.718	1.644	-7.868	(2 4)
2	0.650	-3.905	1.326	-8.368	(1 4)	-4.225	0.811	-8.368	(2 4)
3	1.000	-3.618	0.293	-8.805	(1 4)	-4.079	0.011	-8.805	(2 4)
4	1.600	-4.520	-1.513	-9.555	(2 4)	-4.035	-1.734	-9.555	(1 4)
5	2.000	-5.347	-2.637	-10.055	(2 4)	-5.030	-3.265	-10.055	(1 4)
6	2.250	-6.099	-3.383	-10.368	(2 4)	-5.974	-4.295	-10.368	(1 4)
JTAN	2.525	-7.146	-4.243	-10.711	(2 4)	-7.318	-5.493	-10.711	(1 4)

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COMBINE 3

	---L---	AXIAL MAXIMUM ----M---	----Q---	----N---	----CASE----	AXIAL MINIMUM ----M---	----Q---	----N---	----CASE----
= = MEMBER	1 (1 - 2) G = =								
ITAN	0.000	-5.190	7.555	-2.120	(2 4)	-5.316	7.555	-2.953	(1 4)
1	0.250	-3.384	6.893	-2.120	(2 4)	-3.510	6.893	-2.953	(1 4)
2	0.650	-0.839	5.833	-2.120	(2 4)	-0.965	5.833	-2.953	(1 4)
3	0.900	0.537	5.170	-2.120	(2 4)	0.410	5.170	-2.953	(1 4)
4	1.150	1.747	4.508	-2.120	(2 4)	1.620	4.508	-2.953	(1 4)
5	1.851	4.255	2.650	-2.120	(2 4)	4.129	2.650	-2.953	(1 4)
6	2.351	5.249	1.325	-2.120	(2 4)	5.122	1.325	-2.953	(1 4)
7	2.851	5.580	0.000	-2.120	(2 4)	5.454	0.000	-2.953	(1 4)
JTAN	5.702	-5.190	-7.555	-2.120	(2 4)	-5.316	-7.555	-2.953	(1 4)
= = MEMBER	2 (3 - 4) G = =								
ITAN	0.000	7.146	-10.720	-4.243	(2 4)	7.318	-10.720	-5.493	(1 4)
1	0.250	4.584	-9.780	-4.243	(2 4)	4.756	-9.780	-5.493	(1 4)
2	0.525	2.036	-8.746	-4.243	(2 4)	2.208	-8.746	-5.493	(1 4)
3	1.851	-6.255	-3.760	-4.243	(2 4)	-6.083	-3.760	-5.493	(1 4)
4	2.351	-7.665	-1.880	-4.243	(2 4)	-7.493	-1.880	-5.493	(1 4)
5	2.851	-8.135	0.000	-4.243	(2 4)	-7.963	0.000	-5.493	(1 4)
JTAN	5.702	7.146	10.720	-4.243	(2 4)	7.318	10.720	-5.493	(1 4)
= = MEMBER	3 (1 - 3) C = =								
ITAN	0.000	5.316	-2.953	-7.555	(1 4)	5.316	-2.953	-7.555	(1 4)
1	0.250	4.650	-2.372	-7.868	(1 4)	4.650	-2.372	-7.868	(1 4)
2	0.650	3.905	-1.326	-8.368	(1 4)	3.905	-1.326	-8.368	(1 4)
3	1.000	3.618	-0.293	-8.805	(1 4)	3.618	-0.293	-8.805	(1 4)
4	1.600	4.035	1.734	-9.555	(1 4)	4.035	1.734	-9.555	(1 4)
5	2.000	5.030	3.265	-10.055	(1 4)	5.030	3.265	-10.055	(1 4)
6	2.250	5.974	4.295	-10.368	(1 4)	5.974	4.295	-10.368	(1 4)
JTAN	2.525	7.318	5.493	-10.711	(1 4)	7.318	5.493	-10.711	(1 4)
= = MEMBER	4 (2 - 4) C = =								
ITAN	0.000	-5.316	2.953	-7.555	(1 4)	-5.316	2.953	-7.555	(1 4)
1	0.250	-4.650	2.372	-7.868	(1 4)	-4.650	2.372	-7.868	(1 4)
2	0.650	-3.905	1.326	-8.368	(1 4)	-3.905	1.326	-8.368	(1 4)
3	1.000	-3.618	0.293	-8.805	(1 4)	-3.618	0.293	-8.805	(1 4)
4	1.600	-4.035	-1.734	-9.555	(1 4)	-4.035	-1.734	-9.555	(1 4)
5	2.000	-5.030	-3.265	-10.055	(1 4)	-5.030	-3.265	-10.055	(1 4)
6	2.250	-5.974	-4.295	-10.368	(1 4)	-5.974	-4.295	-10.368	(1 4)
JTAN	2.525	-7.318	-5.493	-10.711	(1 4)	-7.318	-5.493	-10.711	(1 4)

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COMBINE 4

	---L---	---M--- (Moment Maximum)	---Q---	---N---	----CASE----	---M--- (Moment Minimum)	---Q---	---N---	----CASE----
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-14.022	23.435	-2.526	(2 3 4)	-14.149	23.435	-3.359	(1 3 4)
1	0.250	-9.047	21.380	-2.526	(2 3 4)	-9.174	21.380	-3.359	(1 3 4)
2	0.650	-2.036	18.092	-2.526	(2 3 4)	-2.163	18.092	-3.359	(1 3 4)
3	0.900	1.753	16.037	-2.526	(2 3 4)	1.626	16.037	-3.359	(1 3 4)
4	1.150	5.085	13.982	-2.526	(2 3 4)	4.958	13.982	-3.359	(1 3 4)
5	1.851	11.996	8.220	-2.526	(2 3 4)	11.869	8.220	-3.359	(1 3 4)
6	2.351	14.733	4.110	-2.526	(2 3 4)	14.607	4.110	-3.359	(1 3 4)
7	2.851	15.646	0.000	-2.526	(2 3 4)	15.519	0.000	-3.359	(1 3 4)
JTAN	5.702	-14.022	-23.435	-2.526	(2 3 4)	-14.149	-23.435	-3.359	(1 3 4)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	15.125	-26.599	-5.087	(1 3 4)	14.953	-26.599	-3.837	(2 3 4)
1	0.250	9.394	-24.267	-5.087	(1 3 4)	9.222	-24.267	-3.837	(2 3 4)
2	0.525	3.696	-21.701	-5.087	(1 3 4)	3.524	-21.701	-3.837	(2 3 4)
3	1.851	-14.849	-9.330	-5.087	(1 3 4)	-15.021	-9.330	-3.837	(2 3 4)
4	2.351	-18.003	-4.665	-5.087	(1 3 4)	-18.174	-4.665	-3.837	(2 3 4)
5	2.851	-19.054	0.000	-5.087	(1 3 4)	-19.226	0.000	-3.837	(2 3 4)
JTAN	5.702	15.125	26.599	-5.087	(1 3 4)	14.953	26.599	-3.837	(2 3 4)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	14.149	-3.359	-20.812	(1 3 4)	14.322	-2.526	-20.812	(2 3 4)
1	0.250	13.449	-2.050	-21.125	(2 3 4)	13.380	-2.778	-21.125	(1 3 4)
2	0.650	12.793	-1.217	-21.625	(2 3 4)	12.474	-1.732	-21.625	(1 3 4)
3	1.000	12.505	-0.417	-22.062	(2 3 4)	12.045	-0.699	-22.062	(1 3 4)
4	1.600	12.703	1.107	-22.812	(2 3 4)	12.217	1.328	-22.812	(1 3 4)
5	2.000	13.367	2.231	-23.312	(2 3 4)	13.050	2.859	-23.312	(1 3 4)
6	2.250	14.017	2.977	-23.625	(2 3 4)	13.893	3.889	-23.625	(1 3 4)
JTAN	2.525	15.125	5.087	-23.969	(1 3 4)	14.953	3.837	-23.969	(2 3 4)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-14.022	2.526	-20.812	(2 3 4)	-14.149	3.359	-20.812	(1 3 4)
1	0.250	-13.380	2.778	-21.125	(1 3 4)	-13.449	2.050	-21.125	(2 3 4)
2	0.650	-12.474	1.732	-21.625	(1 3 4)	-12.793	1.217	-21.625	(2 3 4)
3	1.000	-12.045	0.699	-22.062	(1 3 4)	-12.505	0.417	-22.062	(2 3 4)
4	1.600	-12.217	-1.328	-22.812	(1 3 4)	-12.703	-1.107	-22.812	(2 3 4)
5	2.000	-13.050	-2.859	-23.312	(1 3 4)	-13.367	-2.231	-23.312	(2 3 4)
6	2.250	-13.893	-3.889	-23.625	(1 3 4)	-14.017	-2.977	-23.625	(2 3 4)
JTAN	2.525	-14.953	-3.837	-23.969	(2 3 4)	-15.125	-5.087	-23.969	(1 3 4)

