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## LAMPIRAN

Lampiran 1 Pwbs su- block 3

sub-block 3 bottom									
nama panel	nama komponen yang disambung		jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen	
<b>bottom shell (NB19 6-07-BS)</b>		10PL-BS-4P	10PL-BS-3P	butt	10	10	6000	2	1
		10PL-BS-3P	10PL-BS-2P	butt	10	10	6000	2	1
		10PL-BS-2P	10PL-BS-1P	butt	10	10	6000	2	1
		10PL-BS-1P	12PL-BS-1C	butt	10	12	6000	2	1
		12PL-BS-1C	10PL-BS-1S	butt	10	12	6000	2	1
		10PL-BS-S1	10PL-BS-S2	butt	10	10	6000	2	1
		10PL-BS-S2	10PL-BS-S3	butt	10	10	6000	2	1
		10PL-BS-S3	10PL-BS-S4	butt	10	10	6000	2	1
		10PL-BS	BS-FB160X8(TYP)	fillet with profile	8	10	6000	2	8
		12PL-BS	BS-FB160X8(TYP)	fillet with profile	8	12	6000	2	2
<b>Center Girder (NB19 6-07-14PL-CG-1C)</b>		BP100X8(TYP)-S1	CG-1C	fillet with profile	8	14	1500	2	6
		BP100X8(TYP)-S2	CG-1C	fillet with profile	8	14	900	2	2
<b>Side Girder 1800 (NB19 6-07-10PL-SG1800)</b>		SG1800-S1-BP100X8	SG1800-1S	fillet with profile	8	10	1500	2	6
		SG1800-P1-BP100X8	SG1800-1P	fillet with profile	8	10	1500	2	6
		SG1800-S2-BP100X8	SG1800-1S	fillet with profile	8	10	900	2	2
		SG1800-P2-BP100X8	SG1800-1P	fillet with profile	8	10	900	2	2
		SG1800-S3-BP100X8	SG1800-1S	fillet with profile	8	10	600	2	5
		SG1800-P3-BP100X8	SG1800-1P	fillet with profile	8	10	600	2	5
		SG1800-S4-BP100X8	SG1800-1S	fillet with profile	8	10	600	2	4
		SG1800-P4-BP100X8	SG1800-1P	fillet with profile	8	10	600	2	4
<b>Side Girder 4150 (NB19 6-07-10PL-SG4150)</b>		FR48-BT-1P	SG4150-1P	fillet	10	10	1474	2	1
		FR49-BT-1P	SG4150-1P	fillet	10	10	1474	2	1
		FR50-BT-2P	SG4150-1P	fillet	10	10	1474	2	1
		FR51-BT-1P	SG4150-1P	fillet	10	10	824	2	1
		FR52-BT-2P	SG4150-1P	fillet	10	10	824	2	1
		FR53-BT-1P	SG4150-1P	fillet	10	10	1474	2	1
		FR54-BT-2P	SG4150-1P	fillet	10	10	1474	2	1
		FR55-BT-1P	SG4150-1P	fillet	10	10	1474	2	1
		FR56-BT-1P	SG4150-1P	fillet	10	10	1474	2	1
		FR57-BT-1P	SG4150-1P	fillet	10	10	1474	2	1
		FR48-BT-1S	SG4150-1S	fillet	10	10	1474	2	1
		FR49-BT-1S	SG4150-1S	fillet	10	10	1474	2	1
		FR50-BT-2S	SG4150-1S	fillet	10	10	1474	2	1
		FR51-BT-1S	SG4150-1S	fillet	10	10	824	2	1
		FR52-BT-2S	SG4150-1S	fillet	10	10	824	2	1
		FR53-BT-1S	SG4150-1S	fillet	10	10	1474	2	1
	FR54-BT-2S	SG4150-1S	fillet	10	10	1474	2	1	



sub-block 3 bottom								
nama panel	nama komponen yang disambung		jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen
	BP100X8-1S	SG5300-1S	fillet with profile	8	10	590	2	1
	FR48-BT-1P-2P	SG5300-1P	fillet	10	10	1231	2	1
	FR49-BT-1P-2P	SG5300-1P	fillet	10	10	1231	2	1
	FR50-BT-3P	SG5300-1P	fillet	10	10	1231	2	1
	FR51-BT-1P	SG5300-1P	fillet	10	10	641	2	1
	FR52-BT-4P	SG5300-1P	fillet	10	10	641	2	1
	FR53-BT-1P-2P	SG5300-1P	fillet	10	10	1231	2	1
	FR54-BT-3P-4P	SG5300-1P	fillet	10	10	1231	2	1
	FR55-BT-1P-2P	SG5300-1P	fillet	10	10	1231	2	1
	FR56-BT-1P-2P	SG5300-1P	fillet	10	10	1231	2	1
	FR57-BT-1P-2P	SG5300-1P	fillet	10	10	1231	2	1
	FR48-BT-1S-2S	SG5300-1S	fillet	10	10	1231	2	1
	FR49-BT-1S-2S	SG5300-1S	fillet	10	10	1231	2	1
	FR50-BT-3S	SG5300-1S	fillet	10	10	1231	2	1
	FR51-BT-1S	SG5300-1S	fillet	10	10	641	2	1
	FR52-BT-4S	SG5300-1S	fillet	10	10	641	2	1
	FR53-BT-1S-2S	SG5300-1S	fillet	10	10	1231	2	1
	FR54-BT-3S-4S	SG5300-1S	fillet	10	10	1231	2	1
	FR55-BT-1S-2S	SG5300-1S	fillet	10	10	1231	2	1
	FR56-BT-1S-2S	SG5300-1S	fillet	10	10	1231	2	1
	FR57-BT-1S-2S	SG5300-1S	fillet	10	10	1231	2	1
Void slank tank (NB19 6-07-TT900)	8PL-TT900-3P	10PL-FR50-BT-3P	fillet	8	10	1140	2	1
	8PL-TT900-3P	10PL-FR52-BT-3P	fillet	8	10	1140	2	1
	8PL-TT900-3P	10PL-SG5300-1P	fillet	8	10	1190	2	1
	8PL-TT900-3P	10PL-SG4150-1P	fillet	8	10	1190	2	1
	8PL-TT900-2P	10PL-FR50-BT-2P	fillet	8	10	2340	2	1
	8PL-TT900-2P	10PL-FR52-BT-2P	fillet	8	10	2340	2	1
	8PL-TT900-2P	10PL-SG4150-1P	fillet	8	10	1190	2	1
	8PL-TT900-2P	10PL-SG1800-1P	fillet	8	10	1190	2	1
	8PL-TT900-1P	10PL-FR50-BT-1P	fillet	8	10	1783	2	1
	8PL-TT900-1P	10PL-FR52-BT-1P	fillet	8	10	1783	2	1
	8PL-TT900-1P	10PL-SG1800-1P	fillet	8	10	1190	2	1
	8PL-TT900-1P	14PL-CG-1C	fillet	8	14	1190	2	1
	8PL-TT900-3S	10PL-FR50-BT-3S	fillet	8	10	1140	2	1
	8PL-TT900-3S	10PL-FR52-BT-3S	fillet	8	10	1140	2	1
	8PL-TT900-3S	10PL-SG5300-1S	fillet	8	10	1190	2	1
	8PL-TT900-3S	10PL-SG4150-1S	fillet	8	10	1190	2	1
	8PL-TT900-2S	10PL-FR50-BT-2S	fillet	8	10	2340	2	1
	8PL-TT900-2S	10PL-FR52-BT-2S	fillet	8	10	2340	2	1
	8PL-TT900-2S	10PL-SG4150-1S	fillet	8	10	1190	2	1
	8PL-TT900-2S	10PL-SG1800-1S	fillet	8	10	1190	2	1
	8PL-TT900-1S	10PL-FR50-BT-1S	fillet	8	10	1783	2	1
	8PL-TT900-1S	10PL-FR52-BT-1S	fillet	8	10	1783	2	1
	8PL-TT900-1S	10PL-SG1800-1S	fillet	8	10	1190	2	1
8PL-TT900-1S	14PL-CG-1C	fillet	8	14	1190	2	1	
	TT900-FB140X7(TYP)	8PL-TT900	fillet with profile	8	7	1190	2	10
inner bottom (NB19 6-07-TT1500)	8PL-TT1500-4P	8PL-TT1500-3P	butt	8	8	6000	2	1
	8PL-TT1500-3P	8PL-TT1500-2P	butt	8	8	4250	2	1
	8PL-TT1500-2P	8PL-TT1500-1P	butt	8	8	6000	2	1
	8PL-TT1500-1P	8PL-TT1500-1C	butt	8	8	6000	2	1
	8PL-TT1500-1C	8PL-TT1500-1S	butt	8	8	6000	2	1
	8PL-TT1500-1S	8PL-TT1500-2S	butt	8	8	6000	2	1
	8PL-TT1500-2S	8PL-TT1500-3S	butt	8	8	4250	2	1
	8PL-TT1500-3S	8PL-TT1500-4S	butt	8	8	6000	2	1
	TT1500-BP140X7(TYP)-S7	8PL-TT1500	fillet with profile	7	8	590	2	4
	TT1500-BP140X7(TYP)-S6	8PL-TT1500	fillet with profile	7	8	1150	2	8

