

§§ 4. B-LINE - I B.R



A<sub>1</sub> - ABUTMENT



Bar mark	Type size	length +laps (m)	NO	Total length (m)	Unit Weight (kg/m)	Total weight (kg)	SHAPE (cont)
P 1	Φ 16	2.35	42	97.12	1.58	157	16 20
2	"	2.35	77	181.72	"	287	16 20
3	"	2.50	10	25.00	"	40	100 18
4	Φ 12	9.76	14	137.44	0.898	124	996
5	"	1.46	4	5.84	"	5	96 50
A 1	Φ 16	9.76	35	348.60	1.58	551	996
2	"	9.76	34	338.64	"	535	996
3	"	9.98	42	419.16	"	662	(550) 576 212 176 100 087 47
4	"	9.27	38	352.26	"	557	(155) 10057 137 087 47
5	"	2.34	42	98.28	"	155	84 75
6	"	2.19	40	87.60	"	138	100 11
7	"	2.72	30	81.60	"	129	100 11 30









Bar mark	Type size	length +laps (m)	NO	Total length (m)	Unit Weight (kg/m)	Total weight (kg)	Shape (cm)
WL 1	Φ25	5.33	32	170.56	3.85	657	$\frac{483}{50}$
2	"	4.63	6	27.78	"	107	$\frac{413}{50}$
3	Φ20	5.33	32	170.56	2.97	421	$\frac{483}{50}$
4	"	4.63	6	27.78	"	69	$\frac{413}{50}$
5	"	7.30	5	46.50	"	115	$\frac{480}{50}$
6	Φ16	3.40	21	71.40	1.58	113	$\frac{470}{50}$
7	"	2.70	6	16.20	"	26	$\frac{220}{50}$
8	"	3.94	9	35.46	"	25	$\frac{46}{398}$
9	"	3.71	6	22.26	"	35	$\frac{46}{325}$
10	"	2.84	4	11.36	"	18	$\frac{46}{330 \sim 145}$
11	"	2.59	6	15.54	"	25	$\frac{46}{365 \sim 120}$
12	"	11.65	30	349.50	"	552	$\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$
13	"	9.78	4	39.92	"	63	$\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$ $\frac{47}{150 \sim 145}$
14	"	5.80	9	52.20	"	82	$\frac{47}{150 \sim 145}$
15	"	1.95	22	42.90	"	68	$\frac{47}{105 \sim 285}$
16	"	5.10	2	10.20	"	16	$\frac{47}{120}$

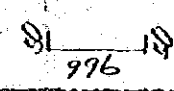
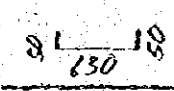
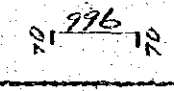
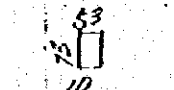
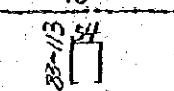


Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit Weight (K/m)	Total Weight (K)	Shape (mm)
WL 17	Φ 16	2.25	27	60.75	1.58	96	30 125 30
18	"	2.98	2	5.96	"	9	30 125 30
19	"	1.98	4	7.92	"	13	30 125 30
10	"	2.76	16	44.16	"	70	30 116 30
21	"	1.02	27	27.54	"	44	30 116 30
22	"	1.94	28	40.32	"	64	30 116 30
23	Φ 12	7.83	2	15.66	0.838	14	783
WR 1	Φ 16	2.09	4	28.36	1.58	45	30 113 30
1	"	6.46	3	19.38	"	31	30 150 ~ 210 30
3	"	4.81	10	48.10	"	76	30 150 ~ 210 30
4	"	4.30	5	21.50	"	39	30 150 ~ 210 30
5	"	3.55	5	31.95	"	50	30 150 ~ 210 30
6	"	1.09	4	28.36	"	45	30 113 30
7	"	6.46	3	19.38	"	31	30 150 ~ 210 30
8	"	4.81	10	48.10	"	76	30 150 ~ 210 30



Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (mm)
WR 9	Φ 16	3.70	6	22.20	1.58	35	$\frac{310}{10}$
10	"	3.00	46	138.00	"	218	$\frac{316}{105}$
11	"	2.90	2	15.80	"	25	$\frac{20}{700}$
12	"	2.98	3	8.94	"	14	$\frac{30}{135}$
13	"	1.98	4	7.92	"	13	$\frac{7}{138}$
14	"	1.03	14	24.72	"	39	$\frac{93}{30}$
15	Φ 12	6.13	2	12.26	0.388	11	$\frac{113}{}$
F 1	Φ 20	2.75	83	228.25	2.97	569	$\frac{105}{70}$
2	Φ 16	2.59	42	108.78	1.58	172	$\frac{189}{70}$
3	"	2.76	37	368.52	"	582	$\frac{976}{}$
4	"	2.76	37	368.52	"	582	$\frac{776}{}$
5	"	5.60	36	212.80	"	336	$\frac{70}{170}$
6	"	5.60	12	235.20	"	372	$\frac{70}{170}$
7	"	2.10	33	69.30	"	109	$\frac{210}{}$
8	"	11.36	7	79.52	"	126	$\frac{70}{716}$



Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (mm)
F 9	Φ 16	10.36	2	21.92	1.58	35	
10	"	7.30	2	14.60	"	23	
11	Φ 12	11.36	7	79.52	1.888	71	
13	Φ 16	2.19	75	164.25	1.58	260	
12	"	2.70	24	64.80	1.58	102	
			Φ 25			2117	KB
			Φ 20			1169	'
			Φ 16			1110	"
			Φ 12			243	'
			Φ 10			18	'
			GRAND TOTAL			14657	KB





A2 - ABUTMENT



Bar mark	Type size	length +laps (m)	NO	Total length (m)	Unit Weight (kg/m)	Total weight (kg)	Shape (cm)
P 1	Φ 16	2.36	42	99.12	1.58	157	
2	"	2.36	77	181.72	"	287	
3	"	2.50	12	30.00	"	47	
4	Φ 12	9.96	14	139.44	0.888	124	
5	"	1.46	4	5.84	"	5	
A 1	Φ 16	9.96	40	398.40	1.58	629	
2	"	9.96	39	388.44	"	614	
3	"	11.45	41	469.45	"	742	
4	"	10.97	37	405.89	"	641	
5	"	2.34	41	95.94	"	152	
6	"	1.99	39	77.61	"	123	
7	"	3.04	29	88.16	"	139	



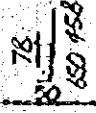
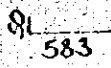
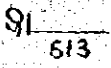
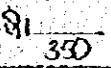
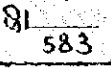
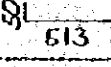
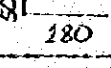
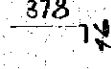
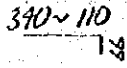
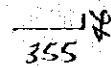
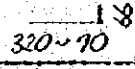
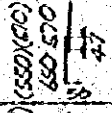
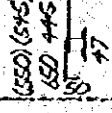







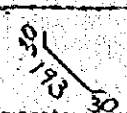


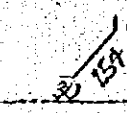
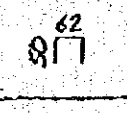
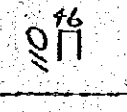
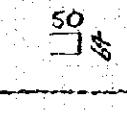
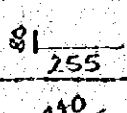
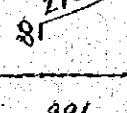
Bar mark	Type size	length +laps (cm)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
WL1	Φ16	6.79	3	20.37	1.58	32	81 $\frac{583}{1}$ 76
1	"	5.71	5	28.55	"	45	81 $\frac{545}{\sim 405}$ 76
3	"	5.19	8	41.52	"	66	81 $\frac{440}{\sim 180}$ 76
4	"	3.60	6	21.60	"	34	81 $\frac{310}{}$
5	"	4.30	3	12.90	"	20	81 $\frac{380}{}$
6	"	3.20	5	16.00	"	25	81 $\frac{345 \sim 195}{}$
7	"	6.79	3	20.37	"	32	81 $\frac{583}{}$ 76
8	"	5.71	5	28.55	"	45	81 $\frac{545}{\sim 405}$ 76
9	"	5.19	8	41.52	"	66	81 $\frac{440 \sim 180}{}$ 76
10	"	2.70	44	118.80	"	180	81 $\frac{435}{\sim 105}$
11	"	7.80	2	15.60	"	25	81 $\frac{670}{}$ 30
12	"	1.98	3	5.94	"	9	81 $\frac{138}{}$ 30
13	"	2.98	4	11.92	"	19	81 $\frac{228}{}$ 30
14	"	1.03	23	23.69	"	37	81 $\frac{13}{}$
15	Φ12	5.83	2	11.66	0.888	10	$\frac{583}{}$



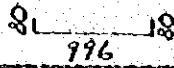
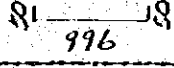
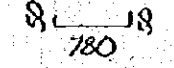
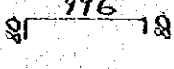
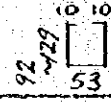
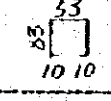


Bar mark	Type size	length laps (cm)	NO	Total length (cm)	Unit Weight (Kg/m)	Total Weight (kg)	Shape (cm)
WR 1	Φ25	11.58	5	57.90	3.85	223	
2	"	6.33	38	240.54	"	926	
3	"	5.63	9	45.04	"	173	
4	"	4.00	16	64.00	"	246	
5	Φ20	6.33	38	240.54	2.47	594	
6	"	5.63	8	45.04	"	111	
7	Φ16	3.30	8	26.40	1.58	42	
8	Φ20	4.24	3	12.72	2.47	31	
9	"	2.91	8	23.28	"	58	
10	Φ16	4.01	3	12.03	1.58	19	
11	"	2.71	8	21.68	"	34	
12	"	12.70	38	482.60	"	763	
13	"	11.45	4	45.80	"	72	
14	"	6.90	11	75.90	"	120	
15	"	1.28	24	30.72	"	49	
16	"	4.85	2	9.70	"	15	



Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (K/m)	Total weight (K)	SHAPE (cm)
WR17	Φ16	2.53	34	86.02	1.58	136	
18	"	2.92	2	5.84	"	9	
19	"	2.24	4	8.96	"	14	
20	"	3.14	20	62.80	"	99	
21	"	1.62	32	51.84	"	82	
22	"	2.66	32	85.12	"	134	
23	"	1.64	36	59.04	"	93	
24	Φ12	7.13	2	14.26	0.888	13	<u>713</u>
F 1	Φ20	3.35	81	271.35	2.47	670	
2	Φ16	3.20	41	131.20	1.58	207	
3	"	9.96	45	448.20	"	708	<u>996</u>
4	"	9.96	45	448.20	"	708	<u>996</u>
5	"	6.70	37	247.90	"	392	<u>590</u> 8
6	"	6.70	41	274.70	"	434	<u>590</u> 8
7	"	2.20	32	70.40	"	111	<u>220</u>



Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (mm)
F 8	Φ 16	11.56	9	104.09	1.58	164	
9	"	10.96	4	43.87	"	69	
10	"	8.80	4	35.20	"	56	
11	Φ 12	11.56	9	104.09	0.888	92	
12	Φ 20	2.94	37	114.66	2.47	283	
13	Φ 16	2.39	92	219.88	1.58	347	
			Φ 32			1980	kg
			Φ 25			1568	"
			Φ 20			1747	"
			Φ 16			13237	"
			Φ 12			262	"
			Φ 10			11	"
		GRAND TOTAL				18811	kg



§§ 5 B-LINE - 2 B.R





A1 - ABUTMENT



Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
P 1	Φ 16	2.96	42	124.32	1.58	196	6 280
2	"	2.96	71	227.92	"	360	280 16
3	"	2.50	16	40.00	"	63	18 200
4	Φ 12	9.96	18	179.28	0.888	159	976
5	"	1.46	4	5.84	"	5	16 87
A 1	Φ 16	9.96	44	438.24	1.58	692	976
2	"	9.96	42	418.32	"	661	976
3	"	12.30	41	504.30	"	797	(550)(527) (550)(530) 150 150 150 150 47 47 47 47
4	"	11.27	37	416.99	"	657	(550)(527) (550)(530) 150 150 150 150 47 47 47 47
5	"	2.54	41	104.14	"	165	109 75
6	"	2.65	39	103.35	"	163	120 115
7	"	3.04	29	88.16	"	137	120 115 30 34 20



Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (K/m)	Total weight (K)	Shape (cm)
B 1	Φ32	14.36	9	129.24	6.31	816	
2	"	12.76	6	74.76	"	472	
3	"	8.00	3	24.00	"	151	
4	"	6.20	6	37.20	"	235	
5	"	4.50	6	27.00	"	170	
6	Φ16	4.20	272	932.40	1.58	1473	
7	"	10.27	54	554.58	"	876	
8	"	3.60	132	475.20	"	751	
9	"	2.25	175	393.75	"	622	
10	"	2.92	110	321.20	"	507	
11	"	1.45	111	160.95	"	254	
12	Φ10	0.64	33	21.12	0.616	13	
E 1	Φ16	1.51	35	52.85	1.58	84	
2	Φ12	9.96	2	19.92	0.888	18	



Bar mark	Type size	length +laps (cm)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
W 1	Φ 32	7.30	15	107.50	631	678	380 <sup>18</sup>
2	Φ 25	9.00	5	45.00	385	173	850 <sup>50</sup>
3	"	6.83	42	286.86	"	1104	633 <sup>18</sup>
4	"	5.93	10	59.30	"	228	513 <sup>18</sup>
5	Φ 20	6.83	42	286.86	247	709	633 <sup>18</sup>
6	"	5.93	10	59.30	"	146	513 <sup>18</sup>
7	"	3.90	9	30.60	"	76	290 <sup>18</sup>
8	"	3.94	4	15.76	"	39	46 <sup>378</sup>
9	"	2.86	21	60.06	"	148	46 <sup>345~75</sup>
10	Φ 16	3.71	4	14.84	158	23	46 <sup>325</sup>
11	"	2.64	21	55.44	"	88	46 <sup>370~75</sup>
12	"	14.05	40	562.00	"	888	46 <sup>550(130)(150)(205)(250)(305)(350)(400)(450)(500)(550)(600)(650)(700)(750)(800)(850)(900)(950)(1000)</sup> 47
13	"	12.30	6	73.80	"	117	46 <sup>550(130)(150)(205)(250)(305)(350)(400)(450)(500)(550)(600)(650)(700)(750)(800)(850)(900)(950)(1000)</sup> 47
14	"	7.30	12	87.60	"	138	46 <sup>550(130)(150)(205)(250)(305)(350)(400)(450)(500)(550)(600)(650)(700)(750)(800)(850)(900)(950)(1000)</sup> 47
15	"	3.30	22	72.60	"	115	46 <sup>550(130)(150)(205)(250)(305)(350)(400)(450)(500)(550)(600)(650)(700)(750)(800)(850)(900)(950)(1000)</sup> 47
16	"	7.35	2	14.70	"	23	46 <sup>550(130)(150)(205)(250)(305)(350)(400)(450)(500)(550)(600)(650)(700)(750)(800)(850)(900)(950)(1000)</sup> 47