COMBINE 4

	L	SHEAR MAXIMUM M	Q	N	CASE	SHEAR MINIMUM M	Q	N	CASE
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-14.149	23.435	-3.359	(1 3 4)	-14.149	23.435	-3.359	(1 3 4)
1	0.250	-9.174	21.380	-3.359	(1 3 4)	-9.174	21.380	-3.359	(1 3 4)
2	0.650	-2.163	18.092	-3.359	(1 3 4)	-2.163	18.092	-3.359	(1 3 4)
3	0.900	1.626	16.037	-3.359	(1 3 4)	1.626	16.037	-3.359	(1 3 4)
4	1.150	4.958	13.982	-3.359	(1 3 4)	4.958	13.982	-3.359	(1 3 4)
5	1.851	11.869	8.220	-3.359	(1 3 4)	11.869	8.220	-3.359	(1 3 4)
6	2.351	14.607	4.110	-3.359	(1 3 4)	14.607	4.110	-3.359	(1 3 4)
7	2.851	15.519	0.000	-3.359	(1 3 4)	15.519	0.000	-3.359	(1 3 4)
JTAN	5.702	-14.149	-23.435	-3.359	(1 3 4)	-14.149	-23.435	-3.359	(1 3 4)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	15.125	-26.599	-5.087	(1 3 4)	15.125	-26.599	-5.087	(1 3 4)
1	0.250	9.394	-24.267	-5.087	(1 3 4)	9.394	-24.267	-5.087	(1 3 4)
2	0.525	3.696	-21.701	-5.087	(1 3 4)	3.696	-21.701	-5.087	(1 3 4)
3	1.851	-14.849	-9.330	-5.087	(1 3 4)	-14.849	-9.330	-5.087	(1 3 4)
4	2.351	-18.003	-4.665	-5.087	(1 3 4)	-18.003	-4.665	-5.087	(1 3 4)
5	2.851	-19.054	0.000	-5.087	(1 3 4)	-19.054	0.000	-5.087	(1 3 4)
JTAN	5.702	15.125	26.599	-5.087	(1 3 4)	15.125	26.599	-5.087	(1 3 4)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	14.022	-2.526	-20.812	(2 3 4)	14.149	-3.359	-20.812	(1 3 4)
1	0.250	13.449	-2.050	-21.125	(2 3 4)	13.380	-2.778	-21.125	(1 3 4)
2	0.650	12.793	-1.217	-21.625	(2 3 4)	12.474	-1.732	-21.625	(1 3 4)
3	1.000	12.505	-0.417	-22.062	(2 3 4)	12.045	-0.699	-22.062	(1 3 4)
4	1.600	12.217	1.328	-22.812	(1 3 4)	12.703	1.107	-22.812	(2 3 4)
5	2.000	13.050	2.859	-23.312	(1 3 4)	13.367	2.231	-23.312	(2 3 4)
6	2.250	13.893	3.889	-23.625	(1 3 4)	14.017	2.977	-23.625	(2 3 4)
JTAN	2.525	15.125	5.087	-23.969	(1 3 4)	14.953	3.837	-23.969	(2 3 4)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-14.149	3.359	-20.812	(1 3 4)	-14.022	2.526	-20.812	(2 3 4)
1	0.250	-13.380	2.778	-21.125	(1 3 4)	-13.449	2.050	-21.125	(2 3 4)
2	0.650	-12.474	1.732	-21.625	(1 3 4)	-12.793	1.217	-21.625	(2 3 4)
3	1.000	-12.045	0.699	-22.062	(1 3 4)	-12.505	0.417	-22.062	(2 3 4)
4	1.600	-12.703	-1.107	-22.812	(2 3 4)	-12.217	-1.328	-22.812	(1 3 4)
5	2.000	-13.367	-2.231	-23.312	(2 3 4)	-13.050	-2.859	-23.312	(1 3 4)
6	2.250	-14.017	-2.977	-23.625	(2 3 4)	-13.893	-3.889	-23.625	(1 3 4)
JTAN	2.525	-14.953	-3.837	-23.969	(2 3 4)	-15.125	-5.087	-23.969	(1 3 4)

COMBINE 4

= = MEMBER 1 (1 - 2) G = =

	L	AXIAL MAXIMUM M	Q	N	CASE	AXIAL MINIMUM M	Q	N	CASE
ITAN	0.000	-14.022	23.435	-2.526	(2 3 4)	-14.149	23.435	-3.359	(1 3 4)
1	0.250	-9.047	21.380	-2.526	(2 3 4)	-9.174	21.380	-3.359	(1 3 4)
2	0.650	-2.036	18.092	-2.526	(2 3 4)	-2.163	18.092	-3.359	(1 3 4)
3	0.900	1.753	16.037	-2.526	(2 3 4)	1.626	16.037	-3.359	(1 3 4)
4	1.150	5.085	13.982	-2.526	(2 3 4)	4.958	13.982	-3.359	(1 3 4)
5	1.851	11.996	8.220	-2.526	(2 3 4)	11.869	8.220	-3.359	(1 3 4)
6	2.351	14.733	4.110	-2.526	(2 3 4)	14.607	4.110	-3.359	(1 3 4)
7	2.851	15.646	0.000	-2.526	(2 3 4)	15.519	0.000	-3.359	(1 3 4)
JTAN	5.702	-14.022	-23.435	-2.526	(2 3 4)	-14.149	-23.435	-3.359	(1 3 4)

= = MEMBER 2 (3 - 4) G = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	14.953	-26.599	-3.837	(2 3 4)	15.125	-26.599	-5.087	(1 3 4)
1	0.250	9.222	-24.267	-3.837	(2 3 4)	9.394	-24.267	-5.087	(1 3 4)
2	0.525	3.524	-21.701	-3.837	(2 3 4)	3.696	-21.701	-5.087	(1 3 4)
3	1.851	-15.021	-9.330	-3.837	(2 3 4)	-14.849	-9.330	-5.087	(1 3 4)
4	2.351	-18.174	-4.665	-3.837	(2 3 4)	-18.003	-4.665	-5.087	(1 3 4)
5	2.851	-19.226	0.000	-3.837	(2 3 4)	-19.054	0.000	-5.087	(1 3 4)
JTAN	5.702	14.953	26.599	-3.837	(2 3 4)	15.125	26.599	-5.087	(1 3 4)

= = MEMBER 3 (1 - 3) C = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	14.149	-3.359	-20.812	(1 3 4)	14.149	-3.359	-20.812	(1 3 4)
1	0.250	13.380	-2.778	-21.125	(1 3 4)	13.380	-2.778	-21.125	(1 3 4)
2	0.650	12.474	-1.732	-21.625	(1 3 4)	12.474	-1.732	-21.625	(1 3 4)
3	1.000	12.045	-0.699	-22.062	(1 3 4)	12.045	-0.699	-22.062	(1 3 4)
4	1.600	12.217	1.328	-22.812	(1 3 4)	12.217	1.328	-22.812	(1 3 4)
5	2.000	13.050	2.859	-23.312	(1 3 4)	13.050	2.859	-23.312	(1 3 4)
6	2.250	13.893	3.889	-23.625	(1 3 4)	13.893	3.889	-23.625	(1 3 4)
JTAN	2.525	15.125	5.087	-23.969	(1 3 4)	15.125	5.087	-23.969	(1 3 4)

= = MEMBER 4 (2 - 4) C = =

	L	M	Q	N	CASE	M	Q	N	CASE
ITAN	0.000	-14.149	3.359	-20.812	(1 3 4)	-14.149	3.359	-20.812	(1 3 4)
1	0.250	-13.380	2.778	-21.125	(1 3 4)	-13.380	2.778	-21.125	(1 3 4)
2	0.650	-12.474	1.732	-21.625	(1 3 4)	-12.474	1.732	-21.625	(1 3 4)
3	1.000	-12.045	0.699	-22.062	(1 3 4)	-12.045	0.699	-22.062	(1 3 4)
4	1.600	-12.217	-1.328	-22.812	(1 3 4)	-12.217	-1.328	-22.812	(1 3 4)
5	2.000	-13.050	-2.859	-23.312	(1 3 4)	-13.050	-2.859	-23.312	(1 3 4)
6	2.250	-13.893	-3.889	-23.625	(1 3 4)	-13.893	-3.889	-23.625	(1 3 4)
JTAN	2.525	-15.125	-5.087	-23.969	(1 3 4)	-15.125	-5.087	-23.969	(1 3 4)