sub-block 3 bottom								
nama panel	nama komponen yang disambung		jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang di las	jumlah komponen
	TT1500-BP140X7(TYP)-S5	8PL-TT1500	fillet with profile	7	8	1050	2	2
	TT1500-BP140X7(TYP)-S4	8PL-TT1500	fillet with profile	7	8	600	2	2
	TT1500-BP140X7(TYP)-S3	8PL-TT1500	fillet with profile	7	8	800	2	4
	TT1500-BP140X7(TYP)-S2	8PL-TT1500	fillet with profile	7	8	3342	2	8
	TT1500-BP140X7(TYP)-S1	8PL-TT1500	fillet with profile	7	8	2550	2	10
breack floor frame 48 (NB19 6-07-10PL-FR48-BT-SP)	10PL-FR48-BT-3P	8PL-TT1500	fillet	8	10	1615	2	1
	10PL-FR48-BT-3P	10PL-BS	fillet	10	10	2176	2	1
	10PL-FR48-BT-1P	10PL-FR48-BT-2P	butt	10	10	500	2	1
	10PL-FR48-BT-1P-2P	BT-FB120X12	fillet	10	12	2739	2	1
	10PL-FR48-BT-1P-2P	8PL-TT1500	fillet	8	10	1080	2	1
	10PL-FR48-BT-1P-2P	10PL-BS	fillet	10	10	1095	2	1
	10PL-FR48-BT-3S	8PL-TT1500	fillet	8	10	1615	2	1
	10PL-FR48-BT-3S	10PL-BS	fillet	10	10	2176	2	1
	10PL-FR48-BT-1S	10PL-FR48-BT-2S	butt	10	10	500	2	1
	10PL-FR48-BT-1S-2S	BT-FB120X12	fillet	10	12	2739	2	1
10PL-FR48-BT-1S-2S	8PL-TT1500	fillet	8	10	1080	2	1	
10PL-FR48-BT-1S-2S	10PL-BS	fillet	10	10	1095	2	1	
breack floor frame 49 (NB19 6-07-10PL-FR49-BT-SP)	10PL-FR49-BT-3P	8PL-TT1500	fillet	8	10	1615	2	1
	10PL-FR49-BT-3P	10PL-BS	fillet	10	10	2176	2	1
	10PL-FR49-BT-1P	10PL-FR49-BT-2P	butt	10	10	500	2	1
	10PL-FR49-BT-1P-2P	BT-FB120X12	fillet	10	12	2739	2	1
	10PL-FR49-BT-1P-2P	8PL-TT1500	fillet	8	10	1080	2	1
	10PL-FR49-BT-1P-2P	10PL-BS	fillet	10	10	1095	2	1
	10PL-FR49-BT-3S	8PL-TT1500	fillet	8	10	1615	2	1
	10PL-FR49-BT-3S	10PL-BS	fillet	10	10	2176	2	1
	10PL-FR49-BT-1S	10PL-FR49-BT-2S	butt	10	10	500	2	1
	10PL-FR49-BT-1S-2S	BT-FB120X12	fillet	10	12	2739	2	1
10PL-FR49-BT-1S-2S	8PL-TT1500	fillet	8	10	1080	2	1	
10PL-FR49-BT-1S-2S	10PL-BS	fillet	10	10	1095	2	1	
breack floor frame 50 (NB19 6-07-10PL-FR50-BT-SP)	10PL-FR50-BT-4P	8PL-TT1500	fillet	8	10	1675	2	1
	10PL-FR50-BT-4P	10PL-BS	fillet	10	10	2236	2	1
	10PL-FRR50-BT-3P	10PL-SG4150-P	fillet	10	10	1474	2	1
	10PL-FRR50-BT-3P	8PL-TT1500	fillet	8	10	1140	2	1
	10PL-FRR50-BT-3P	10PL-BS	fillet	10	10	1155	2	1
	10PL-FR50-BT-2P	8PL-TT1500	fillet	8	10	2012	2	1
	10PL-FR50-BT-2P	10PL-BS	fillet	10	10	2162	2	1
	10PL-FR50-BT-2P	10PL-SG1800-P	fillet	10	10	1500	2	1
	10PL-FR50-BT-1P	10PL-SG1800-P	fillet	10	10	1500	2	1
	10PL-FR50-BT-1P	8PL-TT1500	fillet	8	10	1563	2	1
10PL-FR50-BT-1P	10PL-BS	fillet	10	10	1040	2	1	
10PL-FR50-BT-1P	12PL-BS	fillet	10	12	743	2	1	
10PL-FR50-BT-1P	14PL-CG-1C	fillet	10	14	1500	2	1	
10PL-FR50-BT-4S	8PL-TT1500	fillet	8	10	1675	2	1	
10PL-FR50-BT-4S	10PL-BS	fillet	10	10	2236	2	1	

## sub-block 3 bottom

nama panel	nama komponen yang disambung	jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen
	10PL-FRR50-BT-3S	10PL-SG4150-S	fillet	10 10	1474	2	1
	10PL-FRR50-BT-3S	8PL-TT1500	fillet	8 10	1140	2	1
	10PL-FRR50-BT-3S	10PL-BS	fillet	10 10	1155	2	1
	10PL-FR50-BT-2S	8PL-TT1500	fillet	8 10	2012	2	1
	10PL-FR50-BT-2S	10PL-BS	fillet	10 10	2162	2	1
	10PL-FR50-BT-2S	10PL-SG1800-S	fillet	10 10	1500	2	1
	10PL-FR50-BT-1S	10PL-SG1800-S	fillet	10 10	1500	2	1
	10PL-FR50-BT-1S	8PL-TT1500	fillet	8 10	1563	2	1
	10PL-FR50-BT-1S	10PL-BS	fillet	10 10	1040	2	1
	10PL-FR50-BT-1S	12PL-BS	fillet	10 12	743	2	1
	10PL-FR50-BT-4P	FR50-BT-BP140X7-S2-P	fillet with profile	7 10	824	2	1
	10PL-FR50-BT-4P	FR50-BT-BP140X7-S1-P	fillet with profile	7 10	1129	2	1
	10PL-RF50-BT-3P	FR50-BT-BP140X7-S1-P	fillet with profile	7 10	1401	2	1
	10PL-RF50-BT-2P	FR50-BT-BP140X7-S1-P	fillet	7 10	1200	2	3
	FR50-BT-2P-BP	TT1500-BP	fillet with profile	7 7	115	2	3
	B3-8PL	FR50-BT-2P-BP	fillet	7 8	170	2	3
	B3-8PL	TT1500-BP	fillet	7 8	170	2	3
	FR50-BT-2P-BP	BS-FB	fillet with profile	7 8	115	2	3
	B3-8PL	FR50-BT-2P-BP	fillet	7 8	170	2	3
	B3-8PL	BS-FB	fillet	8 8	170	2	3
	10PL-RF50-BT-1P	FR50-BT-BP140X7-S1-P	fillet	7 8	1200	2	2
	FR50-BT-1P-BP	TT1500-BP	fillet with profile	7 7	115	2	2
	B3-8PL	FR50-BT-1P-BP	fillet	7 8	170	2	2
	B3-8PL	TT1500-BP	fillet	7 8	170	2	2
	FR50-BT-1P-BP	BS-FB	fillet with profile	7 8	115	2	2
	B3-8PL	FR50-BT-1P-BP	fillet	7 8	170	2	2
	B3-8PL	BS-FB	fillet	8 8	170	2	2
	CP6-10PL-P	FR50-BT-P	fillet	10 10	80	2	5
	CP6-10PL-P	BS-BF-P	fillet	8 10	80	2	5
	FR50-BT-P	BS-BF-P	fillet	8 10	130	2	5
	10PL-FR50-BT-4S	FR50-BT-BP140X7-S2-S	fillet with profile	7 10	824	2	1
	10PL-FR50-BT-4S	FR50-BT-BP140X7-S1-S	fillet with profile	7 10	1129	2	1
	10PL-RF50-BT-3S	FR50-BT-BP140X7-S1-S	fillet with profile	7 10	1401	2	1
	10PL-RF50-BT-2S	FR50-BT-BP140X7-S1-S	fillet	7 10	1200	2	3
	FR50-BT-2S-BP	TT1500-BP	fillet with profile	7 7	115	2	3
	B3-8PL	FR50-BT-2S-BP	fillet	7 8	170	2	3
	B3-8PL	TT1500-BP	fillet	7 8	170	2	3
	FR50-BT-2S-BP	BP-FB	fillet with profile	7 8	115	2	3
	B3-8PL	FR50-BT-2S-BP	fillet	7 8	170	2	3
	B3-8PL	BP-FB	fillet	8 8	170	2	3
	10PL-RF50-BT-1S	FR50-BT-BP140X7-S1-S	fillet	7 8	1200	2	2
	FR50-BT-1S-BP	TT1500-BP	fillet with profile	7 7	115	2	2
	B3-8PL	FR50-BT-1S-BP	fillet	7 8	170	2	2
	B3-8PL	TT1500-BP	fillet	7 8	170	2	2

sub-block 3 bottom								
nama panel	nama komponen yang disambung		jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang di las	jumlah komponen
	FR50-BT-1S-BP	BP-FB	fillet with profile	7	8	115	2	2
	B3-8PL	FR50-BT-1S-BP	fillet	7	8	170	2	2
	B3-8PL	BP-FB	fillet	8	8	170	2	2
	CP6-10PL-S	FR50-BT-S	fillet	10	10	80	2	5
	CP6-10PL-S	BP-BF-S	fillet	8	10	80	2	5
	FR50-BT-S	BP-BF-S	fillet	8	10	130	2	5
	B9-8PL	FR50-BT-BP140X7-S2-P	fillet	7	8	270	2	3
	B9-8PL	8PL-TT1500-P	fillet	8	8	390	2	3
	B9-8PL	10PL-FR49-BT-3P	fillet	8	10	70	2	3
	B9-8PL	FR50-BT-BP140X7-S2-P	fillet	7	8	270	2	3
	B9-8PL	10PL-BS-P	fillet	8	10	390	2	3
	B9-8PL	10PL-FR49-BT-1P	fillet	8	10	70	2	3
	B9-8PL	FR50-BT-BP140X7-S2-S	fillet	7	8	270	2	3
	B9-8PL	8PL-TT1500-S	fillet	8	8	390	2	3
	B9-8PL	10PL-FR49-BT-3S	fillet	8	10	70	2	3
	B9-8PL	FR50-BT-BP140X7-S2-S	fillet	7	8	270	2	3
	B9-8PL	10PL-BS-S	fillet	8	10	390	2	3
	B9-8PL	10PL-FR49-BT-1S	fillet	8	10	70	2	3
breacket floor frame 51 (NB19 6-07-10PL-FR51-BT-SP)	10PL-FR51-BT-2P	8PL-TT1500	fillet	8	10	1625	2	1
	10PL-FR51-BT-2P	10PL-BS	fillet	10	10	2236	2	1
	10PL-FR51-BT-1P	8PL-TT1500	fillet	8	10	1090	2	1
	10PL-FR51-BT-1P	10PL-BS	fillet	10	10	1105	2	1
	10PL-FR51-BT-2S	8PL-TT1500	fillet	8	10	1625	2	1
	10PL-FR51-BT-2S	10PL-BS	fillet	10	10	2236	2	1
	10PL-FR51-BT-1S	8PL-TT1500	fillet	8	10	1090	2	1
	10PL-FR51-BT-1S	10PL-BS	fillet	10	10	1105	2	1
	10PL-FR52-BT-5P	8PL-TT1500	fillet	8	10	1625	2	1
	10PL-FR52-BT-5P	10PL-BS	fillet	10	10	2236	2	1
10PL-FR52-BT-4P	8PL-TT1500	fillet	8	10	1090	2	1	
10PL-FR52-BT-4P	10PL-BS	fillet	10	10	1105	2	1	
10PL-FR52-BT-3P	10PL-SG5300-P	fillet	10	10	592	2	1	
10PL-FR52-BT-3P	10PL-SG4150-P	fillet	10	10	592	2	1	
10PL-FR52-BT-3P	8PL-TT1500	fillet	8	10	1140	2	1	
10PL-FR52-BT-3P	8PL-TT900	fillet	8	10	1140	2	1	
10PL-FR52-BT-2P	10PL-SG4150-P	fillet	10	10	592	2	1	
10PL-FR52-BT-2P	10PL-SG1800-P	fillet	10	10	592	2	1	
10PL-FR52-BT-2P	8PL-TT1500	fillet	8	10	2342	2	1	
10PL-FR52-BT-2P	8PL-TT900	fillet	8	10	2342	2	1	
10PL-FR52-BT-1P	10PL-SG1800-P	fillet	10	10	592	2	1	
10PL-FR52-BT-1P	14PL-CG-1C	fillet	10	14	592	2	1	
10PL-FR52-BT-1P	8PL-TT1500	fillet	8	10	1783	2	1	
10PL-FR52-BT-1P	8PL-TT900	fillet	8	10	1783	2	1	
10PL-FR52-BT-5S	8PL-TT1500	fillet	8	10	1625	2	1	
10PL-FR52-BT-5S	10PL-BS	fillet	10	10	2236	2	1	
10PL-FR52-BT-4S	8PL-TT1500	fillet	8	10	1090	2	1	
10PL-FR52-BT-4S	10PL-BS	fillet	10	10	1105	2	1	
10PL-FR52-BT-3S	10PL-SG5300-S	fillet	10	10	592	2	1	
10PL-FR52-BT-3S	10PL-SG4150-S	fillet	10	10	592	2	1	
10PL-FR52-BT-3S	8PL-TT1500	fillet	8	10	1140	2	1	
10PL-FR52-BT-3S	8PL-TT900	fillet	8	10	1140	2	1	
10PL-FR52-BT-2S	10PL-SG4150-S	fillet	10	10	592	2	1	
10PL-FR52-BT-2S	10PL-SG1800-S	fillet	10	10	592	2	1	
10PL-FR52-BT-2S	8PL-TT1500	fillet	8	10	2342	2	1	