Bar mark	Type size	length +laps (m)	NO	Total length (m)	Unit weight (Kg/m)	Total weight (kg)	Shape (cm)
W 17	Φ 16	2.25	35	78.75	1.58	124	
18	"	2.93	4	11.72	"	19	
19	"	1.95	6	11.70	"	18	
20	"	2.92	22	64.24	"	101	
21	"	2.26	32	72.32	"	114	
22	"	1.22	32	39.04	"	62	
23	"	1.64	26	42.64	"	67	
24	Φ 12	8.13	2	16.26	0.888	14	813
F 1	Φ 20	3.35	83	278.05	2.47	687	
2	Φ 16	3.20	41	131.20	1.58	207	
3	"	9.96	49	488.04	"	771	996
4	"	9.96	49	488.04	"	771	996
5	"	7.35	37	271.95	"	430	
6	"	7.35	41	301.35	"	476	
7	"	2.10	32	67.20	"	106	210



Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (Kg/m)	Total weight (Kg)	Shape (cm)
F 8	Φ 16	11.56	9	104.04	1.58	164	81 — 18 976
9	"	9.30	4	37.20	"	59	81 — 18 830
10	"	10.96	4	43.84	"	69	81 — 18 976
11	Φ 12	11.56	9	104.04	0.888	92	81 — 18 976
12	Φ 20	2.96	30	88.80	2.47	219	72 — 10 10 10 54
13	Φ 16	2.39	100	239.00	1.58	378	53 23 10 10
			Φ 32			2522	K1
			Φ 25			1505	
			Φ 20			2024	
			Φ 16			13790	
			Φ 12			288	
			Φ 10			13	
			GRAND TOTAL			20142	K1



P<sub>1</sub> - PIER



Bar mark	Type size	length laps (cm)	NO	Total length (cm)	Unit Weight (kg/m)	Total Weight (kg)	Shape (cm)
B 1	Φ 32	11.30	2	22.60	6.31	143	
2	"	11.30	13	146.90	"	927	
3	"	9.30	2	18.60	"	117	
4	"	8.26	5	41.30	"	261	
5	"	7.88	4	31.52	"	199	
6	"	7.48	4	29.92	"	189	
7	Φ 20	10.07	2	20.14	2.47	50	
8	"	10.07	7	70.49	"	174	
9	Φ 16	9.30	4	37.20	1.56	59	
10	"	6.19	6	37.14	"	59	
B° 1	Φ	4.86	25	121.50	2.47	300	
2	"	3.61	50	180.50	"	446	
3	"	1.95	50	97.50	"	241	
4	"	4.91	25	122.75	"	303	
5	"	3.66	50	183.00	"	452	





Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
B° 6	Φ 20	5.77	13	75.01	2.47	185	
C 1	Φ 32	21.00	56	1176.00	6.31	7421	
2	Φ 12	6.18	100	618.00	0.888	549	
3	"	1.85	116	214.60	"	191	
F 1	Φ 25	7.36	39	287.04	3.85	1105	
2	"	7.36	39	287.04	"	1105	
3	Φ 16	9.40	20	188.00	1.58	297	
4	"	9.40	20	188.00	"	297	
5	"	6.80	8	54.40	"	86	
6	"	6.80	8	54.40	"	86	
7	Φ 20	4.72	36	169.92	2.47	420	







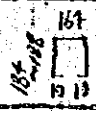
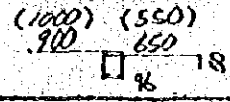

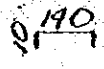
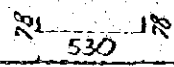
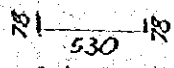
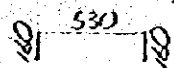
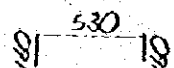
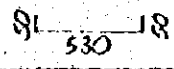
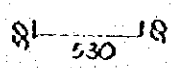
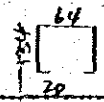
P<sub>2</sub> - PIER



Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
B 1	Φ32	11.30	2	22.60	6.31	143	
2	"	11.30	12	135.60	"	856	
3	"	9.30	2	18.60	"	117	
4	"	10.52	4	42.08	"	266	
5	"	9.01	4	36.04	"	222	
6	"	7.51	4	30.04	"	190	
7	Φ20	10.01	2	20.02	2.47	50	
8	"	10.07	6	60.42	"	149	
9	Φ16	9.30	6	55.80	1.56	88	
10	"	5.91	4	23.64	"	37	
B° 1	Φ20	4.68	25	117.00	2.47	289	
2	"	3.60	50	180.00	"	445	
3	"	1.75	50	87.50	"	216	
4	"	4.72	25	118.00	"	291	
5	"	3.64	50	182.00	"	450	





Bar mark	Type size	length laps (m)	NO	Total length (m)	Unit Weight (K/m)	Total Weight (K)	Shape (cm)
B° 6	Φ 20	5.56	11	61.16	2.47	151	
C 1	Φ 32	16.00	36	576.00	6.31	3635	
2	Φ 12	5.55	83	460.65	0.888	405	
3	"	1.40	88	140.8	"	125	
F 1	Φ 25	6.86	35	240.10	3.85	924	
1	"	6.86	35	240.10	"	924	
3	Φ 16	8.50	18	153.00	1.58	242	
4	"	8.50	18	153.00	"	242	
5	"	6.30	8	50.40	"	80	
6	"	6.30	8	50.40	"	80	
7	Φ 20	4.32	36	155.52	2.47	384	