PICK UP 1

	---L---	MOMENT MAXIMUM ----M---	----Q---	----N---	-COM- ----CASE-----	MOMENT MINIMUM ----M---	----Q---	----N---	-COM- ----CASE-----
= = MEMBER 1 (1 - 2) G = =									
ITAN	0.000	-4.984	7.555	-0.502	(1; 2)	-14.149	23.435	-3.359	(4; 1 3 4)
1	0.250	-3.178	6.893	-0.502	(1; 2)	-9.174	21.380	-3.359	(4; 1 3 4)
2	0.650	-0.633	5.833	-0.502	(1; 2)	-2.163	18.092	-3.359	(4; 1 3 4)
3	0.900	1.958	16.037	-0.908	(2; 2 3)	0.410	5.170	-2.953	(3; 1 4)
4	1.150	5.290	13.982	-0.908	(2; 2 3)	1.620	4.508	-2.953	(3; 1 4)
5	1.851	12.201	8.220	-0.908	(2; 2 3)	4.129	2.650	-2.953	(3; 1 4)
6	2.351	14.939	4.110	-0.908	(2; 2 3)	5.122	1.325	-2.953	(3; 1 4)
7	2.851	15.851	0.000	-0.908	(2; 2 3)	5.454	0.000	-2.953	(3; 1 4)
JTAN	5.702	-4.984	-7.555	-0.502	(1; 2)	-14.149	-23.435	-3.359	(4; 1 3 4)
= = MEMBER 2 (3 - 4) G = =									
ITAN	0.000	15.125	-26.599	-5.087	(4; 1 3 4)	6.882	-10.720	-2.578	(1; 2)
1	0.250	9.394	-24.267	-5.087	(4; 1 3 4)	4.320	-9.780	-2.578	(1; 2)
2	0.525	3.696	-21.701	-5.087	(4; 1 3 4)	1.772	-8.746	-2.578	(1; 2)
3	1.851	-6.083	-3.760	-5.493	(3; 1 4)	-15.285	-9.330	-2.172	(2; 2 3)
4	2.351	-7.493	-1.880	-5.493	(3; 1 4)	-18.438	-4.665	-2.172	(2; 2 3)
5	2.851	-7.963	0.000	-5.493	(3; 1 4)	-19.490	0.000	-2.172	(2; 2 3)
JTAN	5.702	15.125	26.599	-5.087	(4; 1 3 4)	6.882	10.720	-2.578	(1; 2)
= = MEMBER 3 (1 - 3) C = =									
ITAN	0.000	14.149	-3.359	-20.812	(4; 1 3 4)	4.984	-0.502	-7.555	(1; 2)
1	0.250	13.608	-0.757	-21.125	(2; 2 3)	4.650	-2.372	-7.868	(3; 1 4)
2	0.650	13.365	-0.444	-21.625	(2; 2 3)	3.905	-1.326	-8.368	(3; 1 4)
3	1.000	13.268	-0.099	-22.062	(2; 2 3)	3.618	-0.293	-8.805	(3; 1 4)
4	1.600	13.422	0.645	-22.812	(2; 2 3)	4.035	1.734	-9.555	(3; 1 4)
5	2.000	13.798	1.249	-23.312	(2; 2 3)	5.030	3.265	-10.055	(3; 1 4)
6	2.250	14.162	1.670	-23.625	(2; 2 3)	5.974	4.295	-10.368	(3; 1 4)
JTAN	2.525	15.125	5.087	-23.969	(4; 1 3 4)	6.882	2.578	-10.711	(1; 2)
= = MEMBER 4 (2 - 4) C = =									
ITAN	0.000	-4.984	0.502	-7.555	(1; 2)	-14.149	3.359	-20.812	(4; 1 3 4)
1	0.250	-4.650	2.372	-7.868	(3; 1 4)	-13.608	0.757	-21.125	(2; 2 3)
2	0.650	-3.905	1.326	-8.368	(3; 1 4)	-13.365	0.444	-21.625	(2; 2 3)
3	1.000	-3.618	0.293	-8.805	(3; 1 4)	-13.268	0.099	-22.062	(2; 2 3)
4	1.600	-4.035	-1.734	-9.555	(3; 1 4)	-13.422	-0.645	-22.812	(2; 2 3)
5	2.000	-5.030	-3.265	-10.055	(3; 1 4)	-13.798	-1.249	-23.312	(2; 2 3)
6	2.250	-5.974	-4.295	-10.368	(3; 1 4)	-14.162	-1.670	-23.625	(2; 2 3)
JTAN	2.525	-6.882	-2.578	-10.711	(1; 2)	-15.125	-5.087	-23.969	(4; 1 3 4)

PICK UP 1

	L	M (Shear Maximum)	Q	N	COM	CASE	M (Shear Minimum)	Q	N	COM	CASE
= = MEMBER 1 (1 - 2) G = =											
ITAN	0.000	-13.943	23.435	-1.741	(2;	1 3)	-5.111	7.555	-1.335	(1;	1)
1	0.250	-8.968	21.380	-1.741	(2;	1 3)	-3.305	6.893	-1.335	(1;	1)
2	0.650	-1.957	*18.092	-1.741	(2;	1 3)	-0.760	5.833	-1.335	(1;	1)
3	0.900	1.831	16.037	-1.741	(2;	1 3)	0.615	5.170	-1.335	(1;	1)
4	1.150	5.164	13.982	-1.741	(2;	1 3)	1.825	4.508	-1.335	(1;	1)
5	1.851	12.075	8.220	-1.741	(2;	1 3)	4.334	2.650	-1.335	(1;	1)
6	2.351	14.812	4.110	-1.741	(2;	1 3)	5.328	1.325	-1.335	(1;	1)
7	2.851	5.454	0.000	-2.953	(3;	1 4)	15.725	0.000	-1.741	(2;	1 3)
JTAN	5.702	-5.111	-7.555	-1.335	(1;	1)	-13.943	-23.435	-1.741	(2;	1 3)
= = MEMBER 2 (3 - 4) G = =											
ITAN	0.000	7.054	-10.720	-3.829	(1;	1)	14.861	-26.599	-3.423	(2;	1 3)
1	0.250	4.492	-9.780	-3.829	(1;	1)	9.130	-24.267	-3.423	(2;	1 3)
2	0.525	1.944	-8.746	-3.829	(1;	1)	3.432	*-21.701	-3.423	(2;	1 3)
3	1.851	-6.347	-3.760	-3.829	(1;	1)	-15.113	-9.330	-3.423	(2;	1 3)
4	2.351	-7.757	-1.880	-3.829	(1;	1)	-18.267	-4.665	-3.423	(2;	1 3)
5	2.851	-19.054	0.000	-5.087	(4;	1 3 4)	-8.227	0.000	-3.829	(1;	1)
JTAN	5.702	14.861	26.599	-3.423	(2;	1 3)	7.054	10.720	-3.829	(1;	1)
= = MEMBER 3 (1 - 3) C = =											
ITAN	0.000	4.984	-0.502	-7.555	(1;	2)	14.149	-3.359	-20.812	(4;	1 3 4)
1	0.250	4.877	-0.351	-7.868	(1;	2)	13.380	-2.778	-21.125	(4;	1 3 4)
2	0.650	4.796	-0.038	-8.368	(1;	2)	12.474	*-1.732	-21.625	(4;	1 3 4)
3	1.000	4.842	0.307	-8.805	(1;	2)	12.045	-0.699	-22.062	(4;	1 3 4)
4	1.600	4.035	1.734	-9.555	(3;	1 4)	13.422	0.645	-22.812	(2;	2 3)
5	2.000	5.030	*3.265	-10.055	(3;	1 4)	13.798	1.249	-23.312	(2;	2 3)
6	2.250	5.974	4.295	-10.368	(3;	1 4)	14.162	1.670	-23.625	(2;	2 3)
JTAN	2.525	7.318	5.493	-10.711	(3;	1 4)	14.689	2.172	-23.969	(2;	2 3)
= = MEMBER 4 (2 - 4) C = =											
ITAN	0.000	-14.149	3.359	-20.812	(4;	1 3 4)	-4.984	0.502	-7.555	(1;	2)
1	0.250	-13.380	2.778	-21.125	(4;	1 3 4)	-4.877	0.351	-7.868	(1;	2)
2	0.650	-12.474	1.732	-21.625	(4;	1 3 4)	-4.796	0.038	-8.368	(1;	2)
3	1.000	-12.045	0.699	-22.062	(4;	1 3 4)	-4.842	-0.307	-8.805	(1;	2)
4	1.600	-13.422	-0.645	-22.812	(2;	2 3)	-4.035	-1.734	-9.555	(3;	1 4)
5	2.000	-13.798	-1.249	-23.312	(2;	2 3)	-5.030	-3.265	-10.055	(3;	1 4)
6	2.250	-14.162	-1.670	-23.625	(2;	2 3)	-5.974	-4.295	-10.368	(3;	1 4)
JTAN	2.525	-14.689	-2.172	-23.969	(2;	2 3)	-7.318	-5.493	-10.711	(3;	1 4)

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PICK UP 1

	AXIAL MAXIMUM					AXIAL MINIMUM				
	---L---	----M---	----Q---	----N---	-COM-	----CASE-----	----M---	----Q---	----N---	-COM-	----CASE-----
= = MEMBER 1 (1 - 2) G = =											
ITAN	0.000	-4.984	7.555	-0.502	(1;	2)	-14.149	23.435	-3.359	(4;	1 3 4)
1	0.250	-3.178	6.893	-0.502	(1;	2)	-9.174	21.380	-3.359	(4;	1 3 4)
2	0.650	-0.633	5.833	-0.502	(1;	2)	-2.163	18.092	-3.359	(4;	1 3 4)
3	0.900	0.742	5.170	-0.502	(1;	2)	1.626	16.037	-3.359	(4;	1 3 4)
4	1.150	1.952	4.508	-0.502	(1;	2)	4.958	13.982	-3.359	(4;	1 3 4)
5	1.851	4.461	2.650	-0.502	(1;	2)	11.869	8.220	-3.359	(4;	1 3 4)
6	2.351	5.454	1.325	-0.502	(1;	2)	14.607	4.110	-3.359	(4;	1 3 4)
7	2.851	5.786	0.000	-0.502	(1;	2)	15.519	0.000	-3.359	(4;	1 3 4)
JTAN	5.702	-4.984	-7.555	-0.502	(1;	2)	-14.149	-23.435	-3.359	(4;	1 3 4)
= = MEMBER 2 (3 - 4) G = =											
ITAN	0.000	14.689	-26.599	-2.172	(2;	2 3)	7.318	-10.720	-5.493	(3;	1 4)
1	0.250	8.958	-24.267	-2.172	(2;	2 3)	4.756	-9.780	-5.493	(3;	1 4)
2	0.525	3.260	-21.701	-2.172	(2;	2 3)	2.208	-8.746	-5.493	(3;	1 4)
3	1.851	-15.285	-9.330	-2.172	(2;	2 3)	-6.083	-3.760	-5.493	(3;	1 4)
4	2.351	-18.438	-4.665	-2.172	(2;	2 3)	-7.493	-1.880	-5.493	(3;	1 4)
5	2.851	-19.490	0.000	-2.172	(2;	2 3)	-7.963	0.000	-5.493	(3;	1 4)
JTAN	5.702	14.689	26.599	-2.172	(2;	2 3)	7.318	10.720	-5.493	(3;	1 4)
= = MEMBER 3 (1 - 3) C = =											
ITAN	0.000	5.111	-1.335	-7.555	(1;	1)	13.943	-1.741	-20.812	(2;	1 3)
1	0.250	4.808	-1.079	-7.868	(1;	1)	13.539	-1.485	-21.125	(2;	1 3)
2	0.650	4.477	-0.553	-8.368	(1;	1)	13.045	-0.959	-21.625	(2;	1 3)
3	1.000	4.381	0.025	-8.805	(1;	1)	12.808	-0.381	-22.062	(2;	1 3)
4	1.600	4.754	1.272	-9.555	(1;	1)	12.937	0.866	-22.812	(2;	1 3)
5	2.000	5.460	2.283	-10.055	(1;	1)	13.481	1.877	-23.312	(2;	1 3)
6	2.250	6.118	2.988	-10.368	(1;	1)	14.037	2.583	-23.625	(2;	1 3)
JTAN	2.525	7.054	3.829	-10.711	(1;	1)	14.861	3.423	-23.969	(2;	1 3)
= = MEMBER 4 (2 - 4) C = =											
ITAN	0.000	-5.111	1.335	-7.555	(1;	1)	-13.943	1.741	-20.812	(2;	1 3)
1	0.250	-4.808	1.079	-7.868	(1;	1)	-13.539	1.485	-21.125	(2;	1 3)
2	0.650	-4.477	0.553	-8.368	(1;	1)	-13.045	0.959	-21.625	(2;	1 3)
3	1.000	-4.381	-0.025	-8.805	(1;	1)	-12.808	0.381	-22.062	(2;	1 3)
4	1.600	-4.754	-1.272	-9.555	(1;	1)	-12.937	-0.866	-22.812	(2;	1 3)
5	2.000	-5.460	-2.283	-10.055	(1;	1)	-13.481	-1.877	-23.312	(2;	1 3)
6	2.250	-6.118	-2.988	-10.368	(1;	1)	-14.037	-2.583	-23.625	(2;	1 3)
JTAN	2.525	-7.054	-3.829	-10.711	(1;	1)	-14.861	-3.423	-23.969	(2;	1 3)