sub-block 3 bottom								
nama panel	nama komponen yang disambung		jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen
	10PL-FR52-BT-2S	8PL-TT900	fillet	8	10	2342	2	1
	10PL-FR52-BT-1S	10PL-SG1800-S	fillet	10	10	592	2	1
	10PL-FR52-BT-1S	14SL-CG-1C	fillet	10	14	592	2	1
	10PL-FR52-BT-1S	8PL-TT1500	fillet	8	10	1783	2	1
	10PL-FR52-BT-1S	8PL-TT900	fillet	8	10	1783	2	1
	FR52-BT-BP100X8	10PL-FR52-BT	fillet with profile	8	10	407	2	12
	FR52-BT-BP100X8	TT1500-BP140X7	fillet with profile	7	8	67	2	12
	FR52-BT-BP100X8	B3-8PL	fillet	8	8	170	2	12
	B3-8PL	TT1500-BP140X7	fillet	7	8	170	2	12
	10PL-FR53-BT-3P	8PL-TT1500	fillet	8	10	1615	2	1
	10PL-FR53-BT-3P	10PL-BS	fillet	10	10	2176	2	1
	10PL-FR53-BT-1P	10PL-FR53-BT-2P	Butt	10	10	500	2	1
	10PL-FR53-BT-1P-2P	BT-FB120X12	fillet	10	12	2739	2	1
	10PL-FR53-BT-1P-2P	8PL-TT1500	fillet	8	10	1080	2	1
	10PL-FR53-BT-1P-2P	10PL-BS	fillet	10	10	1095	2	1
	10PL-FR53-BT-3S	8PL-TT1500	fillet	8	10	1615	2	1
	10PL-FR53-BT-3S	10PL-BS	fillet	10	10	2176	2	1
	10PL-FR53-BT-1S	10PL-FR53-BT-2S	Butt	10	10	500	2	1
	10PL-FR53-BT-1S-2S	BT-FB120X12	fillet	10	12	2739	2	1
	10PL-FR53-BT-1S-2S	8PL-TT1500	fillet	8	10	1080	2	1
	10PL-FR53-BT-1S-2S	10PL-BS	fillet	10	10	1095	2	1
	10PL-FR54-BT-5P	8PL-TT1500	fillet	8	10	1615	2	1
	10PL-FR54-BT-5P	10PL-BS	fillet	10	10	2176	2	1
	10PL-FR54-BT-4P	10PL-FR54-BT-3P	Butt	10	10	500	2	1
	10PL-FR54-BT-4P-3P	BT-FB120X12	fillet	10	12	2739	2	1
	10PL-FR54-BT-4P-3P	8PL-TT1500	fillet	8	10	1080	2	1
	10PL-FR54-BT-4P-3P	10PL-BS	fillet	10	10	1095	2	1
	10PL-FR54-BT-2P	8PL-TT1500	fillet	8	10	2010	2	1
	10PL-FR54-BT-2P	10PL-BS	fillet	10	10	2010	2	1
	10PL-FR54-BT-2P	10PL-SG1800-P1	fillet	10	10	1500	2	1
	10PL-FR54-BT-1P	8PL-TT1500	fillet	8	10	1563	2	1
	10PL-FR54-BT-1P	10PL-BS	fillet	10	10	930	2	1
	10PL-FR54-BT-1P	12PL-BS	fillet	10	12	633	2	1
	10PL-FR54-BT-1P	10PL-SG1800-P1	fillet	10	10	1500	2	1
	10PL-FR54-BT-1P	14PL-CG-1C	fillet	10	14	1500	2	1
	10PL-FR54-BT-5S	8PL-TT1500	fillet	8	10	1615	2	1
	10PL-FR54-BT-5S	10PL-BS	fillet	10	10	2176	2	1
	10PL-FR54-BT-4S	10PL-FR54-BT-3S	Butt	10	10	500	2	1
	10PL-FR54-BT-4S-3S	BT-FB120X12	fillet	10	12	2739	2	1
	10PL-FR54-BT-4S-3S	8PL-TT1500	fillet	8	10	1080	2	1
	10PL-FR54-BT-4S-3S	10PL-BS	fillet	10	10	1095	2	1
	10PL-FR54-BT-2S	8PL-TT1500	fillet	8	10	2010	2	1
	10PL-FR54-BT-2S	10PL-BS	fillet	10	10	2010	2	1
	10PL-FR54-BT-2S	10PL-SG1800-S1	fillet	10	10	1500	2	1
	10PL-FR54-BT-1S	8PL-TT1500	fillet	8	10	1563	2	1
	10PL-FR54-BT-1S	10PL-BS	fillet	10	10	930	2	1
	10PL-FR54-BT-1S	12PL-BS	fillet	10	12	633	2	1



sub-block 3 bottom								
nama panel	nama komponen yang disambung		jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang di las	jumlah komponen
breacket floor frame 55 (NB19 6-07-10PL-FR55-BT-SP)	10PL-FR54-BT-1S	10PL-SG1800-S1	fillet	10	10	1500	2	1
	10PL-FR54-BT-1S	14PL-CG-1C	fillet	10	14	1500	2	1
	10PL-FR55-BT-3P	8PL-TT1500	fillet	8	10	1615	2	1
	10PL-FR55-BT-3P	10PL-BS	fillet	10	10	2176	2	1
	10PL-FR55-BT-1P	10PL-FR55-BT-2P	Butt	10	10	500	2	1
	10PL-FR55-BT-1P-2P	BT-FB120X12	fillet	10	12	2739	2	1
	10PL-FR55-BT-1P-2P	8PL-TT1500	fillet	8	10	1080	2	1
	10PL-FR55-BT-1P-2P	10PL-BS	fillet	10	10	1095	2	1
	10PL-FR55-BT-3S	8PL-TT1500	fillet	8	10	1615	2	1
	10PL-FR55-BT-3S	10PL-BS	fillet	10	10	2176	2	1
	10PL-FR55-BT-1S	10PL-FR55-BT-2S	Butt	10	10	500	2	1
	10PL-FR55-BT-1S-2S	BT-FB120X12	fillet	10	12	2739	2	1
	10PL-FR55-BT-1S-2S	8PL-TT1500	fillet	8	10	1080	2	1
	10PL-FR55-BT-1S-2S	10PL-BS	fillet	10	10	1095	2	1
	breacket floor frame 56 (NB19 6-07-10PL-FR56-BT-SP)	10PL-FR56-BT-3P	8PL-TT1500	fillet	8	10	1615	2
10PL-FR56-BT-3P		10PL-BS	fillet	10	10	2176	2	1
10PL-FR56-BT-1P		10PL-FR56-BT-2P	Butt	10	10	500	2	1
10PL-FR56-BT-1P-2P		BT-FB120X12	fillet	10	12	2739	2	1
10PL-FR56-BT-1P-2P		8PL-TT1500	fillet	8	10	1080	2	1
10PL-FR56-BT-1P-2P		10PL-BS	fillet	10	10	1095	2	1
10PL-FR56-BT-3S		8PL-TT1500	fillet	8	10	1615	2	1
10PL-FR56-BT-3S		10PL-BS	fillet	10	10	2176	2	1
10PL-FR56-BT-1S		10PL-FR56-BT-2S	Butt	10	10	500	2	1
10PL-FR56-BT-1S-2S		BT-FB120X12	fillet	10	12	2739	2	1
10PL-FR56-BT-1S-2S		8PL-TT1500	fillet	8	10	1080	2	1
10PL-FR56-BT-1S-2S		10PL-BS	fillet	10	10	1095	2	1
10PL-FR57-BT-3P		8PL-TT1500	fillet	8	10	1615	2	1
10PL-FR57-BT-3P		10PL-BS	fillet	10	10	2176	2	1
10PL-FR57-BT-1P		10PL-FR57-BT-2P	Butt	10	10	500	2	1
10PL-FR57-BT-1P-2P	BT-FB120X12	fillet	10	12	2739	2	1	
10PL-FR57-BT-1P-2P	8PL-TT1500	fillet	8	10	1080	2	1	
10PL-FR57-BT-1P-2P	10PL-BS	fillet	10	10	1095	2	1	
10PL-FR57-BT-3S	8PL-TT1500	fillet	8	10	1615	2	1	
10PL-FR57-BT-3S	10PL-BS	fillet	10	10	2176	2	1	
10PL-FR57-BT-1S	10PL-FR57-BT-2S	Butt	10	10	500	2	1	
10PL-FR57-BT-1S-2S	BT-FB120X12	fillet	10	12	2739	2	1	
10PL-FR57-BT-1S-2S	8PL-TT1500	fillet	8	10	1080	2	1	
10PL-FR57-BT-1S-2S	10PL-BS	fillet	10	10	1095	2	1	
assembly sub block 3								
nama panel	nama komponen yang disambung		jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang di las	jumlah komponen

## sub-block 3 bottom

nama panel	nama komponen yang disambung		jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen
side girder & bottom plate	10PL-SG5300-P	8PL-TT1500	fillet	8	10	6000	2	1
	10PL-SG5300-P	10PL-BS	fillet	10	10	6000	2	1
	10PL-SG4150-P	8PL-TT1500	fillet	8	10	6000	2	1
	10PL-SG4150-P	10PL-BS	fillet	10	10	6000	2	1
	10PL-SG1800-P	8PL-TT1500	fillet	8	10	6000	2	1
	10PL-SG1800-P	10PL-BS	fillet	10	10	6000	2	1
	14PL-CG-1C	8PL-TT1500	fillet	8	14	6000	2	1
	14PL-CG-1C	12PL-BS	fillet	12	14	6000	2	1
	10PL-SG5300-S	8PL-TT1500	fillet	8	10	6000	2	1
	10PL-SG5300-S	10PL-BS	fillet	10	10	6000	2	1
	10PL-SG4150-S	8PL-TT1500	fillet	8	10	6000	2	1
	10PL-SG4150-S	10PL-BS	fillet	10	10	6000	2	1
	10PL-SG1800-S	8PL-TT1500	fillet	8	10	6000	2	1
	10PL-SG1800-S	10PL-BS	fillet	10	10	6000	2	1
center girder & bracket	CG-B5-8PL	CG-BP100X8(TPY)	fillet profil	8	8	170	2	7
	CG-B5-8PL	8PL-TT1500	fillet	8	8	426	2	7
	CG-B5-8PL	TT1500-BP140X7(TYP)	fillet profil	7	8	81	2	7
	CG-B5A-8PL	CG-BP100X8(TYP)	fillet profil	8	8	170	2	7
	CG-B5A-8PL	12PL-BS	fillet	8	12	426	2	7
	CG-B5A-8PL	BS-FB160X8(TYP)	fillet	8	8	160	2	7