A<sub>2</sub> - ABUTMENT













Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
WL 1	Φ 32	4.30	20	86.00	6.31	543	Φ 380
2	Φ 25	14.68	5	73.40	3.85	283	70 50 650766
3	"	6.86	43	294.78	"	1136	Φ 636
4	"	5.96	10	59.60	"	229	Φ 516
5	Φ 20	6.86	43	294.78	2.47	729	Φ 636
6	"	5.96	10	59.60	"	147	Φ 516
7	Φ 16	14.38	10	575.20	1.58	909	(550x125)/(550x138) 50 406 650736 77
8	"	11.06	6	66.36	"	105	50 406 650736 77
9	"	7.40	12	88.80	"	140	690 50
10	"	2.53	35	88.55	"	140	Φ 112 30
11	"	3.50	5	17.50	"	28	Φ 220 30
12	"	2.27	6	13.62	"	21	Φ 164 30
13	"	3.14	22	69.08	"	109	Φ 254 30
14	"	2.26	21	47.46	"	75	Φ 16 30
15	"	1.22	21	25.62	"	40	Φ 62 30
16	"	1.64	51	83.64	"	132	Φ 78 30



Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (mm)
WL 17	Φ 16	1.94	2	2.88	1.58	5	50 77
18	Φ 12	5.46	2	10.92	0.888	10	596
19	Φ 20	4.30	6	25.80	2.47	64	81 380
WR 1	Φ 32	4.30	19	81.70	6.31	516	81 380
2	Φ 25	14.95	5	72.25	3.85	278	650 745 77 50
3	"	6.86	42	288.12	"	1109	81 636
4	"	5.96	10	59.60	"	147	81 596
5	Φ 20	6.86	42	288.12	2.47	712	81 636
6	"	5.96	10	59.60	"	147	81 596
7	Φ 16	2.14	4	8.56	1.58	14	168 76
8	"	2.01	2	4.02	"	6	155~115 76
9	"	1.91	4	7.64	"	12	145 76
10	"	1.81	2	3.62	"	6	135~75 86
11	"	14.14	40	565.60	"	894	77 10 150 530 250 714 (550)(550)(550)(514)
12	"	12.30	6	73.80	"	117	77 50 150 530 (550)(550)
13	"	7.40	12	88.80	"	140	690 50
14	"	0.60	6	3.60	"	6	60~90



Bar mark	Type size	length flaps (m)	NO	Total length (m)	Unit Weight (kg/m)	Total Weight (kg)	Shape (mm)
WK15	Φ 16	2.35	2	4.70	1.58	7	
16	"	2.53	35	88.55	"	140	
17	"	3.50	4	14.00	"	22	
18	"	2.24	6	13.44	"	21	
19	"	3.14	22	69.08	"	109	
20	"	2.26	25	56.50	"	89	
21	"	1.22	25	30.50	"	48	
22	"	1.64	45	73.80	"	117	
23	Φ 12	6.33	2	12.66	2.888	11	633
24	Φ 20	4.30	6	25.80	2.97	69	
F 1	Φ 20	3.35	81	271.35	2.97	670	
2	Φ 16	3.20	40	128.00	1.58	202	
3	"	9.96	49	988.04	"	771	996
4	"	9.96	49	988.04	"	771	996
5	"	7.35	36	264.60	"	418	
6	"	7.35	40	294.00	"	465	









§§6 B-LINE -3 B.R



A1 - ABUTMENT



Bar mark	Type size	length +laps (m)	NO	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (mm)
P 1	Φ 16	1.86	99	174.84	1.58	276	16 170
2	"	1.31	14	57.64	"	91	6 170 20
3	"	2.50	4	10.00	"	16	8 200
4	Φ 12	14.71	6	88.26	0.888	78	1000 216~726 39
5	"	14.55	6	87.30	"	78	1000 200~710 39
6	"	6.00	2	12.00	"	11	600
7	"	1.52	4	6.08	"	5	52 50
A 1	Φ 16	16.97	37	627.89	1.58	992	1200 417 55
2	"	17.16	40	686.40	"	1085	1200 516 55
3	"	11.34	69	782.46	"	1236	(500)(534) 650 +34 50 37
4	"	10.47	63	659.61	"	1042	(500)(447) 650 347 50 47
5	"	1.74	66	114.84	"	181	50 77
6	"	1.84	4	7.36	"	12	50 84
7	"	2.15	65	139.75	"	221	110 105
8	"	2.88	53	152.64	"	241	30 26 28
9	"	7.50	22	165.00	"	261	750
10	"	3.30	15	49.50	"	78	280 50