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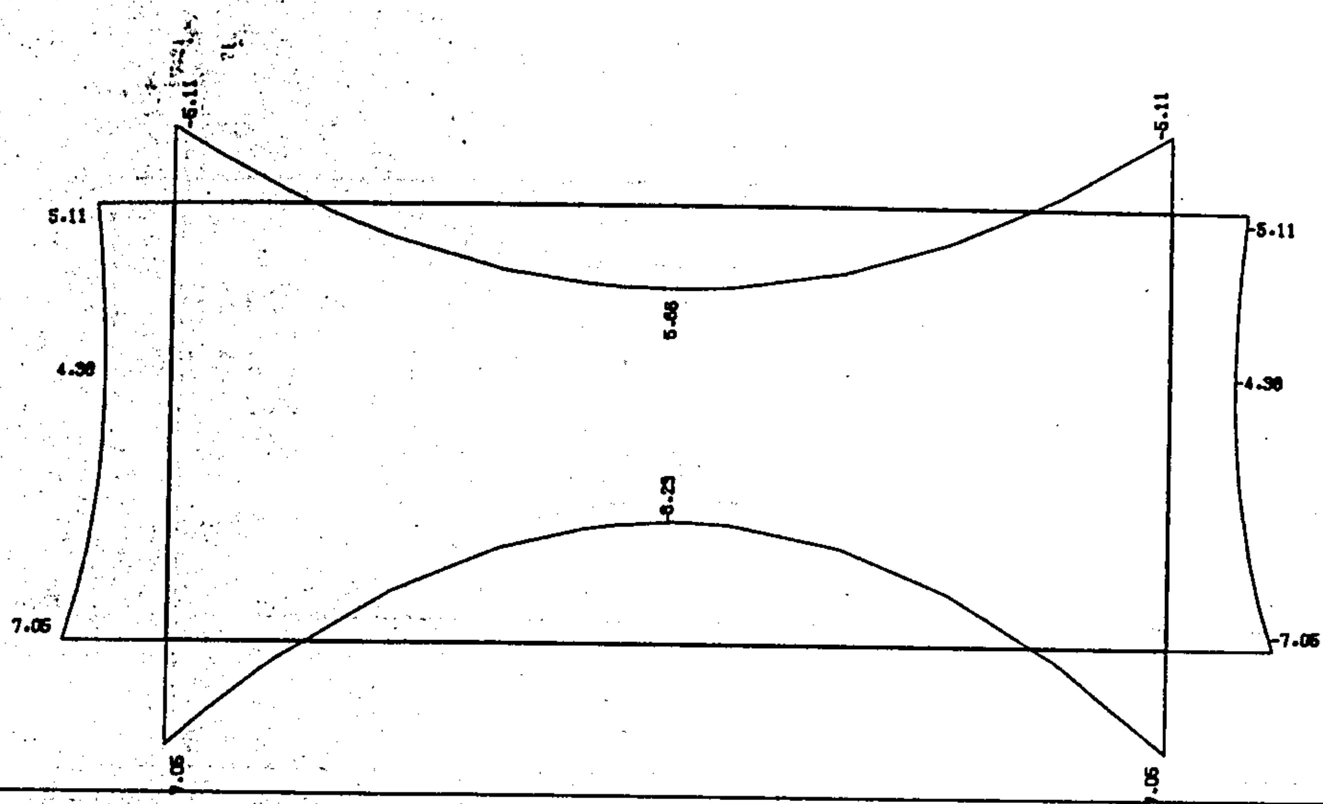
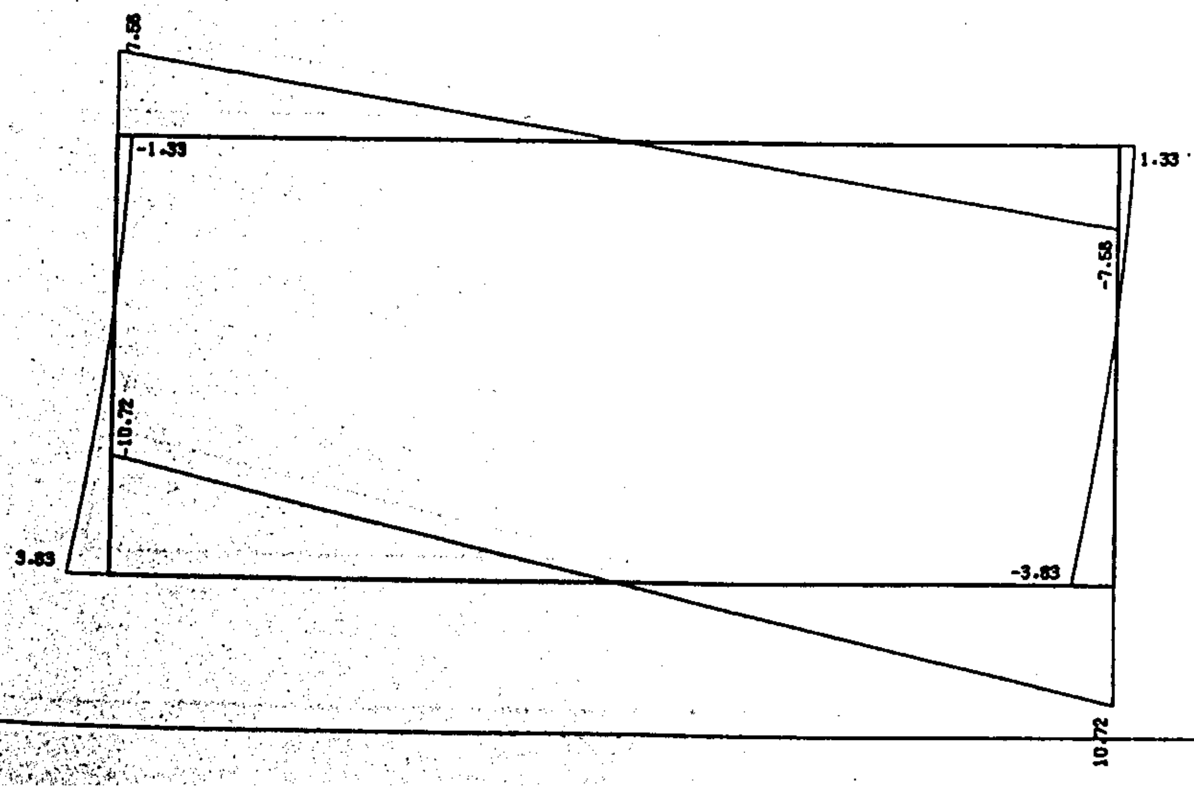
C18

CASE 1 (SHI+DO (0.5))