## Lampiran 2Pwbs sub-block 2

sub-block 2 bulkhead								
nama panel	nama komponen yang disambung		jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen
<b>Side Shell (NB196-07-PL-SS-SP)</b>	9PL-SS-2P	10PL-SS-1P	Butt	9	10	6000	2	1
	10PL-SS-1P	10PL-BS-4P	Butt	10	10	6000	2	1
	SS-1P	SS-S1-BP160X8	Fillet	8	10	3037	2	8
	SS-1P	8PL-FR50-BHD-P	Fillet	8	10	3092	2	1
	SS-1P	10PL-FR54-ST-P	Fillet	10	10	3042	2	1
	9PL-SS-2S	10PL-SS-1S	Butt	9	10	6000	2	1
	10PL-SS-1S	10PL-BS-4S	Butt	10	10	6000	2	1
	SS-1S	SS-S1-BP160X8	Fillet	8	10	3037	2	8
	SS-1S	8PL-FR50-BHD-S	Fillet	8	10	3092	2	1
	SS-1S	10PL-FR54-ST-S	Fillet	10	10	3042	2	1
<b>Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)</b>	8PL-LBHD4150-2P	8PL-LBHD4150-1P	Butt	8	8	6000	2	1
	8PL-LBHD4150-P	LBHD4150-S1-BP140X7-P	fillet with profile	8	7	3037	2	6
	8PL-LBHD4150-P	LBHD4150-S2-BP140X8-P	fillet with profile	8	7	3047	2	2
	8PL-LBHD4150-P	8PL-FR50-BHD-P	Fillet	8	8	3092	2	1
	8PL-LBHD4150-P	10PL-FR54-ST-P	Fillet	8	10	3042	2	1
	8PL-LBHD4150-2S	8PL-LBHD4150-1S	Butt	8	8	6000	2	1
	8PL-LBHD4150-S	LBHD4150-S1-BP140X7-S	fillet with profile	8	7	3037	2	6
	8PL-LBHD4150-S	LBHD4150-S2-BP140X8-S	fillet with profile	8	7	3047	2	2
	8PL-LBHD4150-S	8PL-FR50-BHD-S	Fillet	8	8	3092	2	1
	8PL-LBHD4150-S	10PL-FR54-ST-S	Fillet	8	10	3042	2	1
<b>Longitudinal Bulkhead 1400 (NB196-07-8PL-LBHD1400-PS)</b>	8PL-LBHD1400-2P	8PL-LBHD1400-1P	Butt	8	8	4387	2	1
	8PL-LBHD1400-P	LBHD1400-S1-BP140X7-P	fillet with profile	8	7	2708	2	6
	8PL-LBHD1400-P	10PL-FR50-ST-1P	Fillet	8	10	2708	2	1
	8PL-LBHD1400-P	10PL-FR54-ST-1P	Fillet	8	10	2708	2	1
	8PL-LBHD1400-2S	8PL-LBHD1400-1S	Butt	8	8	4387	2	1
	8PL-LBHD1400-S	LBHD1400-S1-BP140X7-S	fillet with profile	8	7	2708	2	6
	8PL-LBHD1400-S	10PL-FR50-ST-1S	Fillet	8	10	2708	2	1
	8PL-LBHD1400-S	10PL-FR54-ST-1S	Fillet	8	10	2708	2	1
<b>bracket</b>	B4-8PL	SS-S1-BP160X8-1P	Fillet	8	8	169	2	8
	B4-8PL	8PL-TT1500-1P	Fillet	8	8	170	2	8
	B3-8PL	LBHD4150-S1-BP140X7-1P	Fillet	7	8	170	2	7

sub-block 2 bulkhead								
nama panel	nama komponen yang disambung	jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen	
	B3-8PL	8PL-TT1500-1P	Fillet	8	8	170	2	7
	B2-8PL	LBHD4150-S1-BP140X7-1P	Fillet	7	8	220	2	8
	B2-8PL	12PL-VHDK4600-3P	Fillet	8	10	392	2	8
	B2-8PL	VHDK4600-BP-S3-1P	Fillet	8	8	85	2	8
	B4-8PL	SS-S1-BP160X8-1S	Fillet	8	8	169	2	8
	B4-8PL	8PL-TT1500-1S	Fillet	8	8	170	2	8
	B3-8PL	LBHD4150-S1-BP140X7-1S	Fillet	7	8	170	2	7
	B3-8PL	8PL-TT1500-1S	Fillet	8	8	170	2	7
	B2-8PL	LBHD4150-S1-BP140X7-1S	Fillet	7	8	220	2	8
	B2-8PL	12PL-VHDK4600-3S	Fillet	8	10	392	2	8
	B2-8PL	VHDK4600-BP-S3-1S	Fillet	8	8	85	2	8
transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-2P	8PL-FR50-BHD-1P	Butt	8	8	2827	2	1
	8PL-FR50-BHD-1P	8PL-TT1500	Fillet	8	8	2827	2	1
	8PL-FR50-BHD-1P	8PL-VHDK4600-4P	Fillet	8	8	1280	2	1
	8PL-FR50-BHD-1P	12PL-VHDK4600-3P	Fillet	8	12	1080	2	1
	8PL-FR50-BHD-P	FR50-BHD-BP140X7-1P	fillet with profile	7	8	2932	2	3
	B3-8PL	FR50-BHD-BP140X7-1P	fillet with profile	7	8	170	2	3
	B3-8PL	VHDK4600-BP-1P	Fillet	8	8	170	2	3
	FR50-BHD-BP140X7-1P	VHDK4600-BP-1P	fillet with profile	7	8	115	2	3
	B3-8PL	FR50-BHD-BP140X7-1P	fillet with profile	7	8	170	2	3
	B3-8PL	8PL-TT1500-1P	Fillet	8	8	170	2	3
	FR50-BHD-BP140X7-1P	8PL-TT1500-1P	fillet with profile	7	8	115	2	3
	8PL-VSG5300-1P	8PL-FR50-BHD-P	Fillet	8	8	2834	2	1
	8PL-VSG5300-1P	FB80X8	Fillet	8	8	2864	2	1
	8PL-VSG5300-1P	10PL-DSG5300-1P-FB80X8	Fillet	8	8	125	2	1
	8PL-VSG5300-1P	8PL-TT1500	Fillet	8	8	125	2	1
	B14-8PL	10PL-DSG5300-1P-FB80X8	Fillet	8	8	170	2	1
	B14-8PL	8PL-VSG5300-1P	Fillet	8	8	170	2	1
	B14-8PL	8PL-TT1500	Fillet	8	8	170	2	1
	B14-8PL	8PL-VSG5300-1P	Fillet	8	8	170	2	1
	10PL-FR50-DT-2P	10PL-LBHD4150-1P	Fillet	10	10	475	2	1
10PL-FR50-DT-2P	12PL-VHDK4600	Fillet	10	12	542	2	1	

sub-block 2 bulkhead								
nama panel	nama komponen yang disambung	jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen	
	10PL-FR50-DT-2P	8PL-DSG3550-1P	Fillet	8	10	175	2	1
	10PL-FR50-DT-2P	FB90X10	Fillet	10	10	640	2	1
	10PL-FR50-DT-1P	8PL-DSG3550-1P	Fillet	8	10	175	2	1
	10PL-FR50-DT-1P	12PL-VHDK4600	Fillet	10	12	1748	2	1
	10PL-FR50-DT-1P	12PL-DSG1620-1P	Fillet	10	12	272	2	1
	10PL-FR50-DT-1P	12PL-DK4278-1P	Fillet	10	12	177	2	1
	10PL-FR50-DT-1P	8PL-LBHD1400-P	Fillet	8	10	485	2	1
	10PL-FR50-DT-1P	FB90X10	Fillet	10	10	2278	2	1
	10PL-FR50-DT-1P	8PL-DSG1800-1P	Fillet	8	10	72	2	1
	CP1-8PL	10PL-FR50-DT-1P	Fillet	8	10	185	2	2
	CP1-8PL	8PL-DSG1800-1P	Fillet	8	8	185	2	2
	10PL-FR50-DT-1P	10PL-FR50-ST-1P	Butt	10	10	150	2	1
	10PL-FR50-ST-1P	8PL-LBHD1400-P	Fillet	8	10	2173	2	1
	10PL-FR50-ST-1P	8PL-TT1500	Fillet	8	10	175	2	1
	10PL-FR50-ST-1P	FB90X10	Fillet	10	10	2222	2	1
	8PL-FR50-BHD-2S	8PL-FR50-BHD-1S	Butt	8	8	2827	2	1
	8PL-FR50-BHD-1S	8PL-TT1500	Fillet	8	8	2827	2	1
	8PL-FR50-BHD-1S	8PL-VHDK4600-4S	Fillet	8	8	1280	2	1
	8PL-FR50-BHD-1S	12SL-VHDK4600-3S	Fillet	8	12	1080	2	1
	8PL-FR50-BHD-S	FR50-BHD-BP140X7-1S	fillet with profile	7	8	2932	2	3
	B3-8PL	FR50-BHD-BP140X7-1S	fillet with profile	7	8	170	2	3
	B3-8PL	VHDK4600-BP-1S	Fillet	8	8	170	2	3
	FR50-BHD-BP140X7-1S	VHDK4600-BP-1S	fillet with profile	7	8	115	2	3
	B3-8PL	FR50-BHD-BP140X7-1S	fillet with profile	7	8	170	2	3
	B3-8PL	8PL-TT1500-1S	Fillet	8	8	170	2	3
	FR50-BHD-BP140X7-1S	8PL-TT1500-1S	fillet with profile	7	8	115	2	3
	8PL-VSG5300-1S	8PL-FR50-BHD-S	Fillet	8	8	2834	2	1
	8PL-VSG5300-1S	FB80X8	Fillet	8	8	2864	2	1
	8PL-VSG5300-1S	10PL-DSG5300-1S-FB80X8	Fillet	8	8	125	2	1
	8PL-VSG5300-1S	8PL-TT1500	Fillet	8	8	125	2	1
	B14-8PL	10PL-DSG5300-1S-FB80X8	Fillet	8	8	170	2	1
	B14-8PL	8PL-VSG5300-1S	Fillet	8	8	170	2	1

