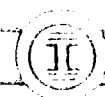


DIMENSIONS & ALLOWABLE TOLERANCE

EGYPTIAN IRON & STEEL Co.



HOT ROLLED ROUND EDGE EQUAL ANGLES

(5) mm	(6) ± mm	(7) mm	(8) kg/m
mm	± mm	± mm	kg/m
25		3	1.12
25		4	1.45
25		5	1.77
30		3	1.36
30		4	1.78
30	1.0	5	2.18
40		4	2.42
40		5	2.97
40		6	3.52
50		5	3.77
50		6	4.47
60		3	2.71
60		4	3.61
60		5	4.57
60		6	5.42
60		7	6.25
60	1.5	8	7.09
70		5	5.20
70		6	6.38
70		7	7.38
70		8	8.36
75		6	6.87
75		7	7.94
75		8	9.03
80		6	7.34
80		7	8.49
80		8	9.66
80		9	10.78

Ref : DIN 1028/1976

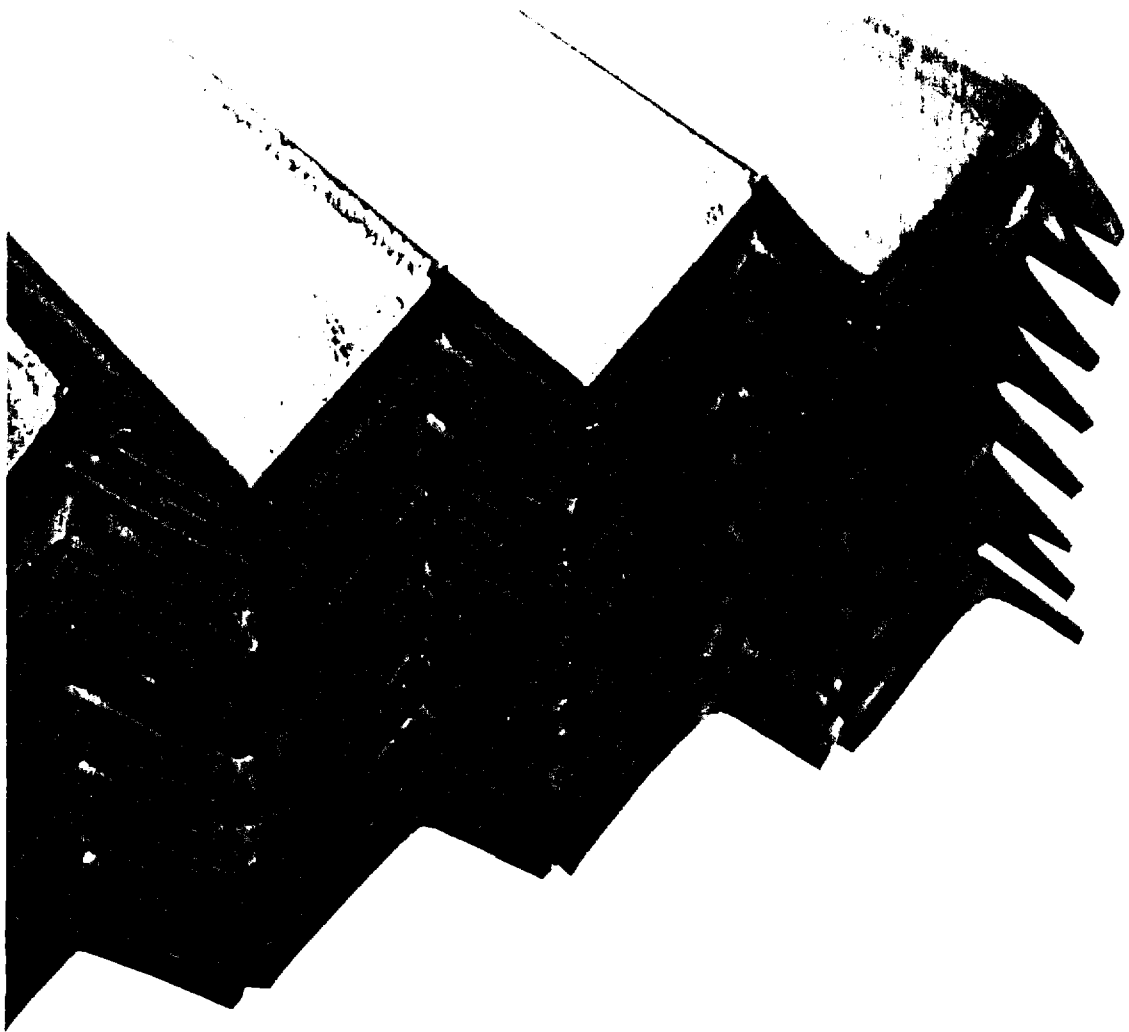
EURONORM : 56/77



9

(5) mm	(6) ± mm	(7) mm	(8) kg/m
mm	± mm	± mm	kg/m
90		6	8.33
90		7	9.61
90		8	10.90
90		9	12.20
100	1.5	6	9.06
100		7	10.80
100		8	12.20
100		9	13.60
100		10	15.10
120		10	18.20
120		11	19.90
120		12	21.60
120		13	23.30
140		13	27.50
140		15	31.40
150	2.0	11	24.95
150		12	27.30
150		13	29.34
150		14	31.60
150		15	33.80
150		16	35.90
160		15	36.20
180	3.0	17	46.05
200		19	52.1

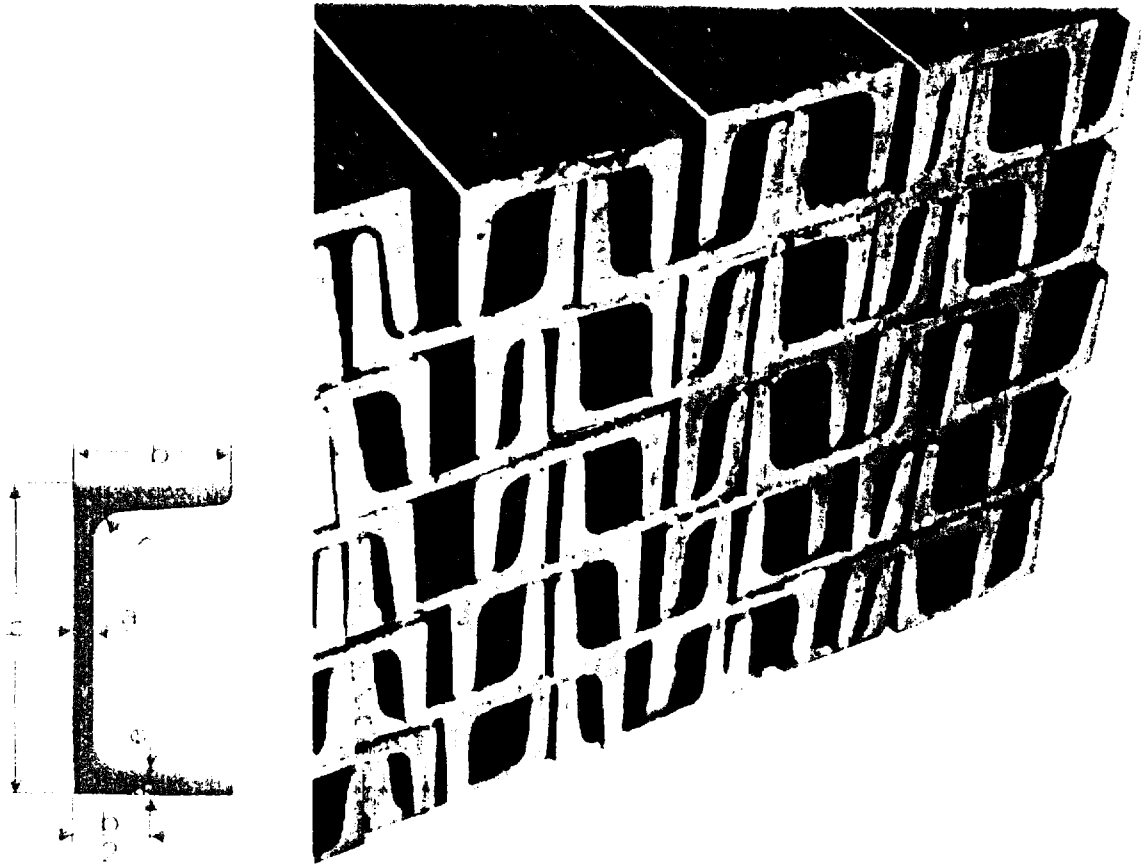




EGYPTIAN IRON & STEEL CO.