BENDING MOMENT



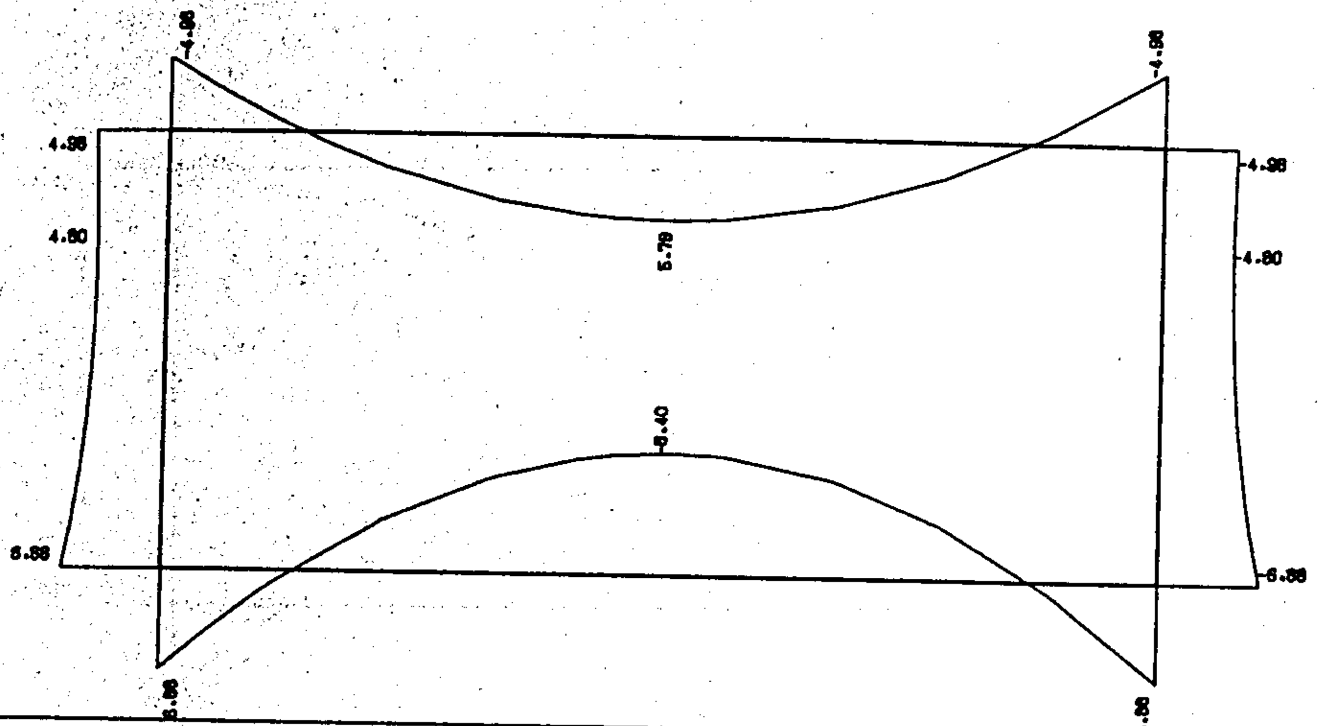
SHEARING FORCE



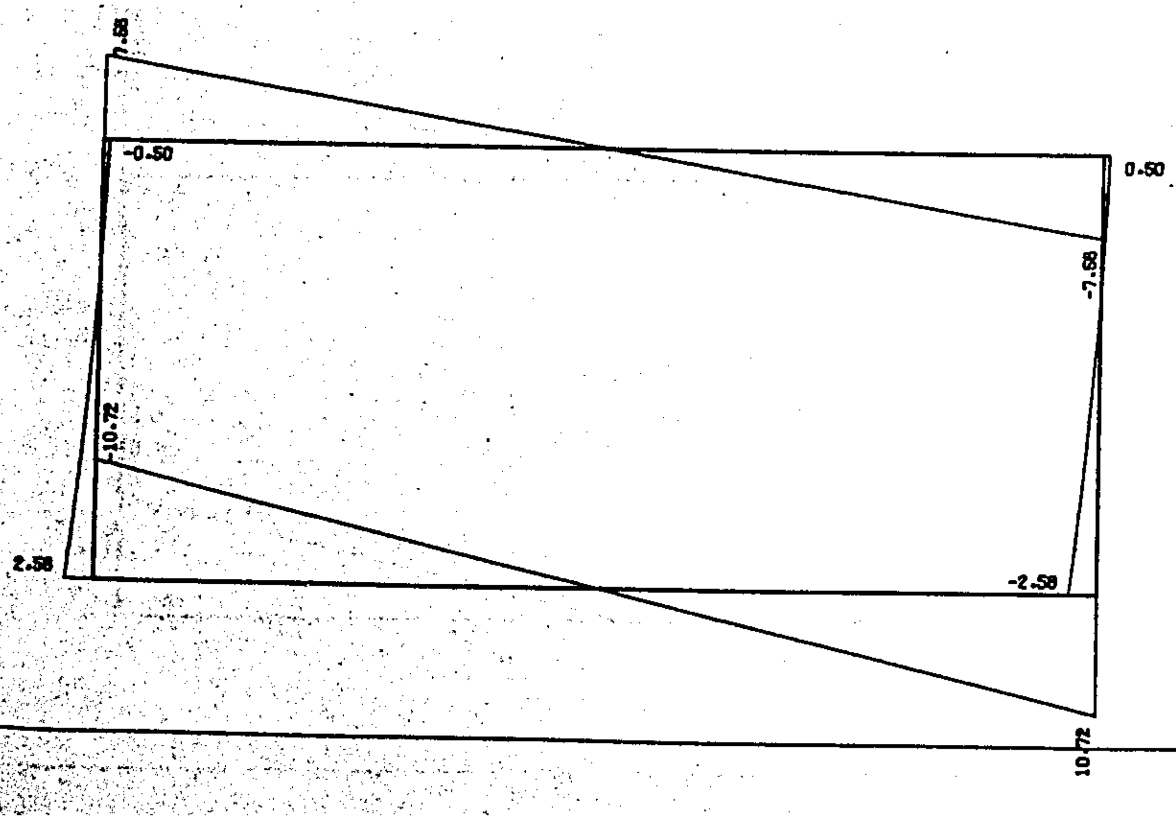
C18

CASE 2 (SHI+DO (0.3))

BENDING MOMENT



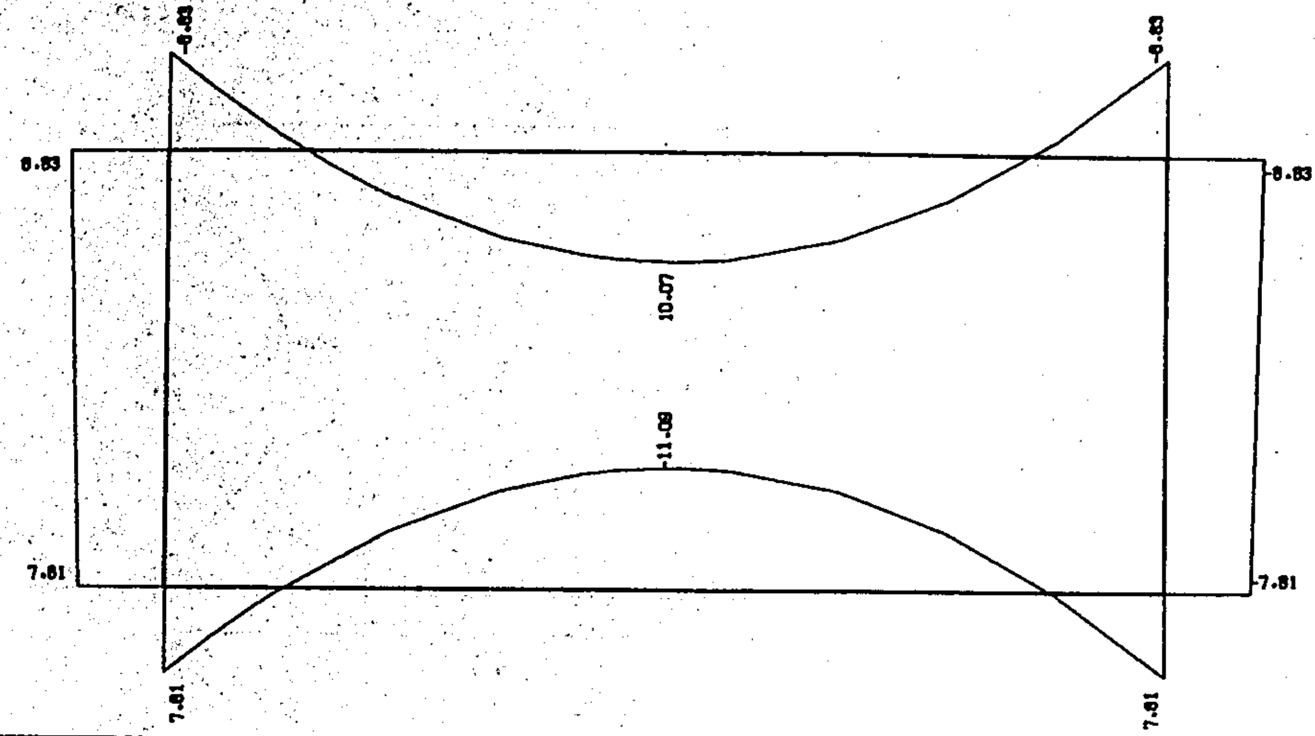
SHEARING FORCE



C18

CASE 3 (KATSU+SYOU)