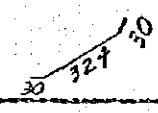
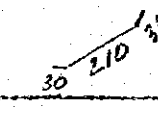
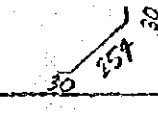
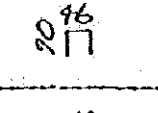
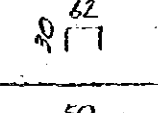
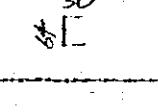
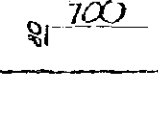
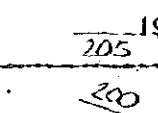
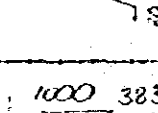
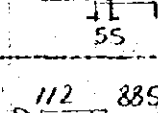
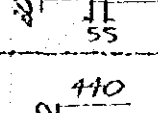
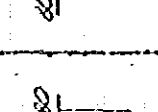
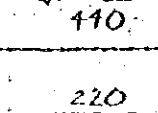




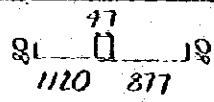
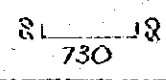
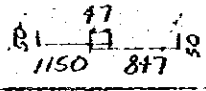
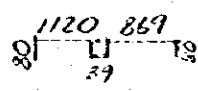
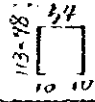



Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
W 1	Φ 25	7.09	37	262.33	3.85	1010	$\frac{659}{10}$
2	"	6.41	7	44.87	"	173	$\frac{591}{10}$
3	"	4.30	21	90.30	"	348	$\frac{380}{10}$
4	Φ 20	7.09	37	262.33	2.47	648	$\frac{659}{10}$
5	"	6.41	7	44.87	"	111	$\frac{591}{10}$
6	"	2.91	4	11.64	"	29	$\frac{27}{10}$
7	"	2.52	3	7.56	"	19	$\frac{27 \sim 148}{10}$
8	Φ 16	2.33	4	9.32	1.58	15	$\frac{189}{10}$
9	"	1.86	3	5.58	"	9	$\frac{158 \sim 82}{10}$
10	Φ 20	12.45	5	62.25	2.47	154	$\frac{650 \sim 65}{10}$
11	Φ 16	12.27	47	539.88	1.58	853	$\frac{1550(539) (550(527) 150 \sim 57}{10}$
12	"	11.34	4	45.36	"	72	$\frac{1550(539) (550(527) 150 \sim 57}{10}$
13	"	7.60	12	91.20	"	144	$\frac{710}{10}$
14	"	0.82	10	8.20	"	13	$\frac{42 \sim 122}{10}$
15	"	2.85	2	5.70	"	9	$\frac{25}{10}$
16	"	3.08	34	104.72	"	165	$\frac{30 \sim 248}{10}$



Bar mark	Type size	length laps (m)	NO.	Total length (m)	Unit Weight (kg/m)	Total weight (kg)	Shape (cm)
W 17	Φ 16	3.89	3	11.52	1.58	18	
18	"	2.70	4	10.80	"	17	
19	"	3.14	25	78.50	"	124	
20	"	2.26	28	63.28	"	100	
21	"	1.22	28	34.16	"	54	
22	"	1.64	37	60.68	"	96	
23	Φ 12	7.44	2	14.88	0.838	13	<u>726 ~ 761</u>
F 1	Φ 25	7.80	14	109.20	3.85	410	
2	Φ 20	2.85	160	456.00	2.47	1126	
3	Φ 16	2.80	81	226.80	1.58	358	
4	"	14.63	14	204.82	"	324	
5	"	21.65	76	1645.40	"	2600	
6	"	5.20	77	400.40	"	633	
7	"	2.20	81	178.20	"	282	
8	"	21.57	58	1251.06	"	1977	<u>220</u>



BAR MARK	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (mm)	
F 9	Φ16	21.57	7	150.99	1.58	239		
10	"	8.30	4	33.20	"	52		
11	"	10.97	4	83.88	"	133		
12	Φ12	21.49	7	150.43	0.888	134		
13	Φ16	2.85	48	136.80	1.58	216		
14	"	2.40	192	460.80	"	728		
			Φ25			3 986	K8	
			Φ20			2 087	"	
			Φ16			19 679	"	
			Φ12			337	"	
			Φ10			39	"	
			GRAND TOTAL				26 128	K7





A<sub>2</sub> - ABUTMENT



Bar mark	Type size	length laps (m)	NO	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
P 1	Φ 16	1.86	29	165.54	1.58	262	16   170
2	"	1.36	10	54.90	"	86	16   135-55
3	"	2.50	4	10.00	"	16	18   200
4	Φ 12	14.29	12	171.48	0.888	152	11-839 800   11 37
5	"	5.50	2	11.00	"	10	550
6	"	1.52	4	6.08	"	5	52 8
A 1	Φ 25	7.90	64	505.60	3.85	1947	740   50
2	"	4.10	62	254.20	"	979	360   50
3	Φ 20	7.90	67	529.30	2.47	1307	740   50
4	Φ 16	1.76	64	112.64	1.58	178	76 8
5	"	1.86	3	5.49	"	9	26 8
6	"	16.82	29	487.78	"	771	1200 482   47
7	Φ 12	16.34	27	441.18	0.888	392	1200 434   37