HOT ROLLED ROUND EDGE CHANNELS

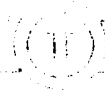


mm	± mm	mm	± mm	mm	± mm	mm	mm	mm	kg/m
80		45		6.0		8.0		8.0	8.64
100		50		6.0		8.5		8.5	10.6
120	2.0	55	1.5	7.0	0.5	9.0	0.5	9.0	13.4
140		60		7.0		10.0		10.0	16.0
160		65		7.5		10.5		10.5	18.8
180	2.0	70	1.5	8.0		11.0		11.0	22.0
200		75		8.5		11.5		11.5	25.3
220		80		9.0	0.5	12.5	1.0	12.5	29.4
240	3.0	85	2.0	9.5		13.0		13.0	33.2
260		90		10.0		14.0		14.0	37.9

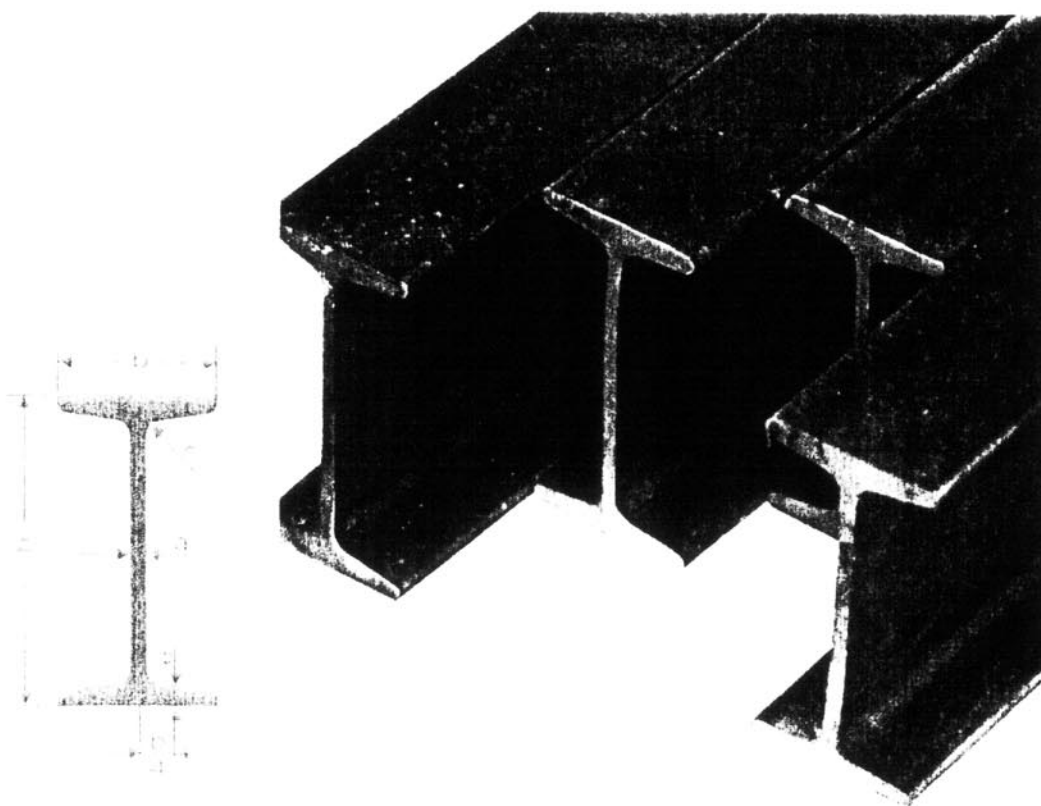
Ref : DIN 1026/ 1963

EURONORM : 24/62

EGYPTIAN IRON & STEEL CO



HOT ROLLED I - BEAMS **Narrow Flange I - Beams, I - Range**



mm	± mm	mm	± mm	mm	- mm	mm	± mm	mm	kg/m
80		42		5.9		3.9		3.9	5.94
80		43		5.8		4.0		3.9	6.1
100		55		7.2		4.5		4.5	9.46
100		50		6.8		4.5	0.5	4.5	8.34
120		64	1.5	7.3		4.8		5.1	11.5
120		58		7.7		5.1		5.1	11.1
140	2.0	66		8.6	0.5	5.7		5.7	14.3
160		74		9.5		6.3		6.3	17.9
200		90	2.0	11.3		7.5	1.0	7.5	26.2
260	3.0	113	2.5	14.1		9.4		9.4	41.9

Ref : DIN 1025/ 1963

EURNORM : 24/ 62

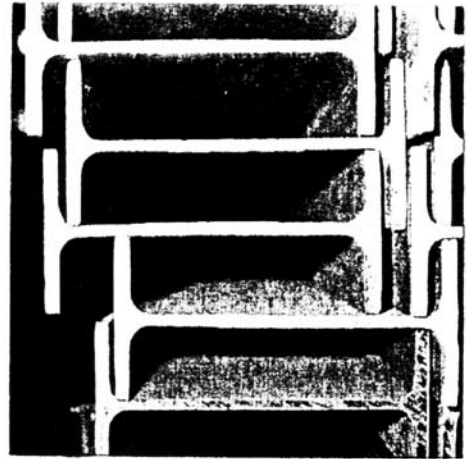
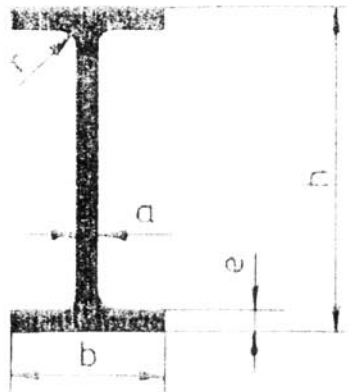
EGYPTIAN IRON & STEEL Co.



HOT ROLLED I - BEAMS

Medium Flange I - Beams

IPE - Range



h	h _{flange}	t _f	t _w	e	e _{flange}	e _{web}	e _{flange}	e _{web}	kg/m
mm	±mm	mm	±mm	mm	±mm	mm	±mm	mm	kg/m
140		73		6.9		4.7		7.0	12.9
160	-2+3	82	-2+3	7.4		5.0		9.0	15.8
180		91		8.0		5.3		9.0	18.8
197		100		7.0		4.5		12.0	18.4
200		100		8.5		5.6		12.0	22.4
202		102		9.5		6.2		12.0	25.1
204		98		10.5		6.6		12.0	26.6
220		110		9.2	1.5	5.9	0.75	12.0	26.2
240		120		9.8		6.2		15.0	30.7
267		135		8.7		5.5		15.0	30.7
270		135		10.2		6.6		15.0	36.1
274		136		12.2		7.5		15.0	42.3
276		133	3.0	13.1		7.7		15.0	44.0
300	3.0	150		10.7		7.1		15.0	42.2
330		160		11.5		7.5		18.0	49.1
357		170		11.5	2.0	6.6	1.0	18.0	50.2
360		170		12.7		8.0		18.0	57.1
364		172		14.7		9.2		18.0	66.0
366		168		16.0		9.9		18.0	70.3
397		180		12.0		7.0		21.0	57.4
400		180		13.5		8.6		21.0	66.3
404		182	4.0	15.5	2.0	9.7	1.0	21.0	75.7
407		178		17.0		10.6		21.0	81.5
408		182		17.5		10.6		21.0	84.0

Ref : DIN 1025/1963

EURONORM : 19/57
44/63

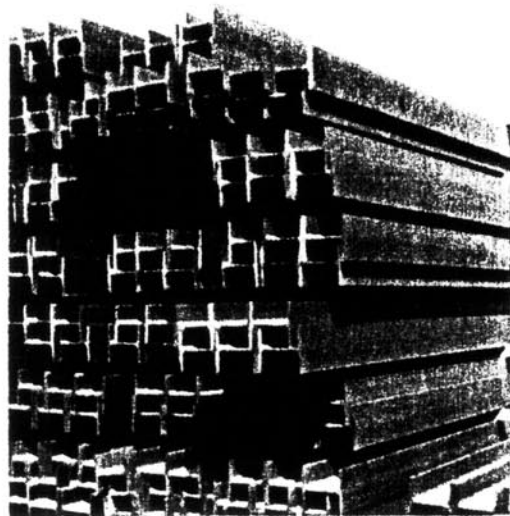
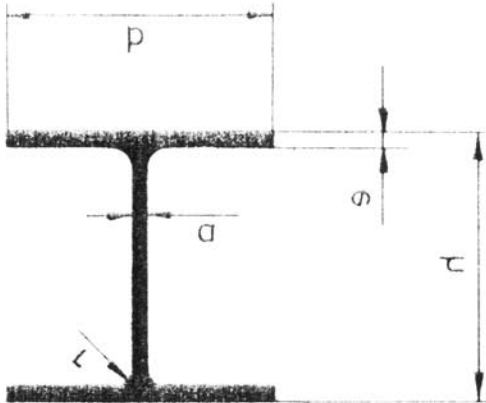
EGYPTIAN IRON & STEEL Co.