BENDING MOMENT



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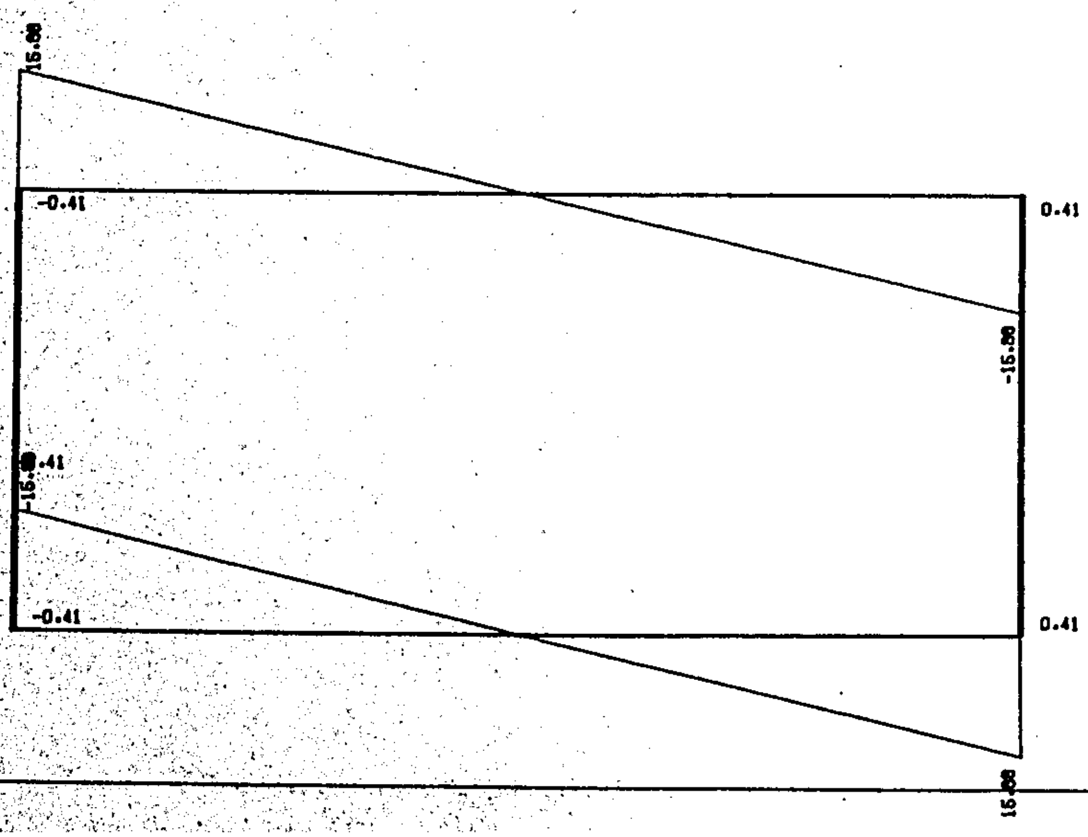
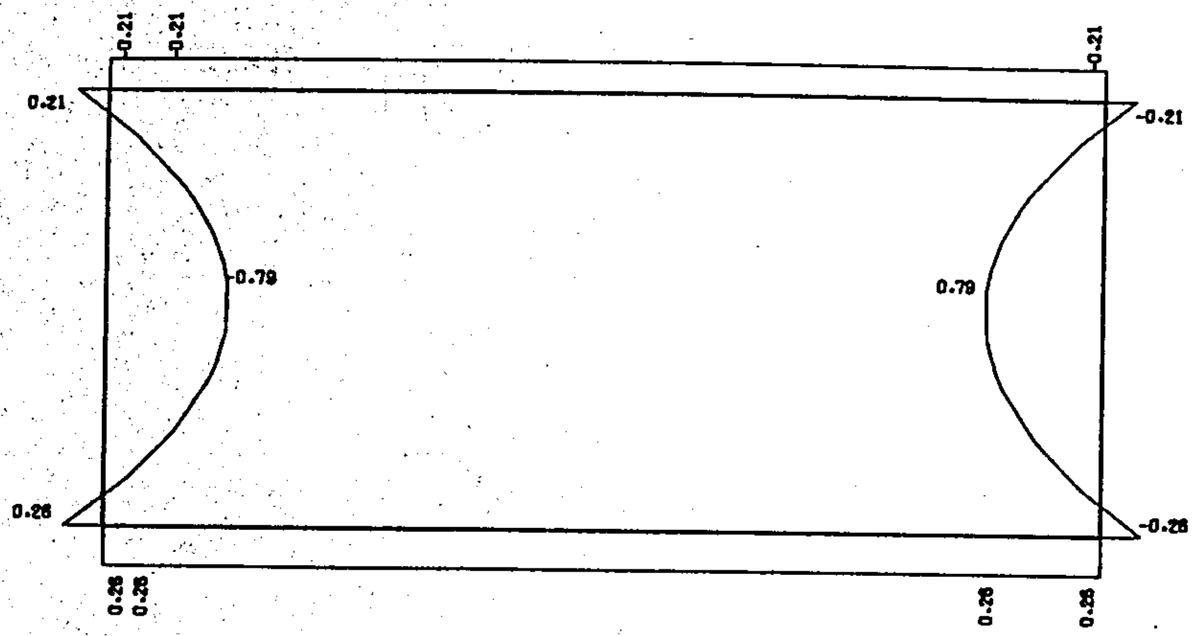


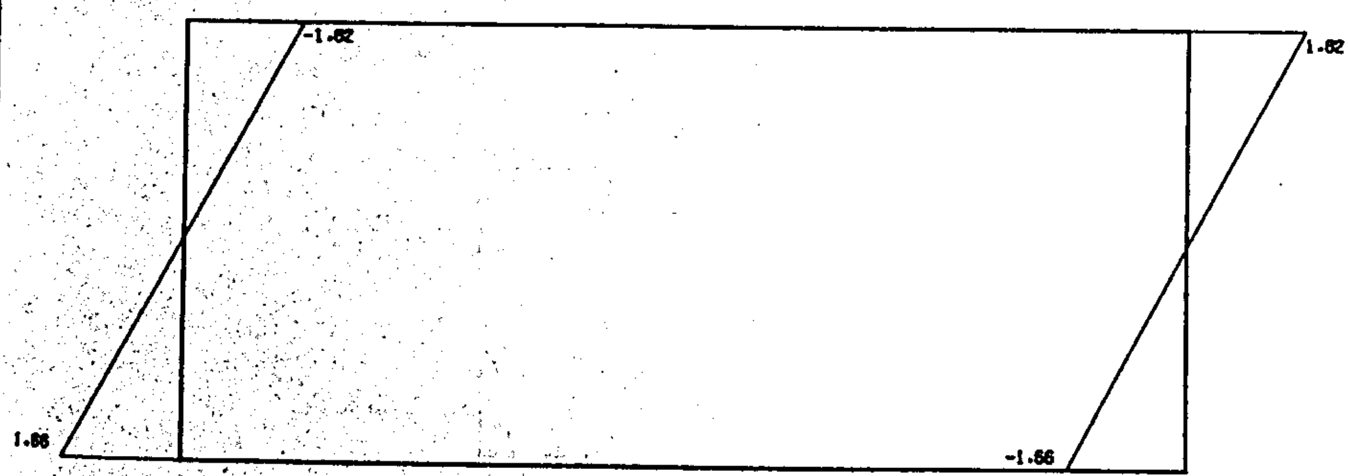
C18

CASE 4 (KATSUDO)