sub-block 2 bulkhead								
nama panel	nama komponen yang disambung	jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen	
	B14-8PL	8PL-TT1500	Fillet	8	8	170	2	1
	B14-8PL	8PL-VSG5300-1S	Fillet	8	8	170	2	1
	10PL-FR50-DT-2S	10PL-LBHD4150-1S	Fillet	10	10	475	2	1
	10PL-FR50-DT-2S	12SL-VHDK4600	Fillet	10	12	542	2	1
	10PL-FR50-DT-2S	8PL-DSG3550-1S	Fillet	8	10	175	2	1
	10PL-FR50-DT-2S	FB90X10	Fillet	10	10	640	2	1
	10PL-FR50-DT-1S	8PL-DSG3550-1S	Fillet	8	10	175	2	1
	10PL-FR50-DT-1S	12SL-VHDK4600	Fillet	10	12	1748	2	1
	10PL-FR50-DT-1S	12SL-DSG1620-1S	Fillet	10	12	272	2	1
	10PL-FR50-DT-1S	12SL-DK4278-1S	Fillet	10	12	177	2	1
	10PL-FR50-DT-1S	8PL-LBHD1400-S	Fillet	8	10	485	2	1
	10PL-FR50-DT-1S	FB90X10	Fillet	10	10	2278	2	1
	10PL-FR50-DT-1S	8PL-DSG1800-1S	Fillet	8	10	72	2	1
	CP1-8PL	10PL-FR50-DT-1S	Fillet	8	10	185	2	2
	CP1-8PL	8PL-DSG1800-1S	Fillet	8	8	185	2	2
	10PL-FR50-DT-1S	10PL-FR50-ST-1S	Butt	10	10	150	2	1
	10PL-FR50-ST-1S	8PL-LBHD1400-S	Fillet	8	10	2173	2	1
	10PL-FR50-ST-1S	8PL-TT1500	Fillet	8	10	175	2	1
	10PL-FR50-ST-1S	FB90X10	Fillet	10	10	2222	2	1
	10PL-FR54-ST-3P	8PL-TT1500	Fillet	8	10	500	2	1
	10PL-FR54-ST-3P	10PL-SS-P	Fillet	10	10	2242	2	1
	10PL-FR54-ST-3P	10PL-FR54-DT-3P	Butt	10	10	200	2	1
	10PL-FR54-ST-3P	FB-90X10	Fillet	10	10	2353	2	1
	10PL-FR54-DT-3P	9PL-SS-P	Fillet	9	10	750	2	1
	10PL-FR54-DT-3P	10PL-VHDK4600-P	Fillet	10	10	1475	2	1
	10PL-FR54-DT-3P	12PL-VHDK4600-P	Fillet	10	12	170	2	1
	10PL-FR54-DT-3P	FB90X10	Fillet	10	10	1783	2	1
	10PL-FR54-DT-3P	10PL-DSG5300-1P	Fillet	10	10	170	2	1
	10PL-DSG5300-1P	10PL-FR54-DT-2P	Fillet	10	10	170	2	1
	10PL-FR54-DT-2P	12PL-VHDK4600-P	Fillet	10	12	1087	2	1
	10PL-FR54-DT-2P	10PL-LBHD4150-1P	Fillet	10	10	650	2	1

transverse bulkhead frame 54 (FR54-BDH-SP)

sub-block 2 bulkhead								
nama panel	nama komponen yang disambung	jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen	
	10PL-FR54-DT-2P	FB90X10	Fillet	10	10	1218	2	1
	10PL-FR54-DT-2P	10PL-FR54-ST-2P	Butt	10	10	150	2	1
	10PL-FR54-ST-2P	10PL-LBHD4150-P1	Fillet	10	10	2342	2	1
	10PL-FR54-ST-2P	8PL-TT1500	Fillet	8	10	425	2	1
	10PL-FR54-ST-2P	FB90X10	Fillet	10	10	2438	2	1
	12PL-FR54-DT-1P	10PL-LBHD4150-P1	Fillet	10	12	675	2	1
	12PL-FR54-DT-1P	12PL-VHDK4600-P	Fillet	12	12	2228	2	1
	12PL-FR54-DT-1P	12PL-DSG1620-1P	Fillet	12	12	272	2	1
	12PL-FR54-DT-1P	12PL-DK4278-1P	Fillet	12	12	177	2	1
	12PL-FR45-DT-1P	10PL-LBHD1400-1P	Fillet	10	12	542	2	1
	12PL-FR45-DT-1P	10PL-FR54-ST-1P	Butt	10	12	151	2	1
	12PL-FR45-DT-1P	FB250X12	Fillet	12	12	2899	2	1
	CP11-12PL	12PL-FR54-DT-1P	Fillet	12	12	185	2	2
	CP11-12PL	8PL-DSG3550-1P	Fillet	8	12	185	2	2
	12PL-FR54-DT-1P	8PL-DSG3550-1P	Fillet	8	12	72	2	1
	CP12-12PL	12PL-FR54-DT-1P	Fillet	12	12	80	2	2
	CP12-12PL	VHDK4600-BP160X8	Fillet	8	12	80	2	2
	12PL-FR54-DT-1P	VHDK4600-BP160X8	Fillet	8	12	130	2	2
	12PL-FR54-DT-1P	10PL-FR54-ST-1P	Butt	10	12	150	2	1
	10PL-FR54-ST-1P	10PL-LBHD1400-1P	Fillet	10	10	2116	2	1
	10PL-FR54-ST-1P	8PL-TT1500	Fillet	8	10	175	2	1
	10PL-FR54-ST-1P	FB90X10	Fillet	10	10	2165	2	1
	FB250X12	FB90X10	Butt	10	12	90	2	1
	10PL-FR54-ST-3S	8PL-TT1500	Fillet	8	10	500	2	1
	10PL-FR54-ST-3S	10PL-SS-S	Fillet	10	10	2242	2	1
	10PL-FR54-ST-3S	10PL-FR54-DT-3S	Butt	10	10	200	2	1
	10PL-FR54-ST-3S	FB-90X10	Fillet	10	10	2353	2	1
	10PL-FR54-DT-3S	9PL-SS-S	Fillet	9	10	750	2	1
	10PL-FR54-DT-3S	10PL-VHDK4600-S	Fillet	10	10	1475	2	1
	10PL-FR54-DT-3S	12SL-VHDK4600-S	Fillet	10	12	170	2	1
	10PL-FR54-DT-3S	FB90X10	Fillet	10	10	1783	2	1

sub-block 2 bulkhead								
nama panel	nama komponen yang disambung	jenis sambungan	tebal komponen (mm)	panjang sambungan (mm)	sis yang dilas	jumlah komponen		
	10PL-FR54-DT-3S	10PL-DSG5300-1S	Fillet	10 10	170	2	1	
	10PL-DSG5300-1S	10PL-FR54-DT-2S	Fillet	10 10	170	2	1	
	10PL-FR54-DT-2S	12SL-VHDK4600-S	Fillet	10 12	1087	2	1	
	10PL-FR54-DT-2S	10PL-LBHD4150-1S	Fillet	10 10	650	2	1	
	10PL-FR54-DT-2S	FB90X10	Fillet	10 10	1218	2	1	
	10PL-FR54-DT-2S	10PL-FR54-ST-2S	Butt	10 10	150	2	1	
	10PL-FR54-ST-2S	10PL-LBHD4150-S1	Fillet	10 10	2342	2	1	
	10PL-FR54-ST-2S	8PL-TT1500	Fillet	8 10	425	2	1	
	10PL-FR54-ST-2S	FB90X10	Fillet	10 10	2438	2	1	
	12SL-FR54-DT-1S	10PL-LBHD4150-S1	Fillet	10 12	675	2	1	
	12SL-FR54-DT-1S	12SL-VHDK4600-S	Fillet	12 12	2228	2	1	
	12SL-FR54-DT-1S	12SL-DSG1620-1S	Fillet	12 12	272	2	1	
	12SL-FR54-DT-1S	12SL-DK4278-1S	Fillet	12 12	177	2	1	
	12SL-FR45-DT-1S	10PL-LBHD1400-1S	Fillet	10 12	542	2	1	
	12SL-FR45-DT-1S	10PL-FR54-ST-1S	Butt	10 12	151	2	1	
	12SL-FR45-DT-1S	FB250X12	Fillet	12 12	2899	2	1	
	CP11-12SL	12SL-FR54-DT-1S	Fillet	12 12	185	2	2	
	CP11-12SL	8PL-DSG3550-1S	Fillet	8 12	185	2	2	
	12SL-FR54-DT-1S	8PL-DSG3550-1S	Fillet	8 12	72	2	1	
	CP12-12SL	12SL-FR54-DT-1S	Fillet	12 12	80	2	2	
	CP12-12SL	VHDK4600-BP160X8	Fillet	8 12	80	2	2	
	12SL-FR54-DT-1S	VHDK4600-BP160X8	Fillet	8 12	130	2	2	
	12SL-FR54-DT-1S	10PL-FR54-ST-1S	Butt	10 12	150	2	1	
	10PL-FR54-ST-1S	10PL-LBHD1400-1S	Fillet	10 10	2116	2	1	
	10PL-FR54-ST-1S	8PL-TT1500	Fillet	8 10	175	2	1	
	10PL-FR54-ST-1S	FB90X10	Fillet	10 10	2165	2	1	
	FB250X12	FB90X10	Butt	10 12	90	2	1	



## Lampiran 3 Pwbs sub-block 1

sub-block 1 vehicle deck								
nama panel	nama komponen yang disambung		jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen
Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600-4P	12PL-VHDK4600-3P	Butt	8	12	6000	2	1
	12PL-VHDK4600-3P	12PL-VHDK4600-2P	Butt	12	12	6000	2	1
	12PL-VHDK4600-2P	12PL-VHD4600-1P	Butt	12	12	6000	2	1
	12PL-VHDK4600-1P	12PL-VHDK4600-1C	Butt	12	12	1660	2	1
	8PL-VHDK4600	VHDK4600-BP160X8-S4-P	fillet with profile	8	8	3600	2	1
	8PL-VHDK4600	VHDK4600-BP160X8-S3-P	fillet with profile	8	8	3750	2	1
	8PL-VHDK4600	VHDK4600-BP160X8-S5-P	fillet with profile	8	8	2140	2	2
	12PL-VHDK4600	VHDK4600-BP160X8-S5-P	fillet with profile	8	12	2140	2	1
	8PL-VHDK4600	VHDK4600-BP160X8-S7-P	fillet with profile	8	8	1200	2	1
	12PL-VHDK4600	VHDK4600-BP160X8-S3-P	fillet with profile	8	12	3750	2	1
	12PL-VHDK4600	VHDK4600-BP160X8-S2-P	fillet with profile	8	12	4540	2	2
	12PL-VHDK4600	VHDK4600-BP160X8-S1-P	fillet with profile	8	12	1350	2	2
	12PL-VHDK4600	VHDK4600-BP160X8-S6-C	fillet with profile	8	12	1038	2	6
	8PL-VHDK4600-4S	12PL-VHDK4600-3S	Butt	8	12	6000	2	1
	12PL-VHDK4600-3S	12PL-VHDK4600-2S	Butt	12	12	6000	2	1
	12PL-VHDK4600-2S	12PL-VHD4600-1S	Butt	12	12	6000	2	1
	12PL-VHDK4600-1S	12PL-VHDK4600-1C	Butt	12	12	1660	2	1
	8PL-VHDK4600	VHDK4600-BP160X8-S4-S	fillet with profile	8	8	3600	2	1
	8PL-VHDK4600	VHDK4600-BP160X8-S3-S	fillet with profile	8	8	3750	2	1
	8PL-VHDK4600	VHDK4600-BP160X8-S5-S	fillet with profile	8	8	2140	2	2
	12PL-VHDK4600	VHDK4600-BP160X8-S5-S	fillet with profile	8	12	2140	2	1
	8PL-VHDK4600	VHDK4600-BP160X8-S7-S	fillet with profile	8	8	1200	2	1
	12PL-VHDK4600	VHDK4600-BP160X8-S3-S	fillet with profile	8	12	3750	2	1
	12PL-VHDK4600	VHDK4600-BP160X8-S2-S	fillet with profile	8	12	4540	2	2
	12PL-VHDK4600	VHDK4600-BP160X8-S1-S	fillet with profile	8	12	1350	2	2
	12PL-VHDK4600	8PL-DSG1800-1P	Fillet	8	12	6000	2	2
	12PL-VHDK4600	12PL-DSG1620-1P	Fillet	12	12	4387	2	2
	12PL-VHDK4600	8PL-DSG1800-1S	Fillet	8	12	6000	2	2
	12PL-VHDK4600	12PL-DSG1620-1S	Fillet	12	12	4387	2	2