HOT ROLLED I- BEAMS

Wide Flange I- Beams, Light Weight

IPBI – Range (HE...A)



(h) mm	Perm. var. ± mm	(h) mm	Perm. var. ± mm	(t) mm	Perm. var. ± mm	(t) mm	Perm. var. ± mm	(h) mm	kg/m
133	+ 4-2	140		8.5		5.5		12.0	24.7
152		160		9		6		15.0	30.4
			3.0		1.5		1.0		
167		180		7.5		5		15.0	28.7
171	3.0	180		9.5		6		15.0	35.5
186		200		8		5.5		18.0	34.6
190		200		10		6.5		18.0	42.3

Wide Flange I- Beams

IPB – Range (HE...B)

(h) mm	Perm. var. ± mm	(h) mm	Perm. var. ± mm	(t) mm	Perm. var. ± mm	(t) mm	Perm. var. ± mm	(h) mm	kg/m
140	+ 4- 2	140		12		7		12.0	33.7
160		160		13		8		15.0	42.6
			3.0		1.5		1.0		
180		180		14		8.5		15.0	51.2
200	3.0	200		15		9		18.0	61.3

Ref : DIN 1025/1963

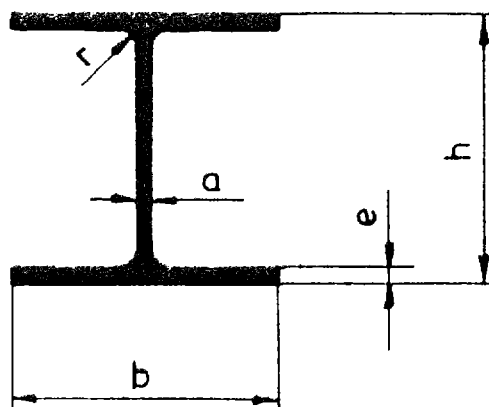
EURONRM : 53/62

34/62

EGYPTIAN IRON & STEEL Co.



HOT ROLLED I - BEAMS
Wide Flange I - Beams, Heavy Type
IPB - Range (HE... M)



mm	± mm	mm	± mm	mm	± mm	mm	± mm	mm	kg/m
160	+ 4-2	146	3.0	22	2.0	13	1.0	12	63.2
180		166		23		14		15	76.2
200	3.0	186	3.0	24	2.0	14.5	1.0	15	88.9
220		206		25		15		18	103

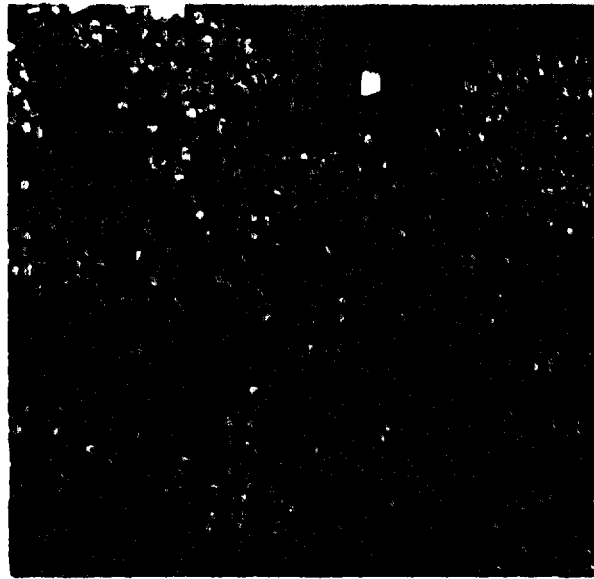
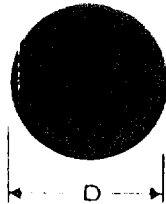
Ref: DIN 1025/ 1925 / 1963

EURONORM : 53/62
34/62

EGYPTIAN IRON & STEEL Co.



REINFORCING BARS



A- Ribbed Bars

mm	±mm	kg/m
16	0.5	1.58
19		2.22
25		3.85
28	1.0	4.83
30		5.55
32		6.31
36		7.99
40		9.87
45		12.48
50		15.41

B- Plain Round

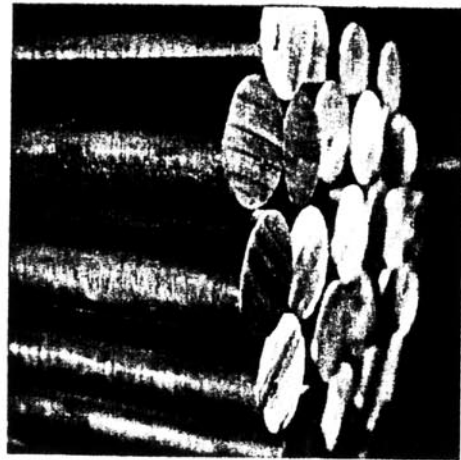
mm	±mm	kg/m
8	0,5	0.395
10		0.617
12		0.888
13		1.040
16		1.580
19		2.220
22		2.980
25		3.850
28	1.0	4.830
30		5.550
32		6.310
38		8.900

Ref: EGYPTIAN STANDARDS 262/ 1988

EGYPTIAN IRON & STEEL Co.



ROUNDS

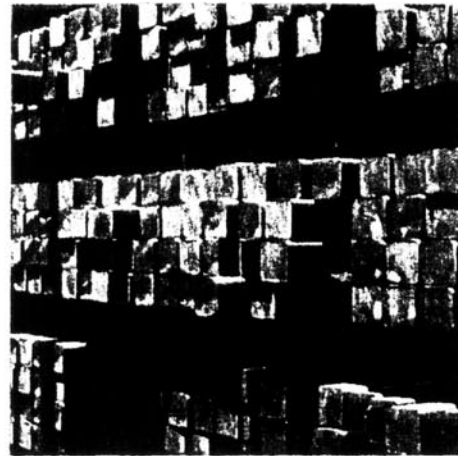


Diameter D	Perm var	Weight
mm	± mm	kg/m
30	0.6	5.55
32		6.31
34		7.13
36	0.8	7.99
38		8.90
40		9.86
42		10.90
45		12.50
48		14.20
50		15.40
52	1.0	16.70
53		17.30
56		19.30
60		22.20

Diameter D	Perm var	Weight
mm	± mm	kg/m
63	1.0	24.5
65		26.0
70		30.2
75		34.7
80		39.5
90	1.3	49.9
100		61.7
110	1.5	74.6
120		88.8
125	2.0	96.3
130		104.0

Ref : DIN 1013/1976 HOT ROLLED
ROUND STEEL FOR GENERAL
PURPOSE.

SQUARES



Side length (L) mm	Perm. var. ±mm	Weight kg/m
12	0.4	1.13
28	0.6	6.15
30		7.07
32		8.04
34		9.07
36		10.20
38	0.8	11.3
40		12.6
42		13.8

Side length (L) mm	Perm. var. ±mm	Weight kg/m
45	0.8	15.90
48	1.0	18.10
51		20.42
53		22.05
56		24.61
60		28.30
63		31.20
65		33.20
70		38.50

Side length (L) mm	Perm. var. ±mm	Weight kg/m
80	1.0	50.20
90	1.3	63.60
100		78.50
120	1.5	113.0
125	2.0	122.66
130		133.0
140	2.0	154.0

Permissible Twist

Side length mm		Perm.
over	up to	var.
—	14	4° /m MAX. 24°
14	50	3° /m MAX. 18°
50	—	3° /m MAX. 15°

Ref: DIN 1014/1978

EURONORM: 59/78

HOT ROLLED SQUARES FOR GENERAL PURPOSE

EGYPTIAN IRON & STEEL Co.