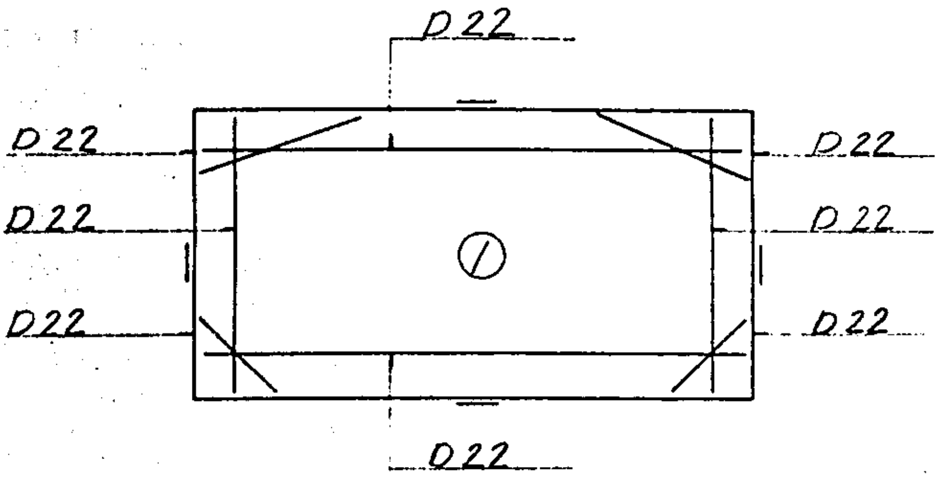
BENDING MOMENT

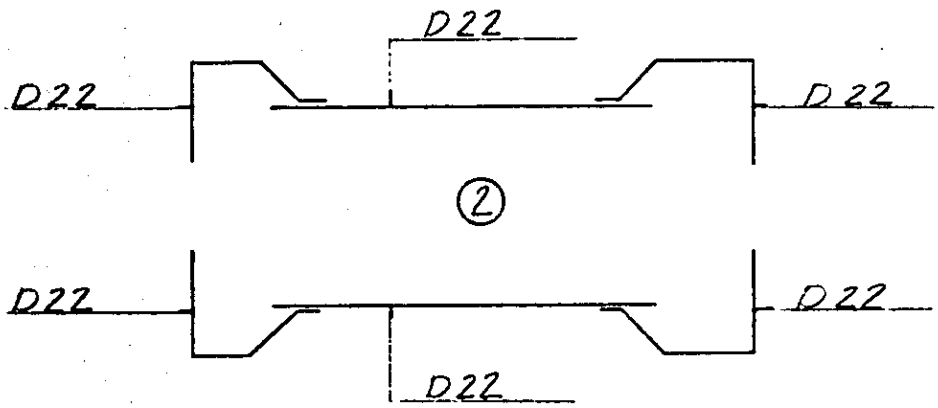


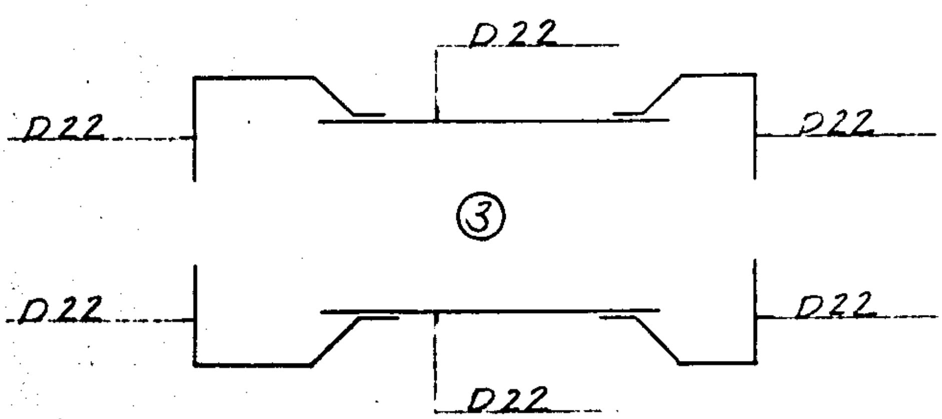
SHEARING FORCE



REINFORCEMENT FRAME







C18 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2
B	(CM)	100.00	100.00	100.00
H	(CM)	80.00	50.00	50.00
D	(CM)	74.00	44.00	44.00
D'	(CM)	0.00	6.00	6.00
D''	(CM)	6.00	6.00	6.00
		8.00 D-22	4.00 D-22	8.00 D-22
AS	(CM2)	30.968	15.484	30.968
P		0.00418	0.00351	0.00703
			4.00 D-22	4.00 D-22
AS'	(CM2)	0.000	15.484	15.484
P'		0.00000	0.00351	0.00351
M	(T*M)	5.11	0.76	5.79
N	(T)	1.34	1.34	0.50
S	(T)	0.00	0.00	0.00
E0	(CM)	381.343	56.716	###.###
E	(CM)	415.343	75.716	###.###
E'	(CM)	341.343	37.716	###.###
E'/E		0.821	0.498	0.967
D'/D		0.000	0.136	0.136
D/E		0.178	0.581	0.037
N*E/B*D2		1.016	0.524	3.039
K			0.345	0.346
LC			0.180	0.181
C		0.142		
BETA		32.035		
SGM C	(KG/CM2)	7.13	2.90	16.78
SGM S	(KG/CM2)	228.48	82.40	474.01
TAU	(KG/CM2)	0.00	0.00	0.00

C18 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(4) 3-4	NO.(5) 3-4
B	(CM)	100.00	100.00
H	(CM)	55.00	55.00
D	(CM)	46.00	49.00
D'	(CM)	0.00	9.00
D''	(CM)	9.00	6.00
		8.00 D-22	8.00 D-22
AS	(CM2)	30.968	30.968
P		0.00673	0.00632
			4.00 D-22
AS'	(CM2)	0.000	15.484
P'		0.00000	0.00316
M	(T*M)	4.49	8.40
N	(T)	3.83	2.85
S	(T)	0.00	0.00
EO	(CM)	117.232	294.736
E	(CM)	135.732	316.236
E'	(CM)	89.732	276.236
E'/E		0.661	0.873
D'/D		0.000	0.183
D/E		0.338	0.154
N*E/B*D2		2.456	3.753
K			0.354
LC			0.174
C		0.177	
BETA		21.558	
SGM C	(KG/CM2)	13.87	21.47
SGM S	(KG/CM2)	299.07	587.20
TAU	(KG/CM2)	0.00	0.00

C18 CRACKING

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

	NO.(6) 1-3.2-4	NO.(7) 1-3.2-4	NO.(8) 1-3.2-4	NO.(9) 1-3.2-4
B (CM)	100.00	100.00	100.00	100.00
H (CM)	60.00	50.00	50.00	50.00
D (CM)	54.00	44.00	44.00	44.00
D' (CM)	0.00	6.00	6.00	0.00
D'' (CM)	6.00	6.00	6.00	6.00
	8.00 D-22	4.00 D-22	4.00 D-22	8.00 D-22
AS (CM2)	30.968	15.484	15.484	30.968
P	0.00573	0.00351	0.00351	0.00703
		4.00 D-22	4.00 D-22	
AS' (CM2)	0.000	15.484	15.484	0.000
P'	0.00000	0.00351	0.00351	0.00000
M (T*M)	5.11	4.80	5.24	6.24
N (T)	7.87	8.81	9.56	10.37
S (T)	0.00	0.00	0.00	0.00
E0 (CM)	64.930	54.483	54.811	60.173
E (CM)	88.930	73.483	73.811	79.173
E' (CM)	34.930	35.483	35.811	35.173
E'/E	0.392	0.482	0.485	0.444
D'/D	0.000	0.136	0.136	0.000
D/E	0.607	0.598	0.596	0.555
N*E/B*D2	2.400	3.343	3.644	4.240
K		0.350	0.349	
LC		0.182	0.182	
C	0.189			0.195
BETA	18.723			17.419
SGM C(KG/CM2)	12.67	18.33	20.01	21.67
SGM S(KG/CM2)	237.24	510.52	558.96	377.56
TAU (KG/CM2)	0.00	0.00	0.00	0.00

C18 FATIGUE

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

		NO.(1) 1-2	NO.(2) 1-2	NO.(3) 1-2
B	(CM)	100.00	100.00	100.00
H	(CM)	80.00	50.00	50.00
D	(CM)	74.00	44.00	44.00
D'	(CM)	0.00	6.00	6.00
D''	(CM)	6.00	6.00	6.00
		8.00 D-22	4.00 D-22	8.00 D-22
AS	(CM2)	30.968	15.484	30.968
P		0.00418	0.00351	0.00703
			4.00 D-22	4.00 D-22
AS'	(CM2)	0.000	15.484	15.484
P'		0.00000	0.00351	0.00351
M	(T*M)	14.15	2.16	15.85
N	(T)	3.36	3.36	0.91
S	(T)	0.00	0.00	0.00
EO	(CM)	421.130	64.285	###.###
E	(CM)	455.130	83.285	###.###
E'	(CM)	381.130	45.285	###.###
E'/E		0.837	0.543	0.978
D'/D		0.000	0.136	0.136
D/E		0.162	0.528	0.024
N*E/B*D2		2.792	1.445	8.276
K			0.333	0.345
LC			0.175	0.180
C		0.141		
BETA		32.347		
SGM C	(KG/CM2)	19.71	8.25	45.88
SGM S	(KG/CM2)	637.60	247.20	1304.51
TAU	(KG/CM2)	0.00	0.00	0.00

C18 FATIGUE

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

	NO.(4) 3-4	NO.(5) 3-4
B (CM)	100.00	100.00
H (CM)	55.00	55.00
D (CM)	46.00	49.00
D' (CM)	0.00	9.00
D'' (CM)	9.00	6.00
	8.00 D-22	8.00 D-22
AS (CM2)	30.968	30.968
P	0.00673	0.00632
		4.00 D-22
AS' (CM2)	0.000	15.484
P'	0.00000	0.00316
M (T*M)	9.39	19.49
N (T)	5.09	2.17
S (T)	0.00	0.00
EO (CM)	184.479	898.156
E (CM)	202.979	919.656
E' (CM)	156.979	879.656
E'/E	0.773	0.956
D'/D	0.000	0.183
D/E	0.226	0.053
N*E/B*D2	4.882	8.311
K		0.340
LC		0.168
C	0.170	
BETA	23.334	
SGM C(KG/CM2)	28.70	49.20
SGM S(KG/CM2)	669.69	1427.12
TAU (KG/CM2)	0.00	0.00

C18 FATIGUE

STRESS

SGM CA =	0.000	(KG/M2)
SGM SA =	0.000	(KG/M2)
TAU A =	0.000	(KG/M2)

	NO.(6) 1-3.2-4	NO.(7) 1-3.2-4	NO.(8) 1-3.2-4	NO.(9) 1-3.2-4
B (CM)	100.00	100.00	100.00	100.00
H (CM)	60.00	50.00	50.00	50.00
D (CM)	54.00	44.00	44.00	44.00
D' (CM)	0.00	6.00	6.00	0.00
D'' (CM)	6.00	6.00	6.00	6.00
	8.00 D-22	4.00 D-22	4.00 D-22	8.00 D-22
AS (CM2)	30.968	15.484	15.484	30.968
P	0.00573	0.00351	0.00351	0.00703
		4.00 D-22	4.00 D-22	
AS' (CM2)	0.000	15.484	15.484	0.000
P'	0.00000	0.00351	0.00351	0.00000
M (T*M)	14.15	13.37	13.42	14.16
N (T)	21.13	22.06	22.81	23.63
S (T)	0.00	0.00	0.00	0.00
E0 (CM)	66.966	60.607	58.833	59.923
E (CM)	90.966	79.607	77.833	78.923
E' (CM)	36.966	41.607	39.833	34.923
E'/E	0.406	0.522	0.511	0.442
D'/D	0.000	0.136	0.136	0.000
D/E	0.593	0.552	0.565	0.557
N*E/B*D2	6.591	9.070	9.170	9.633
K		0.339	0.341	
LC		0.177	0.178	
C	0.188			0.195
BETA	18.993			17.389
SGM C(KG/CM2)	35.02	51.07	51.26	49.19
SGM S(KG/CM2)	665.30	1493.43	1479.68	855.50
TAU (KG/CM2)	0.00	0.00	0.00	0.00

Stress calculation

Stress calculation of slab

1-2 (1) (for slab calculation)

Section	B = 100, H = 80	Standard strength for design $\sigma ck = 240$ kg/cm² ; Re-bar SD30 ; AS = 31.00 cm² (8 − D22) ; AS′ = 0 〃 (− D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 5.11 tm	Mdℓi = 14.15 tm	M = 14.15 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 7.1 kg/cm² σs = 228 〃 τ = — 〃	σc = 19.7 kg/cm² σs = 638 〃 τ = — 〃	σc = 19.7 kg/cm² σs = 638 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{638 - 222}{638} = 0.64 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re -bar in terms of fatigue

Span for fatigue analysis Ks-16 $\ell = 5.702$ m $\sigma rao = 1800$ kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

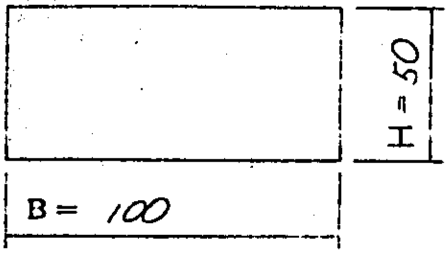
$$= 228 + (1 - 228 / 5000) \times 1800 = 1960 \text{ kg/cm}^2$$