sub-block 1 vehicle deck								
nama panel	nama komponen yang disambung	jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen	
Bracket	B1-8PL	12PL-VHDK4600-1P	Fillet	8	12	588	2	5
	B1-8PL	VHDK4600-BP-S3-1P	Fillet	8	8	85	2	5
	B1-8PL	12PL-DSG1620-1P	Fillet	8	12	262	2	5
	B1-8PL	LBHD1400-S1-BP140X7-1P	Fillet	7	8	225	2	5
	B1-8PL	CP1-8PL	Fillet	8	8	185	2	10
	CP1-8PL	8PL-DSG1800-1P	Fillet	8	8	185	2	10
	B1-8PL	8PL-DSG1800-1P	Fillet	8	8	72	2	5
	B1A-8PL	12PL-DGS1620-1P	Fillet	8	12	135	2	7
	B1A-8PL	12PL-DK4278-1P	Fillet	8	12	50	2	7
	B1A-8PL	DSG1620-L80X80X8-1P	Fillet	8	8	50	2	7
	12PL-DGS1620-1P	DSG1620-L80X80X9-1P	Fillet	8	12	4387	2	1
	B7-8PL	12PL-VHDK4600-1P	Fillet	8	12	532	2	2
	B7-8PL	12PL-DSG1800-2P	Fillet	8	12	464	2	2
	B7-8PL	VHDK4600-PB160X8-P	Fillet	8	8	160	2	2
	B8-8PL	12PL-VHDK4600-1P	Fillet	8	12	96	2	1
	B8-8PL	12PL-DSG1620-1P	Fillet	8	12	262	2	1
	B8-8PL	LBHD1400-BP140X7-1P	Fillet	7	8	300	2	1
	B8-8PL	12PL-DSG1800-2P	Fillet	8	12	464	2	1
	12PL-FR55-DT-1C	12PL-DSG1620-1P	Fillet	12	12	262	2	1
	12PL-FR55-DT-1C	12PL-DK4278-1P	Fillet	12	12	190	2	1
	FR56-DT-FB250X12	12PL-DSG1800-2P-FB	Butt	12	12	250	2	1
	12PL-DSG1800-2P	12PL-FR56-DT-1C	Fillet	12	12	350	2	1
	B1-8PL	12PL-VHDK4600-1S	Fillet	8	12	588	2	5
	B1-8PL	VHDK4600-BP-S3-1S	Fillet	8	8	85	2	5
	B1-8PL	12PL-DSG1620-1S	Fillet	8	12	262	2	5
	B1-8PL	LBHD1400-S1-BP140X7-1S	Fillet	7	8	225	2	5
	B1-8PL	CP1-8PL	Fillet	8	8	185	2	10
	CP1-8PL	8PL-DSG1800-1S	Fillet	8	8	185	2	10
	B1-8PL	8PL-DSG1800-1S	Fillet	8	8	72	2	5
	B1A-8PL	12PL-DGS1620-1S	Fillet	8	12	135	2	7
	B1A-8PL	12PL-DK4278-1S	Fillet	8	12	50	2	7
	B1A-8PL	DSG1620-L80X80X8-1S	Fillet	8	8	50	2	7
	12PL-DGS1620-1S	DSG1620-L80X80X9-1S	Fillet	8	12	4387	2	1
	B7-8PL	12PL-VHDK4600-1S	Fillet	8	12	532	2	2

## sub-block 1 vehicle deck

nama panel	nama komponen yang disambung	jenis sambungan	tebal komponen (mm)		panjang sambungan (mm)	sis yang dilas	jumlah komponen
B7-8PL	12PL-DSG1800-2S	Fillet	8	12	464	2	2
B7-8PL	VHDK4600-SB160X8-S	Fillet	8	8	160	2	2
B8-8PL	12PL-VHDK4600-1S	Fillet	8	12	96	2	1
B8-8PL	12PL-DSG1620-1S	Fillet	8	12	262	2	1
B8-8PL	LBHD1400-BP140X7-1S	Fillet	7	8	300	2	1
B8-8PL	12PL-DSG1800-2S	Fillet	8	12	464	2	1
12PL-FR55-DT-1C	12PL-DSG1620-1S	Fillet	12	12	262	2	1
12PL-FR55-DT-1C	12PL-DK4278-1S	Fillet	12	12	190	2	1
FR56-DT-FB250X12	12PL-DSG1800-2S-FB	Butt	12	12	250	2	1
12PL-DSG1800-2S	12PL-FR56-DT-1C	Fillet	12	12	350	2	1
12PL-FR55-DT-1C	12PL-VHDK4600	Fillet	12	12	3180	2	1
12PL-FR55-DT-1C	FR55-DT-L80X80X8	Fillet	8	12	3080	2	1
12PL-FR56-DT-1C	12PL-VHDK4600-1C	Fillet	12	12	3526	2	1
12PL-FR56-DT-1C	FB250X12	Fillet	12	12	3388	2	1
DB1-14PL	12PL-FR56-DT-1C	Fillet	12	14	1280	2	5
DB2-14PL	12PL-VHDK4600-1C	Fillet	12	14	1605	2	5
B11-20PL	DB1-14PL	Fillet	14	20	292	2	5
B11-20PL	DB2-14PL	Fillet	14	20	477	2	5
B11-20PL	12PL-FR55-DT-1C	Fillet	12	20	116	2	5
12PL-FR56-DT-1C	S1-FB80X8	Fillet	8	12	132	2	1
S1-FB80X8	8PL-DGC-1C	Fillet	8	8	220	2	1

## Lampiran 4 Daftar komponen dengan sambungan fillet

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung		tebal komponen (mm)		panjang sambungan (mm)	sisi yang dilas	jumlah komponen	panjang pengelasan (mm)
1	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	BS-FB	8	8	170	2	3	1020
2	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	BS-FB	8	8	170	2	2	680
3	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	BP-FB	8	8	170	2	3	1020
4	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	BP-FB	8	8	170	2	2	680
5	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	8PL-TT1500-P	8	8	390	2	3	2340
6	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	8PL-TT1500-S	8	8	390	2	3	2340
7	breacket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	FR52-BT-BP100X8	B3-8PL	8	8	170	2	12	4080
8	bracket pada side shell dan bulkhead	B4-8PL	SS-S1-BP160X8-1P	8	8	169	2	8	2704
9	bracket pada side shell dan bulkhead	B4-8PL	8PL-TT1500-1P	8	8	170	2	8	2720
10	bracket pada side shell dan bulkhead	B3-8PL	8PL-TT1500-1P	8	8	170	2	7	2380
11	bracket pada side shell dan bulkhead	B2-8PL	VHDK4600-BP-S3-1P	8	8	85	2	8	1360
12	bracket pada side shell dan bulkhead	B4-8PL	SS-S1-BP160X8-1S	8	8	169	2	8	2704
13	bracket pada side shell dan bulkhead	B4-8PL	8PL-TT1500-1S	8	8	170	2	8	2720
14	bracket pada side shell dan bulkhead	B3-8PL	8PL-TT1500-1S	8	8	170	2	7	2380
15	bracket pada side shell dan bulkhead	B2-8PL	VHDK4600-BP-S3-1S	8	8	85	2	8	1360
16	bracket pada vehicle deck	B1-8PL	VHDK4600-BP-S3-1P	8	8	85	2	5	850
17	bracket pada vehicle deck	B1-8PL	CP1-8PL	8	8	185	2	10	3700
18	bracket pada vehicle deck	CP1-8PL	8PL-DSG1800-1P	8	8	185	2	10	3700
19	bracket pada vehicle deck	B1-8PL	8PL-DSG1800-1P	8	8	72	2	5	720
20	bracket pada vehicle deck	B1A-8PL	DSG1620-L80X80X8-1P	8	8	50	2	7	700

<b>sambungan fillet weld</b>									
<b>no.</b>	<b>nama panel</b>	<b>nama komponen yang disambung</b>		<b>tebal kompone n (mm)</b>		<b>panjang sambunga n (mm)</b>	<b>sisi yan g di las</b>	<b>jumlah kompone n</b>	<b>panjang pengelasa n (mm)</b>
21	bracket pada vehicle deck	B7-8PL	VHDK4600-PB160X8-P	8	8	160	2	2	640
22	bracket pada vehicle deck	B1-8PL	VHDK4600-BP-S3-1S	8	8	85	2	5	850
23	bracket pada vehicle deck	B1-8PL	CP1-8PL	8	8	185	2	10	3700
24	bracket pada vehicle deck	CP1-8PL	8PL-DSG1800-1S	8	8	185	2	10	3700
25	bracket pada vehicle deck	B1-8PL	8PL-DSG1800-1S	8	8	72	2	5	720
26	bracket pada vehicle deck	B1A-8PL	DSG1620-L80X80X8-1S	8	8	50	2	7	700
27	bracket pada vehicle deck	B7-8PL	VHDK4600-SB160X8-S	8	8	160	2	2	640
28	bracket pada vehicle deck	S1-FB80X8	8PL-DGC-1C	8	8	220	2	1	440
29	center girder & bracket	CG-B5-8PL	8PL-TT1500	8	8	426	2	7	5964
30	center girder & bracket	CG-B5A-8PL	BS-FB160X8(TYP)	8	8	160	2	7	2240
31	Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)	8PL-LBHD4150-P	8PL-FR50-BHD-P	8	8	3092	2	1	6184
32	Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)	8PL-LBHD4150-S	8PL-FR50-BHD-S	8	8	3092	2	1	6184
33	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-1P	8PL-TT1500	8	8	2827	2	1	5654
34	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-1P	8PL-VHDK4600-4P	8	8	1280	2	1	2560
35	transverse bulkhead frame 50 (FR50-BDH-SP)	B3-8PL	VHDK4600-BP-1P	8	8	170	2	3	1020
36	transverse bulkhead frame 50 (FR50-BDH-SP)	B3-8PL	8PL-TT1500-1P	8	8	170	2	3	1020
37	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-VSG5300-1P	8PL-FR50-BHD-P	8	8	2834	2	1	5668
38	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-VSG5300-1P	FB80X8	8	8	2864	2	1	5728
39	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-VSG5300-1P	10PL-DSG5300-1P-FB80X8	8	8	125	2	1	250
40	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-VSG5300-1P	8PL-TT1500	8	8	125	2	1	250
41	transverse bulkhead frame 50 (FR50-BDH-SP)	B14-8PL	10PL-DSG5300-1P-FB80X8	8	8	170	2	1	340