FLAT STEEL PRODUCTS

HOT ROLLED PLATE OF THICKNESS (3 – 150 mm)



1- Permissible Deviation in Thickness

DATA ITEM	Nominal thickness "mm"						
	from 3 up to <5	from 5 up to <8	from 8 up to <15	from 15 up to <25	from 25 up to <40	from 40 up to <80	from 80 up to 150
+Ve perm.Dev. mm	0.8	1.1	1.2	1.3	1.4	1.8	2.2
-Ve perm.Dev. mm	0.4	0.4	0.5	0.6	0.8	1.0	1.0
Perm. difference mm	0.8	0.9	0.9	1.0	1.1	1.2	1.3

2- Permissible Deviation from Nominal Length

Nominal length "mm"		Permissible deviation from nominal length "mm"
from	up to	
—	<4000	20
4000	<6000	30
6000	<8000	40
8000	<10000	50
10000	<15000	75

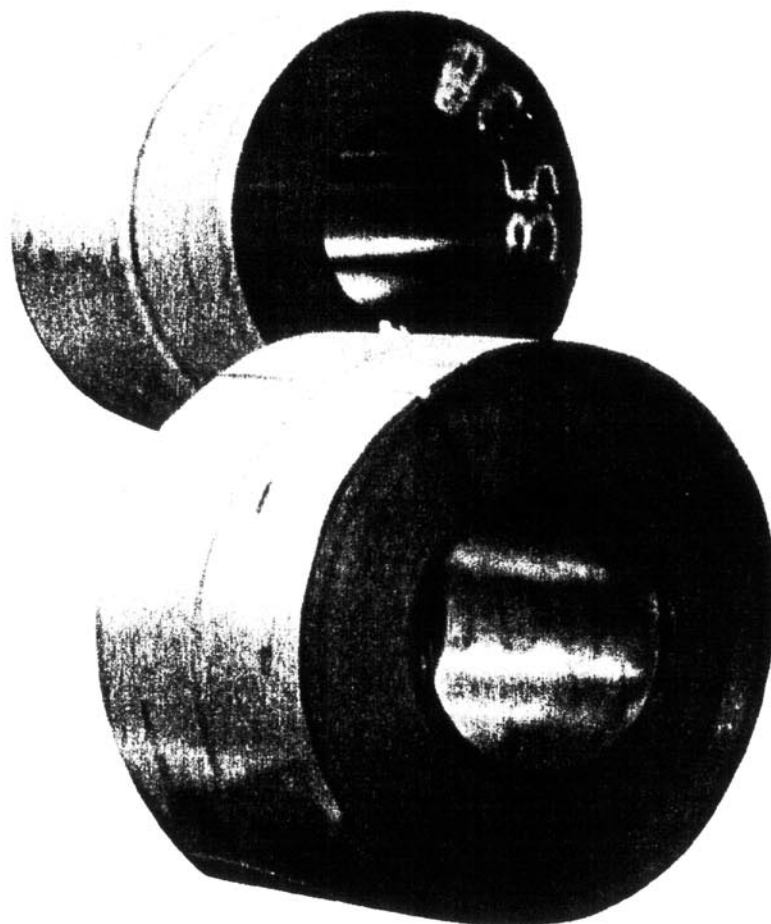
Ref : DIN 1543/1981 HOT ROLLED PLATES 3 – 150 mm THICKNESS

Permissible upper deviation from the nominal width in the case of plates with cut edges is + 20 mm.

EGYPTIAN IRON & STEEL CO.



FLAT STEEL PRODUCTS
HOT ROLLED STRIP, COIL & SHEET
OF THICKNESS UNDER (3mm)



1 – Permissible Deviations in Thickness

Nominal thickness (mm)		Permissible deviations in thickness for nominal width
From	Up to	From 600 up to 1200 mm ± mm
2.00	2.50	0.20
2.50	3.00	0.21
3.00	4.00	0.23
4.00	5.00	0.25
5.00	6.00	0.27
6.00	8.00	0.28
8.00	10.00	0.32

EGYPTIAN IRON & STEEL CO.





2- Permissible +Ve Deviation from Nominal Width for Flat Products

Nominal width (mm)		Max. permissible +ve deviation (mm)	
From	Up to	With trimmed edge	With mill edge
80	150	1.00	2.40
150	250	1.25	3.00
250	400	1.60	3.60
400	600	2.00	4.20
600	1500	3.00	20.00
1500	2000	5.00	20.00

3- Permissible Deviation in Length for Sheet

Length (m)	Perm. dev. ± mm
1 - 2	25
2 - 4	35
4 - 6	50
6 - 12	50

Ref : DIN 1016/1972

EURONORM : 33/70, 48/65 , 51/70

EGYPTIAN IRON & STEEL Co.



FLAT STEEL PRODUCTS **COLD ROLLED WIDE MILL STRIP AND SHEET OF UNALLOYED STEEL**

1- Permissible Variations on Thickness

Nominal thickness (mm)	0.35 - 0.45	0.45 - 0.55	0.55 - 0.65	0.65 - 0.75	0.75 - 0.85	0.85 - 0.95	0.95 - 1.05	1.05 - 1.25	1.25 - 1.45	1.45 - 1.65
Normal variations on a nominal width up to 1200 mm (±mm)	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.10	0.12	0.14

2- Permissible Variation on Nominal Width of Sheets

Edge condition	Nominal width "mm"	Normal variation "mm"	Close variation "mm"
Cut edge before cold rolling. (NK)	600 - 1000	5	—
Cut edge after cold rolling. (GK)	from 600 up to 1000	3	2

3- Permissible Variation on Nominal Width of Strips

Nominal thickness (mm)		Permissible variation on nominal width (mm)			
from	up to	up to <125	from 125 up to <250	from 250 up to <400	from 400 up to <600
0.4	1.0	0.5	0.8	1.2	1.5
1.0	1.75	0.7	1.0	1.5	2.0
1.75	3.0	1.0	1.3	1.7	2.0

4- Permissible (+Ve) Variation on Nominal Length of Sheets

Nominal length (mm)	Max. permissible variation on nominal length	
	Normal variation	Close variation
up to 2000	6	3
more than 2000	$0.003 \times l$	$0.0015 \times l$

Ref : DIN 1541/1975

EURONORM : 131/77

EGYPTIAN IRON & STEEL Co.



GALVANIZED SHEETS

1 – Coating Thickness

The coating thickness should not be less than 0.02 mm.

2 – Perm. var. on thickness of galvanized sheets is ± 0.06 mm.

3 – Dimensions.

Width	985 — 1000	+ 5
Length	Maximum 2000	+ 10

CORRUGATED GALVANIZED SHEETS

Dimensions:

Width before Corrugation up to 1000mm.

Permissible Variation up to + 6mm.

	Width (mm)	Perm. var. $\pm$ mm	l (mm)	Perm. var. $\pm$ mm	d (mm)	Perm. var. $\pm$ mm	Length (mm)	Perm. var. $\pm$ mm
0.5	640		100		30		1420	
to	to	6	to	3	to	3	to	10
1.5	835		130		35		2000	

Ref : EGYPTIAN STANDARDS 1021/ 1957

GOST 3680/1957 ,7118/1954 ,1127/1957



COLD FORMED SECTIONS

General specification :

1 - Straightness or curvature :

The permissible Variation from straightness of section is 1 mm per one running meter.

2 - Twist :

The twist shall not exceed 1° per running meter.

3 - Dimension check :

It can be carried out at least at the following distances from the end :-

- for channel check at 200 mm from end.
- for angles check at 300 mm from end.
- for box check at 500 mm from end.

4 - Waviness :

Waviness at the legs does not exceed 2 mm per running meter of length (for angles only).

5 - Cold rolled sections :

They are normally cut at right angles at the ends. slight variation from right angle and burr consistent with the method of cutting, also minor deformations in area of cutting are permissible.

6 - Surface inspection :

- a- the surface of section shall be free from; cracks, laps, scales & lamination.
- b- scratches, pits, dents within thickness tolerance are permissible.
- c- Individual haircracks are not permissible if they are spread over the section length.