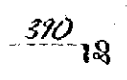
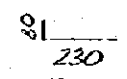
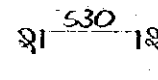
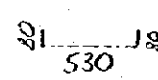
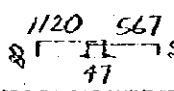
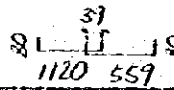
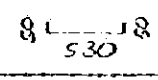
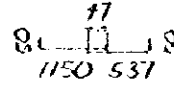
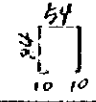
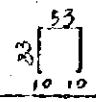
Bar mark	Type size	length +laps (m)	NO	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
E 1	Φ 16	1.51	40	60.40	1.58	95	16 81 75
2	Φ 12	10.50	2	21.00	0.888	19	1050
W 1	Φ 16	4.83	26	125.58	1.58	198	81 433
2	"	4.15	6	24.90	"	39	81 365
3	"	3.20	17	54.40	"	86	81 270
4	"	2.50	5	12.50	"	20	81 200
5	"	4.83	26	125.58	"	198	81 433
6	"	4.15	6	24.90	"	39	81 365
7	"	3.93	4	15.72	"	25	397 46
8	"	2.36	8	18.88	"	30	310~70 46
9	"	4.13	4	16.52	"	26	367 46
10	"	2.54	8	20.32	"	32	328~88 46
11	"	9.30	28	260.40	"	411	850 50
12	"	7.90	3	23.70	"	37	840 50
13	"	2.05	13	47.15	"	74	800~110 50









Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
F 1	Φ 25	4.70	65	305.50	3.85	1176	
1	Φ 20	3.10	65	201.50	2.47	498	
3	Φ 16	6.90	67	462.30	1.58	730	
4	"	6.90	67	462.30	"	730	
5	"	18.47	20	369.40	"	584	
6	Φ 12	18.39	22	404.58	0.888	359	
7	Φ 16	6.30	4	25.20	1.58	40	
8	"	17.87	4	71.48	"	113	
9	Φ 20	2.42	64	154.88	2.47	383	
10	Φ 16	2.39	96	229.44	1.58	363	
			Φ 25			4102	kg
			Φ 20			2188	"
			Φ 16			5478	"
			Φ 12			949	"
			GRAND TOTAL			12717	kg



§§ 7 E-RAMP B.R.



A<sub>1</sub> - ABUTMENT



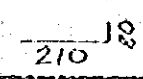
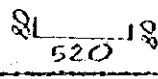
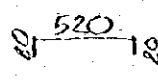
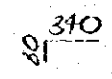
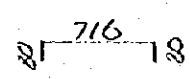
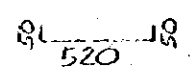
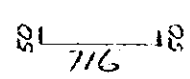
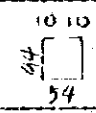
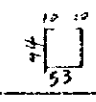
Bar mark	Type size	length +laps (m)	NO	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (mm)
P 1	Φ16	2.66	29	77.14	1.58	122	16 250
2	"	2.66	55	146.30	"	231	16 250
3	"	2.50	16	40.00	"	63	18 200
4	Φ12	7.16	10	128.80	0.888	114	716
5	"	1.46	4	5.84	"	5	16 90
A 1	Φ25	5.98	29	173.42	3.85	668	557 250
2	"	3.30	28	92.40	"	356	250 90
3	Φ20	5.98	29	173.42	2.47	428	557 90
4	Φ16	7.16	42	302.72	1.58	475	716
5	"	1.81	29	52.49	"	83	106 90
6	"	1.60	29	46.40	"	73	90 110
E 1	Φ16	1.51	25	37.75	1.58	60	16 20
2	Φ12	7.16	2	14.32	0.888	13	716









Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (c+r)
F 1	Φ 20	2.90	28	81.20	2.47	201	
2	Φ 16	6.80	29	197.20	1.58	312	
3	"	6.80	29	197.20	"	312	
4	"	4.20	28	117.60	"	186	
5	Φ 12	8.76	39	341.64	0.888	303	
6	Φ 16	6.20	4	24.80	1.58	39	
7	"	8.16	4	32.64	"	52	
8	Φ 20	2.62	26	68.12	2.47	168	
9	Φ 16	2.59	33	85.47	1.58	135	
			Φ 15			1024	kg
			Φ 20			797	"
			Φ 16			2944	"
			Φ 12			343	"
							kg
			GRAND TOTAL			5108	



P - PIER



Bar mark	Type size	length +laps (m)	NO	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (mm)
B 1	Φ32	8.70	2	16.80	6.31	106	
2	"	8.70	12	100.80	"	636	
3	"	5.62	6	33.72	"	213	
4	Φ20	7.50	2	15.00	2.47	37	
5	"	7.50	6	45.00	"	111	
6	Φ16	6.80	7	27.20	1.56	43	
7	"	4.78	2	9.56	"	15	
B° 1	Φ20	3.93	17	66.81	2.47	165	
2	"	2.86	34	97.24	"	240	
3	"	1.71	34	58.14	"	144	
4	"	3.97	17	67.49	"	167	
5	"	2.90	34	98.10	"	244	
6	"	7.56	11	50.16	"	124	