8

Stress calculation

Stress calculation of slab

1-2 (2) (for slab calculation)

Section		Standard strength for design σck = 240 kg / cm² Re-bar SD30 AS = 15.50cm² (4-D22) AS' = 15.50 〃 (4-D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 0.76 tm	Mdli = 2.16 tm	M = 2.16 tm
Shearing force	Sd = — t	Sdli = — t	S = — t
Stress	σc = 2.9 kg / cm² σs = 82 〃 τ = — 〃	σc = 8.3 kg / cm² σs = 247 〃 τ = — 〃	σc = 8.3 kg / cm² σs = 247 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma l i}{\sigma d + \sigma l i} = \frac{247 - 82}{247} = 0.67 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic σsa = 1000kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static σsa = 1200kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 l = 5.702 m σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 82 + (1 - 82 / 5000) \times 1800 = 1800 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-2 (3) (for slab calculation)

Section	B = 100, H = 50	Standard strength for design $\sigma ck = 240\ kg/cm^2$ Re-bar SD30 AS = 31.00 cm² (8-D22) AS′ = 15.50 〃 (4-D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 5.79 tm	Mdℓi = 15.85 tm	M = 15.85 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 16.8 kg/cm² σs = 474 〃 τ = — 〃	σc = 45.9 kg/cm² σs = 1305 〃 τ = — 〃	σc = 45.9 kg/cm² σs = 1305 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1305 - 474}{1305} = 0.64 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000 kg/cm^2$,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200 kg/cm^2$)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 $\ell = 5.702$ $\sigma rao = 1800\ kg/cm^2$

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 474 + (1 - 474/5000) \times 1800 = 2100\ kg/cm^2$$

Stress calculation

Stress calculation of slab

3-4 (4)

(for slab calculation)

Section	B = 100, H = 55	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 31.00 cm² (8 - D22) AS' = 0 〃 (- D)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 4.49 tm	Mdℓi = 9.39 tm	M = 9.39 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 13.9 kg / cm² σs = 299 〃 τ = — 〃	σc = 28.7 kg / cm² σs = 670 〃 τ = — 〃	σc = 28.7 kg / cm² σs = 670 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{670 - 299}{670} = 0.55 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 5.702 σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 299 + (1 - 299 / 5000) \times 1800 = 1990 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

3 - 4 (5) (for slab calculation)

Section	H = 55 B = 100	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 31.00cm² (8 - D22) AS' = 15.50 " (4 - D22)

	Analysis of cracking	Analysis of fatigue	Analysis of registing power
Bending moment	M d = 8.40 t m	M d ℓ i = 19.49 t m	M = t m
Shearing force	S d = — t	S d ℓ i = — t	S = — t
Stress	σ c = 21.5 kg / cm² σ s = 587 " τ = — "	σ c = 49.2 kg / cm² σ s = 1427 " τ = — "	σ c = 49.2 kg / cm² σ s = 1427 " τ = — "
Allowable stress	σ ca = 90kg / cm² σ sa = 1000 " τ a = — "	σ ca = 90kg / cm² σ sa = 1800 " τ a = — "	σ ca = 90kg / cm² σ sa = 1800 " τ a = — "

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1427 - 587}{1427} = 0.59 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg / cm²)

2. Allowable stress of re -bar in terms of fatigue

Span for fatigue analysis ks-16 $\ell = 5.702$ m $\sigma rao = 1800$ kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 587 + (1 - 587 / 5000) \times 1800 = 2170 \text{ kg / cm}^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (6)　　　　(for slab calculation)

Section	B = 100, H = 60		Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 31.0 cm² (8 - D22) AS' = 0 〃 (- D)
	Analysis of cracking	Analysis of fatigue	Analysis of registing power
Bending moment	Md = 5.11 tm	Mdℓi = 14.15 tm	M = tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 12.7 kg/cm² σs = 237 〃 τ = — 〃	σc = 35.0 kg/cm² σs = 665 〃 τ = — 〃	σc = 35.0 kg/cm² σs = 665 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{665 - 237}{665} = 0.64 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$ kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$ kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis Ks-16 $\ell = 5.702$ $\sigma rao = 1800$ kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 237 + (1 - 237 / 5000) \times 1800 = 1950 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (7) (for slab calculation)

Section	B = 100, H = 50	Standard strength for design $\sigma ck = 240\ kg/cm^2$; Re-bar SD30; AS = 15.50 cm² (4-D22); AS' = 15.50 〃 (4-D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of registing power
Bending moment	Md = 4.80 tm	Mdℓi = 13.37 tm	M = 13.37 tm
Shearing force	Sd = 8.81 t	Sdℓi = 22.06 t	S = -- t
Stress	σc = 18.3 kg/cm² σs = 511 〃 τ = — 〃	σc = 51.1 kg/cm² σs = 1493 〃 τ = — 〃	σc = 51.1 kg/cm² σs = 1493 〃 τ = — 〃
Allowable stress	σca = 90kg/cm² σsa = 1000 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃	σca = 90kg/cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1493 - 511}{1493} = 0.66 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000kg/cm^2$,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200kg/cm^2$)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16 ℓ = 5.762 m σrao = 1800 kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 511 + (1 - 511 / 5000) \times 1800 = 2130\ kg/cm^2$$

Stress calculation

Stress calculation of slab

1-3, 2-4 (8)　　　　(for slab calculation)

Section	B = 100, H = 50	Standard strength for design $\sigma ck = 240$ kg/cm² Re-bar SD30 AS = 15.50cm² (4-D22) AS' = 15.50" (4-D22)	
	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 5.24 t m	Mdℓi = 13.42 t m	M = 13.42 t m
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 20.0 kg/cm² σs = 559 " τ = — "	σc = 51.3 kg/cm² σs = 1480 " τ = — "	σc = 51.3 kg/cm² σs = 1480 " τ = — "
Allowable stress	σca = 90kg/cm² σsa = 1000 " τa = — "	σca = 90kg/cm² σsa = 1800 " τa = — "	σca = 90kg/cm² σsa = 1800 " τa = — "

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{1480-559}{1480} = 0.62 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg/cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg/cm²)

2. Allowable stress of re-bar in terms of fatigue

Span for fatigue analysis ks-16　$\ell = 5.702$　$\sigma rao = 1800$ kg/cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$
$$= 559 + (1 - 559 / 5000) \times 1800 = 2160 \text{ kg/cm}^2$$

Stress calculation

Stress calculation of slab

1-3 , 2-4 (9) (for slab calculation)

Section	B = 100, H = 50	Standard strength for design $\sigma ck = 240$ kg / cm² Re-bar SD30 AS = 31.00cm² (8 − D22) AS′ = 0 〃 (− D)

	Analysis of cracking	Analysis of fatigue	Analysis of ragisting power
Bending moment	Md = 6.24 tm	Mdℓi = 14.16 tm	M = 14.16 tm
Shearing force	Sd = — t	Sdℓi = — t	S = — t
Stress	σc = 21.7 kg / cm² σs = 378 〃 τ = — 〃	σc = 49.2 kg / cm² σs = 856 〃 τ = — 〃	σc = 49.2 kg / cm² σs = 856 〃 τ = — 〃
Allowable stress	σca = 90kg / cm² σsa = 1000 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃	σca = 90kg / cm² σsa = 1800 〃 τa = — 〃

1. Allowable stress applied for analysis of cracking

Static / Dynamic distinction

$$\alpha = \frac{\sigma \ell i}{\sigma d + \sigma \ell i} = \frac{856 - 378}{856} = 0.56 > 0.25$$

($\alpha \geq 0.25 \rightarrow$ Dynamic $\sigma sa = 1000$kg / cm²,

$\alpha \leq 0.25 \rightarrow$ Static $\sigma sa = 1200$kg / cm²)

2. Allowable stress of re-bar in terms of fatigue

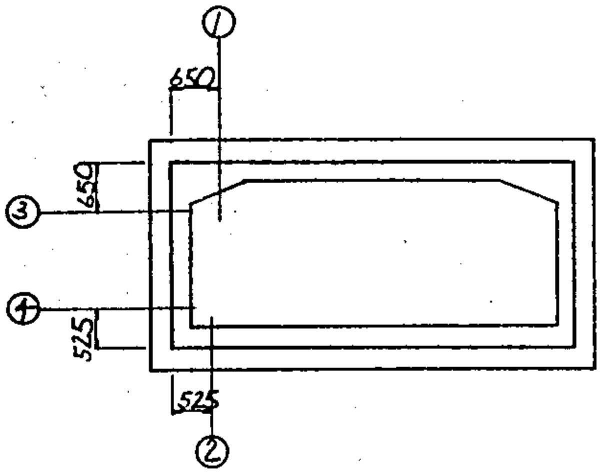
Span for fatigue analysis ks-16 ℓ = 5.762 m σrao = 1800 kg / cm²

$$\sigma sa = \sigma min + (1 - \sigma min / 5000) \times \sigma rao$$

$$= 378 + (1 - 378 / 5000) \times 1800 = 2040 \text{ kg / cm}^2$$

Calculation of shearing force

Sections of calculation of shearing stress



b = 100 cm

h = Thickness of member

d" = Thickness of concrete cover of tension bar

d = Effective height

$$\tau = \frac{S}{b \cdot d}$$

Sections of calculation	cm h	cm d'	cm d = h-d	kg S	kg / cm² τ	% ρ	kg / cm² τ a
1	50	6	44	18 090	4.1	0.70	6.2
2	55	9	46	21 700	4.7	0.70	6.2
3	50	6	44	1 730	0.4	0.70	6.2
4	50	6	44	3 270	0.7	0.70	6.2

§8. Cb22 BOX CULVERT

(5.^{m}00 x 3.^{m}00)