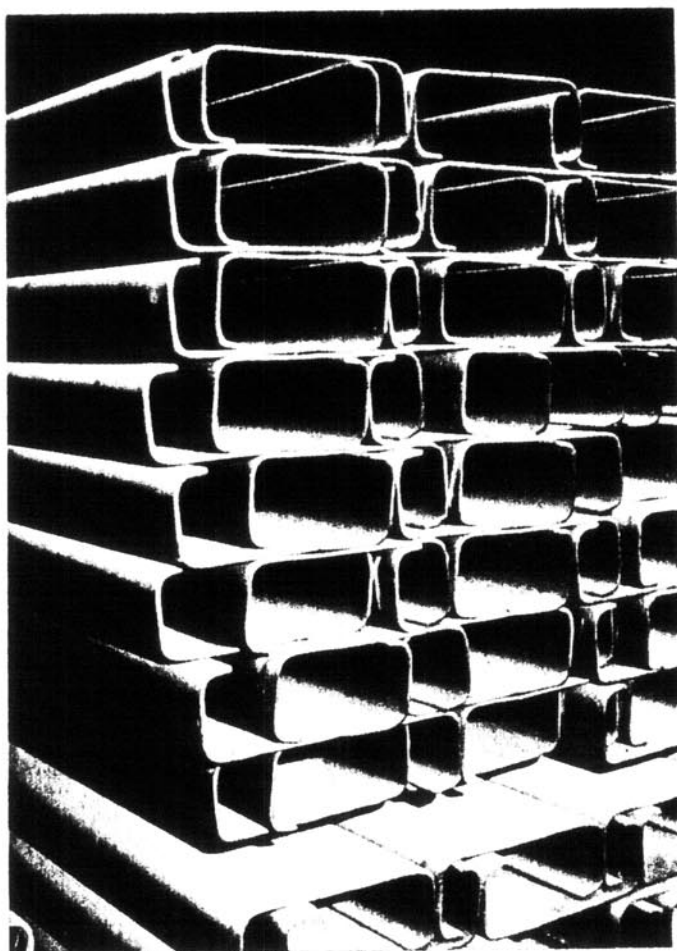


7 - Dimensions :

a) Variations in Length :

Section length mm	Permissible variation mm
up to 6000	+ 40
6000 - 12000	+ 80

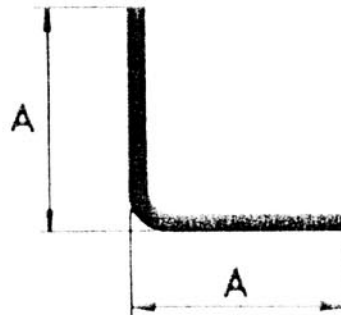
Short lengths in supplies or dispatch up to 10% of the delivered weight are acceptable.



b) Variations in Thickness:

Thickness (mm)	2	2.5	3	4	5	6
Tolerance (mm) $\pm$	0.2	0.21	0.23	0.26	0.27	0.28

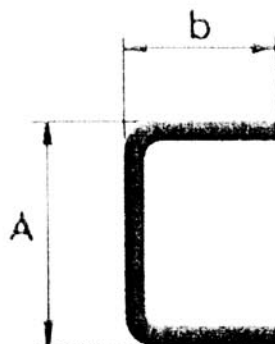
EQUAL ANGLES



A (mm)	up to 50	50-100	100-150	more than 150
Tolerance(mm)	± 1.5	± 2.0	± 2.5	± 3.0

Ref : GOST 8276/63

CHANNELS

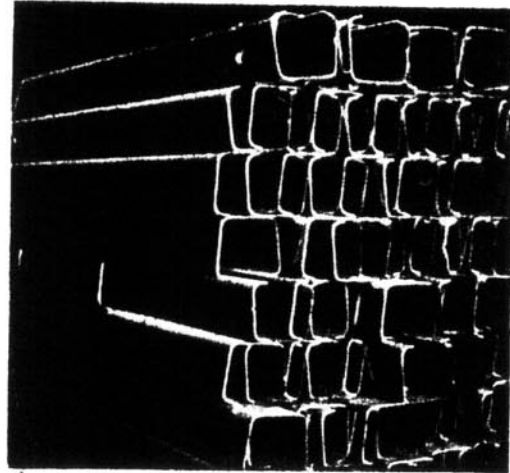
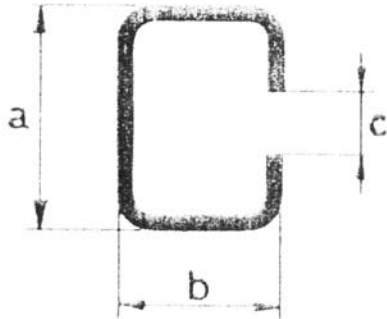


A (mm)	Tolerance (mm)	(b) (mm)	Tolerance (mm)
up to 50	± 1.0	up to 50	± 1.5
50 - 100	± 1.5	50 - 100	± 2.0
100 - 150	± 2.0	100 - 150	± 2.5
more than 150	± 2.5	more than 150	± 3.0

Ref : GOST 1752/72



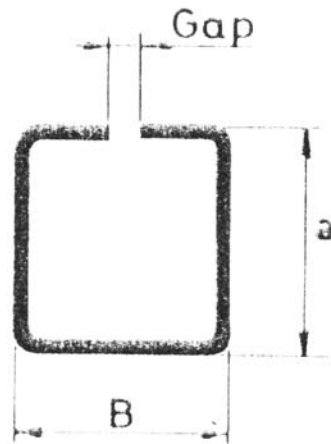
C SECTION



(a)	Tolerance	(b)	Tolerance	(c)	Tolerance
up to 100mm	± 2	up to 100	± 2	up to 50	± 3
100 - 200mm	± 3	more than 100	± 3	50- 100	± 4

Ref : GOST 12336/66

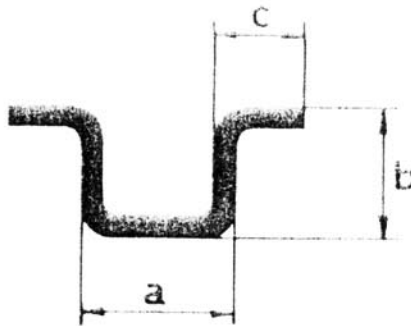
OPEN BOX SECTION



(a)	Tolerance	(b)	Tolerance	Gap
up to 100mm	± 2	up to 100mm	± 2	2-3mm
100 - 200mm	± 3	more than 100mm	± 3	

Ref : GOST 12336/66

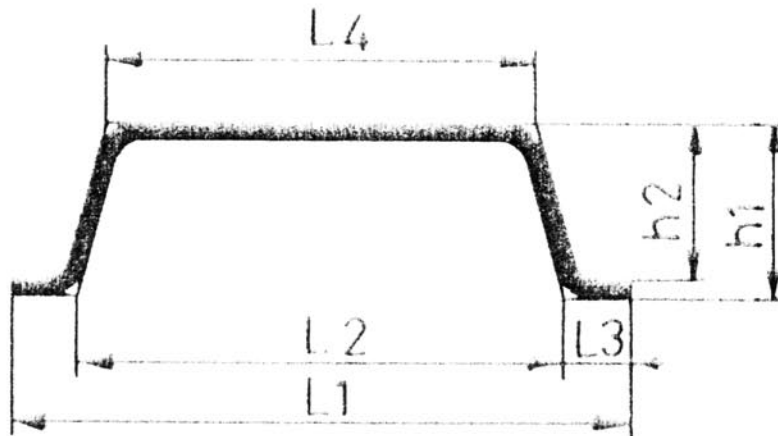
HAT TYPE SECTION



Less than 40	± 1.0	up to 40	± 1	up to 40	± 2.5
40 - 70	± 1.5	40 - 70	± 1.5	40 - 63	± 3.0
70 - 120	± 2.5	70 - 120	± 2.5	more than 63	± 3.5
more than 120	± 3.0	more than 120	± 3.0		

Ref : Gost 8283 / 67

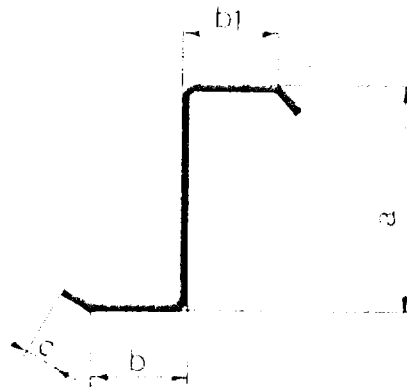
COLD FORMED SLEEPERS



L1	L2	L3	L4	h1	h2
173 $\pm$ 4	137	18 $\pm$ 2	120 $\pm$ 2.5	50 $\pm$ 1.5	45 $\pm$ 1.5