<b>sambungan fillet weld</b>									
<b>no.</b>	<b>nama panel</b>	<b>nama komponen yang disambung</b>		<b>tebal komponen (mm)</b>		<b>panjang sambungan (mm)</b>	<b>sisi yang dilas</b>	<b>jumlah komponen</b>	<b>panjang pengelasan (mm)</b>
42	transverse bulkhead frame 50 (FR50-BDH-SP)	B14-8PL	8PL-VSG5300-1P	8	8	170	2	1	340
43	transverse bulkhead frame 50 (FR50-BDH-SP)	B14-8PL	8PL-TT1500	8	8	170	2	1	340
44	transverse bulkhead frame 50 (FR50-BDH-SP)	B14-8PL	8PL-VSG5300-1P	8	8	170	2	1	340
45	transverse bulkhead frame 50 (FR50-BDH-SP)	CPI-8PL	8PL-DSG1800-1P	8	8	185	2	2	740
46	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-1S	8PL-TT1500	8	8	2827	2	1	5654
47	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-1S	8PL-VHDK4600-4S	8	8	1280	2	1	2560
48	transverse bulkhead frame 50 (FR50-BDH-SP)	B3-8PL	VHDK4600-BP-1S	8	8	170	2	3	1020
49	transverse bulkhead frame 50 (FR50-BDH-SP)	B3-8PL	8PL-TT1500-1S	8	8	170	2	3	1020
50	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-VSG5300-1S	8PL-FR50-BHD-S	8	8	2834	2	1	5668
51	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-VSG5300-1S	FB80X8	8	8	2864	2	1	5728
52	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-VSG5300-1S	10PL-DSG5300-1S-FB80X8	8	8	125	2	1	250
53	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-VSG5300-1S	8PL-TT1500	8	8	125	2	1	250
54	transverse bulkhead frame 50 (FR50-BDH-SP)	B14-8PL	10PL-DSG5300-1S-FB80X8	8	8	170	2	1	340
55	transverse bulkhead frame 50 (FR50-BDH-SP)	B14-8PL	8PL-VSG5300-1S	8	8	170	2	1	340
56	transverse bulkhead frame 50 (FR50-BDH-SP)	B14-8PL	8PL-TT1500	8	8	170	2	1	340
57	transverse bulkhead frame 50 (FR50-BDH-SP)	B14-8PL	8PL-VSG5300-1S	8	8	170	2	1	340
58	transverse bulkhead frame 50 (FR50-BDH-SP)	CPI-8PL	8PL-DSG1800-1S	8	8	185	2	2	740
59	bracket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-3P	8PL-TT1500	8	10	1615	2	1	3230
60	bracket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-1P-2P	8PL-TT1500	8	10	1080	2	1	2160
61	bracket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-3S	8PL-TT1500	8	10	1615	2	1	3230
62	bracket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-1S-2S	8PL-TT1500	8	10	1080	2	1	2160

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung			tebal komponen (mm)	panjang sambungan (mm)	sisi yang di las	jumlah komponen	panjang pengelasan (mm)
63	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-4P	8PL-TT1500	8	10	1675	2	1	3350
64	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FRR50-BT-3P	8PL-TT1500	8	10	1140	2	1	2280
65	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-2P	8PL-TT1500	8	10	2012	2	1	4024
66	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-1P	8PL-TT1500	8	10	1563	2	1	3126
67	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-4S	8PL-TT1500	8	10	1675	2	1	3350
68	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FRR50-BT-3S	8PL-TT1500	8	10	1140	2	1	2280
69	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-2S	8PL-TT1500	8	10	2012	2	1	4024
70	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-1S	8PL-TT1500	8	10	1563	2	1	3126
71	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	CP6-10PL-P	BS-BF-P	8	10	80	2	5	800
72	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	FR50-BT-P	BS-BF-P	8	10	130	2	5	1300
73	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	CP6-10PL-S	BP-BF-S	8	10	80	2	5	800
74	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	FR50-BT-S	BP-BF-S	8	10	130	2	5	1300
75	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	10PL-FR49-BT-3P	8	10	70	2	3	420
76	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	10PL-BS-P	8	10	390	2	3	2340
77	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	10PL-FR49-BT-1P	8	10	70	2	3	420
78	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	10PL-FR49-BT-3S	8	10	70	2	3	420
79	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	10PL-BS-S	8	10	390	2	3	2340
80	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	10PL-FR49-BT-1S	8	10	70	2	3	420
81	bracket floor frame 51 (NB196-07-10PL-FR51-BT-SP)	10PL-FR51-BT-2P	8PL-TT1500	8	10	1625	2	1	3250
82	bracket floor frame 51 (NB196-07-10PL-FR51-BT-SP)	10PL-FR51-BT-1P	8PL-TT1500	8	10	1090	2	1	2180
83	bracket floor frame 51 (NB196-07-10PL-FR51-BT-SP)	10PL-FR51-BT-2S	8PL-TT1500	8	10	1625	2	1	3250
84	bracket floor frame 51 (NB196-07-10PL-FR51-BT-SP)	10PL-FR51-BT-1S	8PL-TT1500	8	10	1090	2	1	2180

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung			tebal komponen (mm)	panjang sambungan (mm)	sisi yang di las	jumlah komponen	panjang pengelasan (mm)
85	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-5P	8PL-TT1500	8	10	1625	2	1	3250
86	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-4P	8PL-TT1500	8	10	1090	2	1	2180
87	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-3P	8PL-TT1500	8	10	1140	2	1	2280
88	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-3P	8PL-TT900	8	10	1140	2	1	2280
89	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-2P	8PL-TT1500	8	10	2342	2	1	4684
90	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-2P	8PL-TT900	8	10	2342	2	1	4684
91	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-1P	8PL-TT1500	8	10	1783	2	1	3566
92	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-1P	8PL-TT900	8	10	1783	2	1	3566
93	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-5S	8PL-TT1500	8	10	1625	2	1	3250
94	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-4S	8PL-TT1500	8	10	1090	2	1	2180
95	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-3S	8PL-TT1500	8	10	1140	2	1	2280
96	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-3S	8PL-TT900	8	10	1140	2	1	2280
97	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-2S	8PL-TT1500	8	10	2342	2	1	4684
98	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-2S	8PL-TT900	8	10	2342	2	1	4684
99	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-1S	8PL-TT1500	8	10	1783	2	1	3566
100	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-1S	8PL-TT900	8	10	1783	2	1	3566
101	bracket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-3P	8PL-TT1500	8	10	1615	2	1	3230
102	bracket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-1P-2P	8PL-TT1500	8	10	1080	2	1	2160
103	bracket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-3S	8PL-TT1500	8	10	1615	2	1	3230
104	bracket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-1S-2S	8PL-TT1500	8	10	1080	2	1	2160



sambungan fillet weld									
no.	nama panel	nama komponen yang disambung	tebal komponen (mm)	panjang sambungan (mm)	sisi yang dilas	jumlah komponen	panjang pengelasan (mm)		
105	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-5P	8	10	1615	2	1	3230	
106	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-4P-3P	8	10	1080	2	1	2160	
107	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-2P	8	10	2010	2	1	4020	
108	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-1P	8	10	1563	2	1	3126	
109	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-5S	8	10	1615	2	1	3230	
110	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-4S-3S	8	10	1080	2	1	2160	
111	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-2S	8	10	2010	2	1	4020	
112	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-1S	8	10	1563	2	1	3126	
113	bracket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-3P	8	10	1615	2	1	3230	
114	bracket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-1P-2P	8	10	1080	2	1	2160	
115	bracket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-3S	8	10	1615	2	1	3230	
116	bracket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-1S-2S	8	10	1080	2	1	2160	
117	bracket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-3P	8	10	1615	2	1	3230	
118	bracket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-1P-2P	8	10	1080	2	1	2160	
119	bracket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-3S	8	10	1615	2	1	3230	
120	bracket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-1S-2S	8	10	1080	2	1	2160	
121	bracket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-3P	8	10	1615	2	1	3230	
122	bracket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-1P-2P	8	10	1080	2	1	2160	

<b>sambungan fillet weld</b>									
<b>no.</b>	<b>nama panel</b>	<b>nama komponen yang disambung</b>		<b>tebal komponen (mm)</b>		<b>panjang sambungan (mm)</b>	<b>sisi yang dilas</b>	<b>jumlah komponen</b>	<b>panjang pengelasan (mm)</b>
123	bracket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-3S	8PL-TT1500	8	10	1615	2	1	3230
124	bracket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-1S-2S	8PL-TT1500	8	10	1080	2	1	2160
125	bracket pada side shell dan bulkhead	B2-8PL	12PL-VHDK4600-3P	8	10	392	2	8	6272
126	bracket pada side shell dan bulkhead	B2-8PL	12PL-VHDK4600-3S	8	10	392	2	8	6272
127	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-3P	8PL-TT1500	8	10	1615	2	1	3230
128	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-1P-2P	8PL-TT1500	8	10	1080	2	1	2160
129	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-3S	8PL-TT1500	8	10	1615	2	1	3230
130	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-1S-2S	8PL-TT1500	8	10	1080	2	1	2160
131	Longitudinal Bulkhead 1400 (NB196-07-8PL-LBHD1400-PS)	8PL-LBHD1400-P	10PL-FR50-ST-1P	8	10	2708	2	1	5416
132	Longitudinal Bulkhead 1400 (NB196-07-8PL-LBHD1400-PS)	8PL-LBHD1400-P	10PL-FR54-ST-1P	8	10	2708	2	1	5416
133	Longitudinal Bulkhead 1400 (NB196-07-8PL-LBHD1400-PS)	8PL-LBHD1400-S	10PL-FR50-ST-1S	8	10	2708	2	1	5416
134	Longitudinal Bulkhead 1400 (NB196-07-8PL-LBHD1400-PS)	8PL-LBHD1400-S	10PL-FR54-ST-1S	8	10	2708	2	1	5416
135	Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)	8PL-LBHD4150-P	10PL-FR54-ST-P	8	10	3042	2	1	6084
136	Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)	8PL-LBHD4150-S	10PL-FR54-ST-S	8	10	3042	2	1	6084
137	side girder & bottom plate	10PL-SG5300-P	8PL-TT1500	8	10	6000	2	1	12000
138	side girder & bottom plate	10PL-SG4150-P	8PL-TT1500	8	10	6000	2	1	12000
139	side girder & bottom plate	10PL-SG1800-P	8PL-TT1500	8	10	6000	2	1	12000
140	side girder & bottom plate	10PL-SG5300-S	8PL-TT1500	8	10	6000	2	1	12000

