view 132 , C-C

view 132 , B-B

section 132 , A-A

** bill of material for 1 Ship- pos. 132 total 2 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	4	132		1	HEB180	S235JRG2	5131	262.73	
2	4	1051	KNOTENBLECH	1	BL12*233	S235JRG2	485	10.64	
3	4	1055	KNOTENBLECH	1	BL12*229	S235JRG2	305	11.23	
4	4	1092		1	BL25*170	S235JRG2	220	7.34	
5	4	1096		1	BL15*170	S235JRG2	182	3.64	
total weight (kg)								295.57	
Shipping dimensions (H x B x L): 180 x 470 x 5171									

view 134 , A-A

view 134 , B-B

** bill of material for 1 Ship- pos. 134 total 1 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	134		1	HEB180	S235JRG2	4812	246.37	
2	1	1050	KNOTENBLECH	1	BL12*238	S235JRG2	245	5.45	
3	1	1052	KNOTENBLECH	1	BL12*233	S235JRG2	320	6.87	
4	1	1079		1	BL15*180	S235JRG2	255	5.40	
5	1	1093		1	BL25*170	S235JRG2	220	7.34	
6	1	1141		1	BL8*90	S235JRG2	3072	10.94	
total weight (kg)								282.47	
Shipping dimensions (H x B x L): 416 x 220 x 4983									

view 135 , A-A

view 135 , B-B

** bill of material for 1 Ship- pos. 135 total 1 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	135		1	HEB180	S235JRG2	4812	246.37	
2	1	1050	KNOTENBLECH	1	BL12*238	S235JRG2	245	5.45	
3	1	1052	KNOTENBLECH	1	BL12*233	S235JRG2	320	6.87	
4	1	1079		1	BL15*180	S235JRG2	255	5.40	
5	1	1093		1	BL25*170	S235JRG2	220	7.34	
6	1	1141		1	BL8*90	S235JRG2	3072	10.94	
total weight (kg)								282.47	
Shipping dimensions (H x B x L): 416 x 220 x 4983									

view 137 , C-C

view 137 , A-A

view 137 , D-D

section 137 , B-B

** bill of material for 1 Ship- pos. 137 total 1 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	137		1	HEB180	S235JRG2	4812	246.37	
2	1	1006		1	HEA140	S235JRG2	247	6.09	
3	1	1065	KNOTENBLECH	1	BL12*198	S235JRG2	207	3.74	
4	1	1067	KNOTENBLECH	1	BL12*187	S235JRG2	300	5.29	
5	1	1079		1	BL15*180	S235JRG2	255	5.40	
6	1	1093		1	BL25*170	S235JRG2	220	7.34	
7	1	1108	PLATTE	1	FL140*20	S235JRG2	145	3.19	
8	1	1141		1	BL8*90	S235JRG2	3072	10.94	
total weight (kg)								288.37	
Shipping dimensions (H x B x L): 371 x 381 x 4983									

view 140 , B-B

view 140 , A-A

** bill of material for 1 Ship- pos. 140 total 1 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	140		1	HEB180	S235JRG2	2103	107.61	
2	1	1063	KNOTENBLECH	1	BL12*198	S235JRG2	252	4.56	
3	1	1064	KNOTENBLECH	1	BL12*199	S235JRG2	258	3.92	
4	1	1095		1	BL15*170	S235JRG2	272	5.44	
5	1	1094		1	BL15*170	S235JRG2	192	3.64	
total weight (kg)								125.43	
Shipping dimensions (H x B x L): 362 x 180 x 2133									

view 141 , A-A

view 141 , B-B

** bill of material for 1 Ship- pos. 141 total 1 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	141		1	HEB180	S235JRG2	2103	107.61	
2	1	1063	KNOTENBLECH	1	BL12*198	S235JRG2	252	4.56	
3	1	1064	KNOTENBLECH	1	BL12*199	S235JRG2	258	3.92	
4	1	1095		1	BL15*170	S235JRG2	272	5.44	
5	1	1094		1	BL15*170	S235JRG2	192	3.64	
total weight (kg)								125.43	
Shipping dimensions (H x B x L): 362 x 180 x 2133									

view 133 , C-C

section 133 , A-A

view 133 , B-B

** bill of material for 1 Ship- pos. 133 total 2 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	4	133		1	HEB180	S235JRG2	5131	262.73	
2	4	1095		2	BL15*170	S235JRG2	272	10.89	
3	4	1092		1	BL25*170	S235JRG2	220	7.34	
4	4	1096		1	BL15*170	S235JRG2	182	3.64	
total weight (kg)								284.59	
Shipping dimensions (H x B x L): 180 x 220 x 5171									