Ref : Gost 8283/67

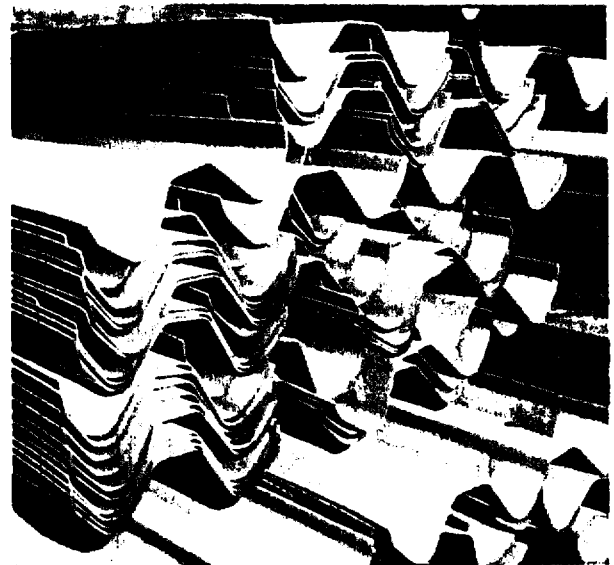
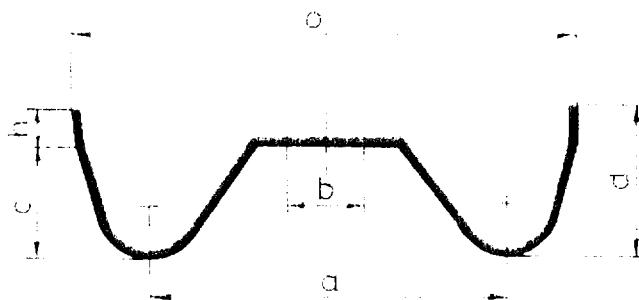
Z SHAPED SECTION



(a)	Tolerance	b and b_1	Tolerance	(c)	Tolerance
up to 40	± 1.0	up to 40	± 1.0	up to 32	± 2.5
40 - 63	± 1.5	40 - 63	± 2.0	40 - 63	± 3.0
63 - 125	± 2.0	63 - 90	± 2.5	more than 63	± 3.5
more than 125	± 3.0	more than 90	± 3.0		

Ref : Gost 13229 / 67

ROAD CRUSH BARRIERS



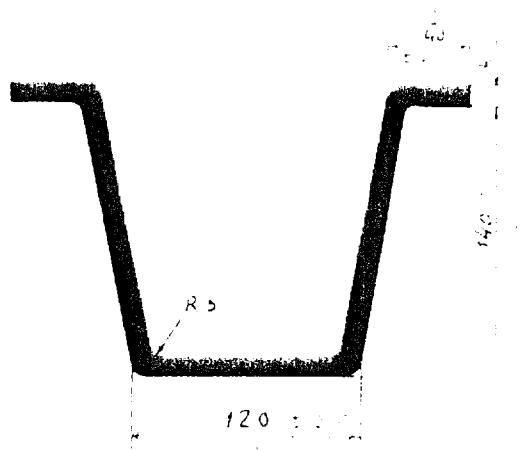
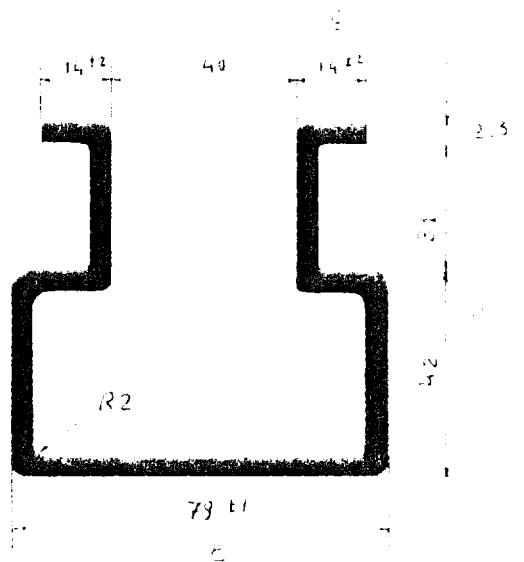
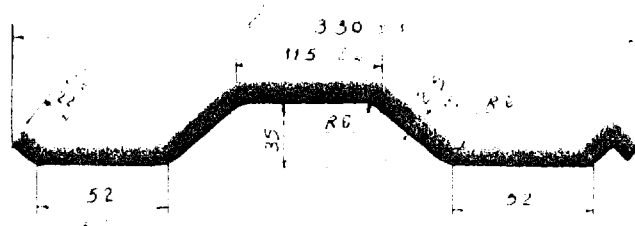
(a)	Tolerance	(b)	Tolerance	(c)	(d)	(h)	(e)	Thickness
mm	mm	mm	mm	mm	mm	mm	mm	mm
194	± 2.0	30	± 2.0	54	80	26	306	3

Ref : Gost 7511 / 58

EGYPTIAN IRON & STEEL Co.



OTHER SECTIONS



EGYPTIAN IRON & STEEL Co.



QUALITY CONTROL & LABORATORIES

All production steps are performed according to documented technical instructions controlled by quality control staff all over the works. The quality control personnel in all production shops observe the fulfillment of the technical instructions, record any deviations, mark and identify products, take control samples and control the flow of materials.

All measuring tools, testing instruments and equipments are calibrated periodically. The following are the main testing instruments used in Hadislob for the evaluation of the quality of products :-

- 1 - Chemical laboratories equipped with X - ray fluorescence, Emission spectrophotometers and Emission quantometers for rapid and accurate chemical analysis of raw materials, fluxes, ferro-a loys, refractories and metal analysis. There are also labs for water and gas analysis.
- 2 - Metallographic laboratories for micro and macro structure tests of steel.
- 3 - Mechanical testing laboratories for mechanical testing of metals.
- 4 - Physical laboratories for testing of refractories, including density, porosity, and cold crushing tests.
- 5 - Non destructive testing which includes ultrasonic flow detection, X-ray and gama ray radiography.



INSPECTION

Checks are made to ensure that the rolled material meets the customers requirements in all aspects before dispatch.

The amount and degree of inspection is governed by the type of steel, material specifications and the customers requirements.

Out side Inspection Authorities :

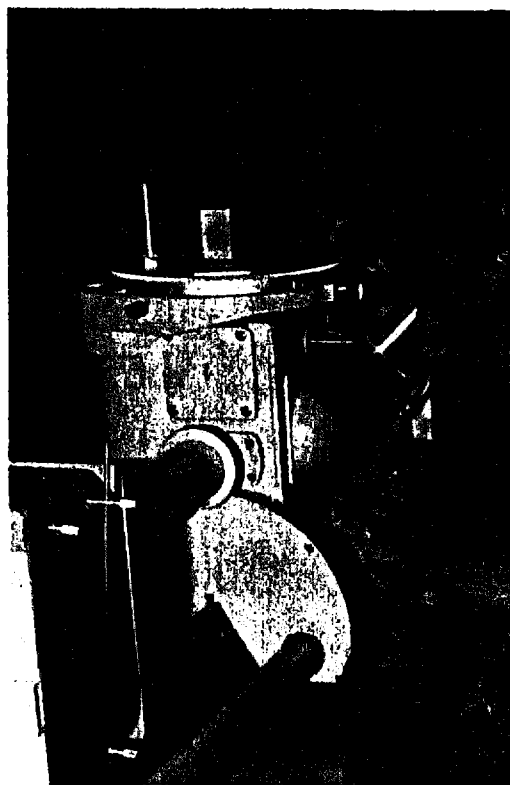
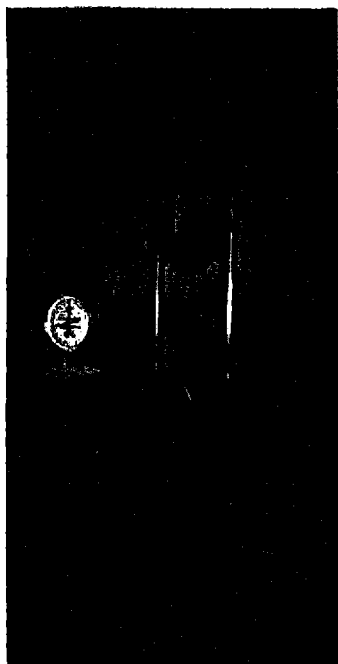
When outside inspection authorities are involved, the materials laid down in stores for inspection and arrangements are made for the external inspector's visit, An inspector from the Q.C. department is always available to accompany and assist the customer's representative.

Customer complaints :

All compliants are routed through Quality Control Sector to ensure the best possible service to the customer.

Customer returns are thouroughly investigated. Quick inquiry response, dependable delivery, consitstent quality are always our watch words. We do our best to help our clients build better end use products

Test certificates are issued for materials that meet the specifications / customers requirements.



EGYPTIAN IRON & STEEL Co.





لويڊز ريڊيستر

130 SINAI STREET
ISMAILIA
Telephone 064 - 23037
Telex 63158 ISM UN

" Messrs: EGYPTIAN IRON & STEEL CO., "
HELWAN , EGYPT.