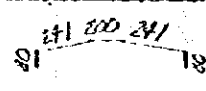
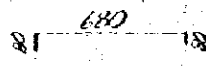
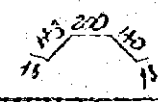
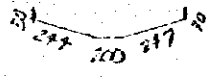
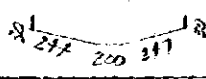
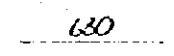
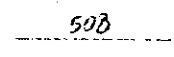
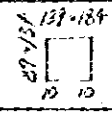
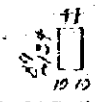
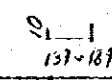
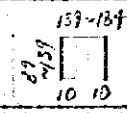
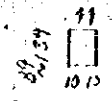
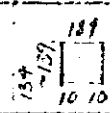


Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (Kg/m)	Total weight (Kg)	Shape (cm)
C 1	Φ32	16.70	50	835.00	6.31	5.332	(1070) (550) 930 650 11 18 76
2	Φ12	5.50	88	488.40	0.888	434	51 516
3	"	1.60	96	153.60	"	136	10 190
F 1	Φ25	6.86	35	240.10	3.85	924	78 78 530
2	"	6.86	35	240.10	"	924	78 78 530
3	Φ16	8.50	18	153.00	1.58	242	140 140 530
4	"	8.50	18	153.00	"	242	140 140 530
5	"	6.30	8	50.40	"	80	81 81 530
6	"	6.30	8	50.40	"	80	81 81 530
7	"	4.22	36	151.92	"	240	54 144 20 20
						6.287 <sup>kg</sup>	
						1.848 <sup>"</sup>	
						1.232 <sup>"</sup>	
						942 <sup>"</sup>	
						570 <sup>"</sup>	
						10.879 <sup>kg</sup>	
		GRAND TOTAL					



P<sub>2</sub> - PIER



Bar mark	Type size	length +laps (m)	NO	Total length (m)	Unit Weight (kg/m)	Total weight (kg)	Shape (cont)
B 1	Φ 32	8.42	2	16.84	6.31	106	
2	"	8.40	12	100.80	"	636	
3	"	5.79	6	34.74	"	219	
4	Φ 20	7.51	2	15.02	2.47	37	
5	"	7.51	6	45.06	"	111	
6	Φ 16	6.80	4	27.20	1.56	43	
7	"	5.08	2	10.16	"	16	
B° 1	Φ 20	4.05	16	64.80	2.47	160	
2	"	2.87	32	91.84	"	227	
3	"	1.82	32	58.24	"	144	
4	"	4.10	16	65.60	"	162	
5	"	2.92	32	93.44	"	231	
6	"	1.77	13	62.01	"	153	









A<sub>2</sub> - ABUTMENT







Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit Weight (Kg/m)	Total Weight (kg)	Shape (cm)
A 11	Φ 16	2.54	32	81.28	1.58	128	75   101
12	"	2.55	27	68.85	"	109	75   110
13	"	13.78	14	192.92	"	305	500(478)   500(478) 250 277 50 77
14	"	13.78	25	344.50	"	544	500(478)   500(478) 250 277 50 77
15	"	2.70	3	8.10	"	13	270
16	"	3.04	23	69.92	"	110	20   274   30
17	"	1.58	48	75.84	"	120	20   98   30
B 1	Φ 32	13.76	10	137.60	6.31	837	10   57   65   40   65   40   65   40   65   40
2	"	11.36	2	22.72	"	143	65   40   65   40
3	"	8.70	4	34.80	"	220	8   67   80
4	"	6.90	4	27.60	"	174	50   65   80
5	Φ 16	4.00	132	528.00	1.58	834	50   125 ~ 575
6	"	9.12	40	364.80	"	576	517   500   101   50   77
7	"	4.00	68	272.00	"	430	555   55   50
8	"	2.25	96	216.00	"	341	22   155   30













Bar mark	Type size	length +laps (m)	NO.	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
F 1	Φ20	3.35	65	217.75	2.47	538	81 $\frac{255}{18}$
2	Φ16	3.20	32	102.40	1.58	162	81 $\frac{240}{18}$
3	"	10.46	45	470.70	"	744	$\frac{766}{18}$
4	"	10.46	45	470.70	"	744	$\frac{766}{18}$
5	"	6.70	30	101.00	"	318	$\frac{590}{18}$
6	"	6.70	33	221.10	"	349	$\frac{590}{18}$
7	"	2.20	21	46.20	"	73	$\frac{220}{18}$
8	"	9.40	14	131.60	"	208	81 $\frac{780}{18}$
9	"	11.26	9	101.34	"	160	81 $\frac{766}{18}$
10	"	8.80	4	35.20	"	56	81 $\frac{780}{18}$
11	"	10.66	4	42.64	"	67	81 $\frac{966}{18}$
12	Φ12	8.76	9	78.84	0.888	70	81 $\frac{776}{18}$
13	"	2.90	9	26.10	"	23	$\frac{210}{18}$
14	Φ20	1.84	29	53.36	2.47	132	81 $\frac{10}{18}$ 53
15	Φ16	2.39	91	217.49	1.58	344	81 $\frac{10}{18}$ 53



Bar mark	Type size	length +laps (m)	NO	Total length (m)	Unit weight (kg/m)	Total weight (kg)	Shape (cm)
			732			1374	kg
			725			1719	"
			720			1986	"
			716			12410	"
			712			265	"
			710			10	"
			GRAND TOTAL			17764	kg