view 136 , C-C

view 136 , D-D

view 136 , A-A

section 136 , B-B

** bill of material for 1 Ship- pos. 136 total 1 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	136		1	HEB180	S235JRG2	4812	246.37	
2	1	1006		1	HEA140	S235JRG2	247	6.09	
3	1	1065	KNOTENBLECH	1	BL12*198	S235JRG2	207	3.74	
4	1	1067	KNOTENBLECH	1	BL12*187	S235JRG2	300	5.29	
5	1	1079		1	BL15*180	S235JRG2	255	5.40	
6	1	1093		1	BL25*170	S235JRG2	220	7.34	
7	1	1108	PLATTE	1	FL140*20	S235JRG2	145	3.19	
8	1	1141		1	BL8*90	S235JRG2	3072	10.94	
total weight (kg)								288.37	
Shipping dimensions (H x B x L): 371 x 381 x 4983									

view 138 , B-B

view 138 , A-A

** bill of material for 1 Ship- pos. 138 total 1 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	138		1	HEB180	S235JRG2	2106	107.63	
2	1	1094		2	BL15*170	S235JRG2	192	7.69	
total weight (kg)								115.51	
Shipping dimensions (H x B x L): 200 x 180 x 2136									

view 139 , B-B

view 139 , A-A

** bill of material for 1 Ship- pos. 139 total 1 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	139		1	HEB180	S235JRG2	2106	107.63	
2	1	1094		2	BL15*170	S235JRG2	192	7.69	
total weight (kg)								115.51	
Shipping dimensions (H x B x L): 200 x 180 x 2136									

view 142 , B-B

view 142 , A-A

** bill of material for 1 Ship- pos. 142 total 1 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	142		1	HEB180	S235JRG2	2006	105.27	
2	1	1094		2	BL15*170	S235JRG2	192	7.69	
total weight (kg)								112.95	
Shipping dimensions (H x B x L): 200 x 180 x 2006									

view 144 , B-B

view 144 , A-A

** bill of material for 1 Ship- pos. 144 total 1 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	144		1	HEB180	S235JRG2	2006	105.27	
2	1	1094		2	BL15*170	S235JRG2	192	7.69	
total weight (kg)								112.95	
Shipping dimensions (H x B x L): 200 x 180 x 2006									

view 145 , B-B

view 145 , A-A

** bill of material for 1 Ship- pos. 145 total 2 x done

Nr.	Tot	pos.	designation	qty	profil	quality	length	weight	Rem.
1	1	145		1	HEB180	S235JRG2	2006	105.27	
2	1	1061	KNOTENBLECH	1	BL12*194	S235JRG2	298	5.87	
3	1	1062	KNOTENBLECH	1	BL12*194	S235JRG2	213	3.80	
4	1	1095		1	BL15*170	S235JRG2	272	5.44	
5	1	1094		1	BL15*170	S235JRG2	192	3.64	
total weight (kg)								122.42	
Shipping dimensions (H x B x L): 368 x 180 x 2006									

Tolerance for welded constructions
According to DIN 8570, Pt.1+3/BtH.10.87

Welding (W P S) according to DIN-EN 288 - 2

All unmarked welds to be fillet continuous a=4mm thick, not greater than 0.7 d of the thinner element

The material for cap plates >20 mm thick is to be examined for lamelations

Required torques,prestressing forces and forced torsion angles according to DIN 18800 Pt. 7, 05.83

Bolts	Required tightening torque Ma Nm	4) Torque wrench method		5) Impact wrench method		Bolts + Nuts acc. to	
		Required torque Ma with nominal value of friction coefficient μ		Required impact wrench torque Ma	Required tightening air bar		
		μ=0,14	μ=0,20	μ=0,14	μ=0,20		
M 12	80	100	140	100	140	10	4034
M 16	200	250	350	250	350	10	4034
M 20	390	490	690	490	690	10	4034
M 22	530	660	930	660	930	10	4034
M 24	670	840	1170	840	1170	10	4034
M 27	980	1220	1710	1220	1710	10	4034
M 30	1330	1670	2330	1670	2330	10	4034

1) Due to the great dependence of the Ma value on the type of thread lubricant adhesion to the bolt and the bearing surface, the values must be determined in preliminary tests on the construction in question.
2) Values for bolts with reduced shank cross-section (e.g. HV bolts) and nuts CAUTION! For hot galvanized HV bolts and nuts reduce forces column 3.

BIURO INZYNIERSKIE

Byggingafulltrúi Hainarfjarðar
Yfirlitið þarn
03. NÓV. 2005

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Hannað / Teiknað

Staður	Rauðhella 13 Hafnarfirði
Skýring	Stálvirki
Kvarði	1:15
Dagsetning	31.10.04
Verknr.	12-05
Teikn.nr.	1-11