Our Ref. SF/E10/MW/88
Your Ref. -
Date 22nd February, 1988

Subject: Works Approval (List 1)
Works Triennial Inspection

Dear Sir,

We are pleased to inform you that in view of the Satisfactory Triennial Survey held on 20th November, 1987, your works has been retained on the Committee's Approved List

Thank you.

Your's Faithfully



M. ELWAKIL.

Surveyor to Lloyd's Register

EGYPTIAN IRON & STEEL Co.



COLOUR MARKING OF THE STEEL GRADES IN HADISOLB

Hot Rolled Products :

Steel grade	1 st Grade		2 nd Grade		Scrap	Remarks
	According to specif	(+) Dimm	(—) Dimm	Surface defects		
33	gray	green	violet	red	black	A red line is added beside the steel grade colour.
37	yellow	"	"	"	"	
44	white+ yellow	"	"	"	"	
50	White	"	"	"	"	
52	2 white lines	"	"	"	"	
60	2 yellow lines	"	"	"	"	
70	2 gray lines	"	"	"	"	
Rebars	red	—	—	—	blue	--

* External inspection :

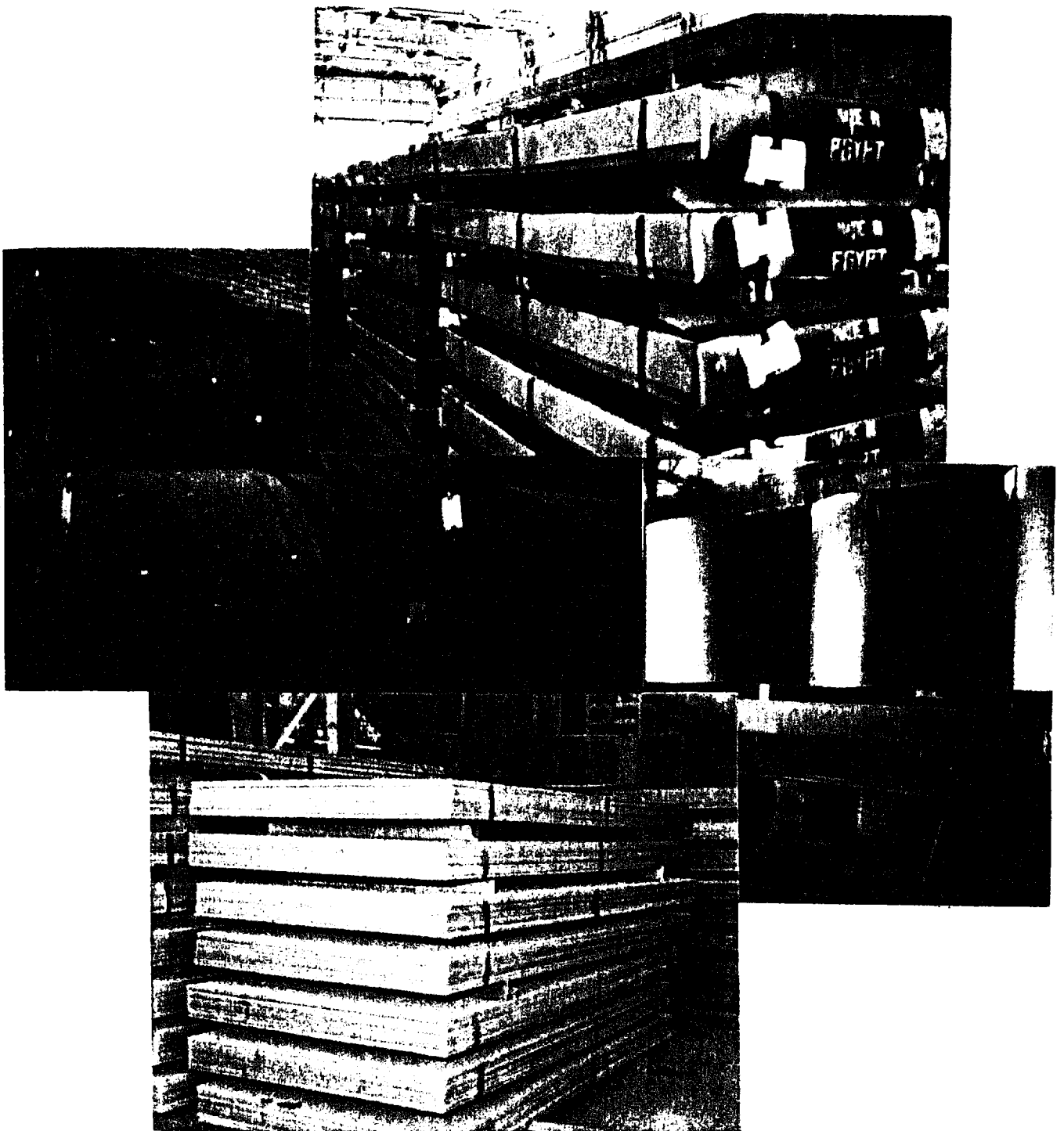
Indicated by blue line beside the steel grade colour.

* Product out of mechanical specification only one red line.

Cold Rolled Products :

Type of steel quality	1 st Grade		2 nd Grade	Scrap
	Type	Aluminium killed steel		
Bending	one blue line	white	red	black
Drawing	2 yellow lines	"	"	"
Deep drawing	3 yellow lines	"	"	"
Extra deep drawing	4 yellow lines	"	"	"





EGYPTIAN IRON & STEEL Co.



PACKING OF PRODUCTS

HOT ROLLED COILS

The H.R.C. are strapped with two bands around the belly of the coil and four bands through eye.

COLD ROLLED SHEETS

The C.R. Sheets packages are wrapped by anticorrosion paper and covered by Top Metallic cover and (side & front) panel. Cross-Wise three strapping bands and two length-wise strapping bands holding the wooden skid with the package.

SECTIONS

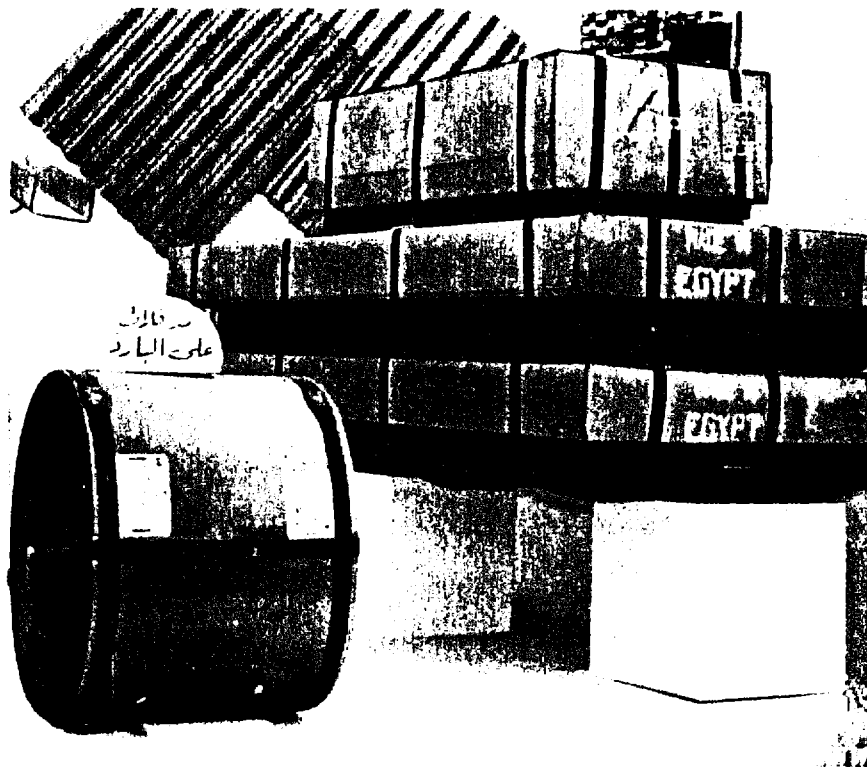
Sections are strapped in transverse side with minimum four bands for 12 m length.

HOT ROLLED PLATES

The H.R.P. are strapped with three bands in transverse side.

Notes :

All the bands used in strapping are of high tensile strength steel. Packing & Packaging instructions are the responsibility of the mill management and are monitored by Q.C. personnel.

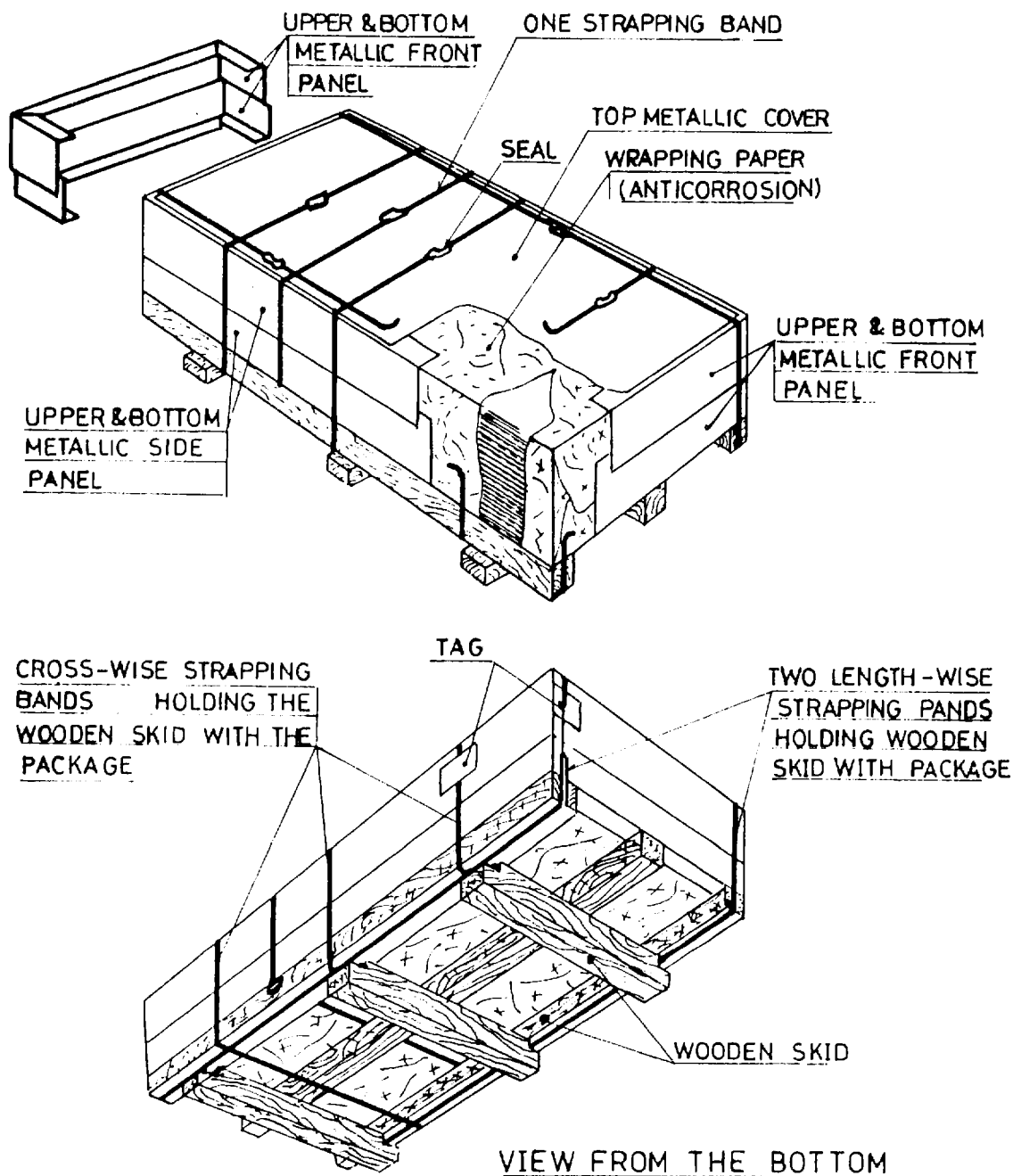


EGYPTIAN IRON & STEEL Co.



SEA-WORTHY METAL WRAPPED PACKAGING FOR OILED C.R. SHEETS , WOODEN SKID.

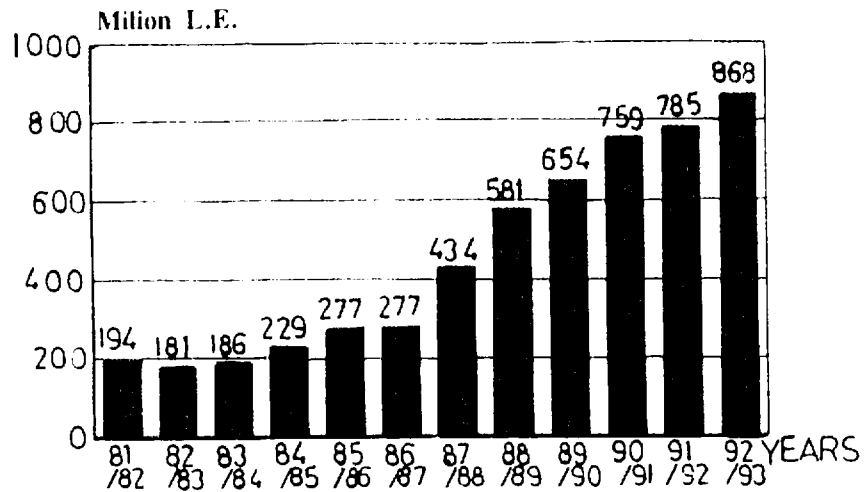
RECOMMENDED FOR EXPORT MARKET.



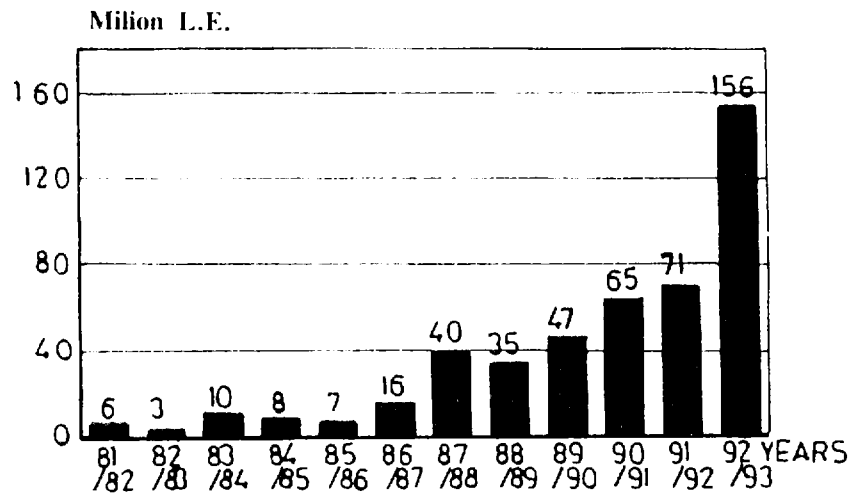
EGYPTIAN IRON & STEEL Co.



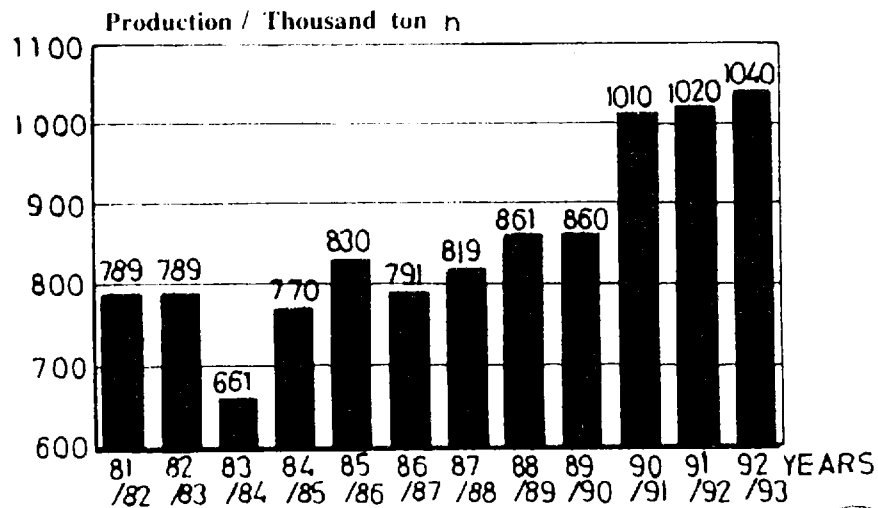
GROWTH IN TOTAL SALES S



GROWTH OF EXPORTS



GROWTH OF STEEL PRODUCTION



EGYPTIAN IRON & STEEL Co.



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Telex : 92007 - SOLB UN

Telefax : 3913526

Alex. offic : 5 Salah Salem St.

Tel. : 4821145

Telefax : 4822776

Youssef

EGYPTIAN IRON & STEEL Co.



Al. Ahran Press - Kornesh EL Nil