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung		tebal komponen (mm)		panjang sambungan (mm)	sisi yang dilas	jumlah komponen	panjang pengelasan (mm)
14 1	side girder & bottom plate	10PL-SG4150-S	8PL-TT1500	8	10	6000	2	1	12000
14 2	side girder & bottom plate	10PL-SG1800-S	8PL-TT1500	8	10	6000	2	1	12000
14 3	Side Girder 4150 (NB196-07-10PL-SG4150)	NB196-07-8PL-TT900-3P	SG4150-1P	8	10	1190	2	1	2380
14 4	Side Girder 4150 (NB196-07-10PL-SG4150)	NB196-07-8PL-TT900-3S	SG4150-1S	8	10	1190	2	1	2380
14 5	Side Shell (NB196-07-PL-SS-SP)	SS-1P	SS-S1-BP160X8	8	10	3037	2	8	48592
14 6	Side Shell (NB196-07-PL-SS-SP)	SS-1P	8PL-FR50-BHD-P	8	10	3092	2	1	6184
14 7	Side Shell (NB196-07-PL-SS-SP)	SS-1S	SS-S1-BP160X8	8	10	3037	2	8	48592
14 8	Side Shell (NB196-07-PL-SS-SP)	SS-1S	8PL-FR50-BHD-S	8	10	3092	2	1	6184
14 9	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-2P	8PL-DSG3550-1P	8	10	175	2	1	350
15 0	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1P	8PL-DSG3550-1P	8	10	175	2	1	350
15 1	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1P	8PL-LBHD1400-P	8	10	485	2	1	970
15 2	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1P	8PL-DSG1800-1P	8	10	72	2	1	144
15 3	transverse bulkhead frame 50 (FR50-BDH-SP)	CP1-8PL	10PL-FR50-DT-1P	8	10	185	2	2	740
15 4	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-ST-1P	8PL-LBHD1400-P	8	10	2173	2	1	4346
15 5	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-ST-1P	8PL-TT1500	8	10	175	2	1	350
15 6	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-2S	8PL-DSG3550-1S	8	10	175	2	1	350
15 7	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1S	8PL-DSG3550-1S	8	10	175	2	1	350
15 8	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1S	8PL-LBHD1400-S	8	10	485	2	1	970

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung			tebal komponen (mm)	panjang sambungan (mm)	sisi yang di las	jumlah komponen	panjang pengelasan (mm)
159	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1S	8PL-DSG1800-1S	8	10	72	2	1	144
160	transverse bulkhead frame 50 (FR50-BDH-SP)	CPI-8PL	10PL-FR50-DT-1S	8	10	185	2	2	740
161	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-ST-1S	8PL-LBHD1400-S	8	10	2173	2	1	4346
162	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-ST-1S	8PL-TT1500	8	10	175	2	1	350
163	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-3P	8PL-TT1500	8	10	500	2	1	1000
164	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-2P	8PL-TT1500	8	10	425	2	1	850
165	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-1P	8PL-TT1500	8	10	175	2	1	350
166	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-3S	8PL-TT1500	8	10	500	2	1	1000
167	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-2S	8PL-TT1500	8	10	425	2	1	850
168	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-1S	8PL-TT1500	8	10	175	2	1	350
169	Void slank tank (NB196-07-TT900)	8PL-TT900-3P	10PL-FR50-BT-3P	8	10	1140	2	1	2280
170	Void slank tank (NB196-07-TT900)	8PL-TT900-3P	10PL-FR52-BT-3P	8	10	1140	2	1	2280
171	Void slank tank (NB196-07-TT900)	8PL-TT900-3P	10PL-SG5300-1P	8	10	1190	2	1	2380
172	Void slank tank (NB196-07-TT900)	8PL-TT900-3P	10PL-SG4150-1P	8	10	1190	2	1	2380
173	Void slank tank (NB196-07-TT900)	8PL-TT900-2P	10PL-FR50-BT-2P	8	10	2340	2	1	4680
174	Void slank tank (NB196-07-TT900)	8PL-TT900-2P	10PL-FR52-BT-2P	8	10	2340	2	1	4680
175	Void slank tank (NB196-07-TT900)	8PL-TT900-2P	10PL-SG4150-1P	8	10	1190	2	1	2380
176	Void slank tank (NB196-07-TT900)	8PL-TT900-2P	10PL-SG1800-1P	8	10	1190	2	1	2380

<b>sambungan fillet weld</b>									
<b>no.</b>	<b>nama panel</b>	<b>nama komponen yang disambung</b>		<b>tebal komponen (mm)</b>		<b>panjang sambungan (mm)</b>	<b>sisi yang dilas</b>	<b>jumlah komponen</b>	<b>panjang pengelasan (mm)</b>
177	Void slank tank (NB196-07-TT900)	8PL-TT900-1P	10PL-FR50-BT-1P	8	10	1783	2	1	3566
178	Void slank tank (NB196-07-TT900)	8PL-TT900-1P	10PL-FR52-BT-1P	8	10	1783	2	1	3566
179	Void slank tank (NB196-07-TT900)	8PL-TT900-1P	10PL-SG1800-1P	8	10	1190	2	1	2380
180	Void slank tank (NB196-07-TT900)	8PL-TT900-3S	10PL-FR50-BT-3S	8	10	1140	2	1	2280
181	Void slank tank (NB196-07-TT900)	8PL-TT900-3S	10PL-FR52-BT-3S	8	10	1140	2	1	2280
182	Void slank tank (NB196-07-TT900)	8PL-TT900-3S	10PL-SG5300-1S	8	10	1190	2	1	2380
183	Void slank tank (NB196-07-TT900)	8PL-TT900-3S	10PL-SG4150-1S	8	10	1190	2	1	2380
184	Void slank tank (NB196-07-TT900)	8PL-TT900-2S	10PL-FR50-BT-2S	8	10	2340	2	1	4680
185	Void slank tank (NB196-07-TT900)	8PL-TT900-2S	10PL-FR52-BT-2S	8	10	2340	2	1	4680
186	Void slank tank (NB196-07-TT900)	8PL-TT900-2S	10PL-SG4150-1S	8	10	1190	2	1	2380
187	Void slank tank (NB196-07-TT900)	8PL-TT900-2S	10PL-SG1800-1S	8	10	1190	2	1	2380
188	Void slank tank (NB196-07-TT900)	8PL-TT900-1S	10PL-FR50-BT-1S	8	10	1783	2	1	3566
189	Void slank tank (NB196-07-TT900)	8PL-TT900-1S	10PL-FR52-BT-1S	8	10	1783	2	1	3566
190	Void slank tank (NB196-07-TT900)	8PL-TT900-1S	10PL-SG1800-1S	8	10	1190	2	1	2380
191	bracket pada vehicle deck	B1-8PL	12PL-VHDK4600-1P	8	12	588	2	5	5880
192	bracket pada vehicle deck	B1-8PL	12PL-DSG1620-1P	8	12	262	2	5	2620
193	bracket pada vehicle deck	B1A-8PL	12PL-DGS1620-1P	8	12	135	2	7	1890
194	bracket pada vehicle deck	B1A-8PL	12PL-DK4278-1P	8	12	50	2	7	700

<b>sambungan fillet weld</b>									
<b>no.</b>	<b>nama panel</b>	<b>nama komponen yang disambung</b>		<b>tebal komponen (mm)</b>		<b>panjang sambungan (mm)</b>	<b>sisi yang dilas</b>	<b>jumlah komponen</b>	<b>panjang pengelasan (mm)</b>
195	bracket pada vehicle deck	12PL-DGS1620-1P	DSG1620-L80X80X9-1P	8	12	4387	2	1	8774
196	bracket pada vehicle deck	B7-8PL	12PL-VHDK4600-1P	8	12	532	2	2	2128
197	bracket pada vehicle deck	B7-8PL	12PL-DSG1800-2P	8	12	464	2	2	1856
198	bracket pada vehicle deck	B8-8PL	12PL-VHDK4600-1P	8	12	96	2	1	192
199	bracket pada vehicle deck	B8-8PL	12PL-DSG1620-1P	8	12	262	2	1	524
200	bracket pada vehicle deck	B8-8PL	12PL-DSG1800-2P	8	12	464	2	1	928
201	bracket pada vehicle deck	B1-8PL	12PL-VHDK4600-1S	8	12	588	2	5	5880
202	bracket pada vehicle deck	B1-8PL	12PL-DSG1620-1S	8	12	262	2	5	2620
203	bracket pada vehicle deck	B1A-8PL	12PL-DGS1620-1S	8	12	135	2	7	1890
204	bracket pada vehicle deck	B1A-8PL	12PL-DK4278-1S	8	12	50	2	7	700
205	bracket pada vehicle deck	12PL-DGS1620-1S	DSG1620-L80X80X9-1S	8	12	4387	2	1	8774
206	bracket pada vehicle deck	B7-8PL	12PL-VHDK4600-1S	8	12	532	2	2	2128
207	bracket pada vehicle deck	B7-8PL	12PL-DSG1800-2S	8	12	464	2	2	1856
208	bracket pada vehicle deck	B8-8PL	12PL-VHDK4600-1S	8	12	96	2	1	192
209	bracket pada vehicle deck	B8-8PL	12PL-DSG1620-1S	8	12	262	2	1	524
210	bracket pada vehicle deck	B8-8PL	12PL-DSG1800-2S	8	12	464	2	1	928
211	bracket pada vehicle deck	12PL-FR55-DT-1C	FR55-DT-L80X80X8	8	12	3080	2	1	6160
212	bracket pada vehicle deck	12PL-FR56-DT-1C	S1-FB80X8	8	12	132	2	1	264

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung		tebal komponen (mm)		panjang sambungan (mm)	sisi yang dilas	jumlah komponen	panjang pengelasan (mm)
213	center girder & bracket	CG-B5A-8PL	12PL-BS	8	12	426	2	7	5964
214	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-1P	12PL-VHDK4600-3P	8	12	1080	2	1	2160
215	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-1S	12SL-VHDK4600-3S	8	12	1080	2	1	2160
216	transverse bulkhead frame 54 (FR54-BDH-SP)	CP11-12PL	8PL-DSG3550-1P	8	12	185	2	2	740
217	transverse bulkhead frame 54 (FR54-BDH-SP)	12PL-FR54-DT-1P	8PL-DSG3550-1P	8	12	72	2	1	144
218	transverse bulkhead frame 54 (FR54-BDH-SP)	CP12-12PL	VHDK4600-BP160X8	8	12	80	2	2	320
219	transverse bulkhead frame 54 (FR54-BDH-SP)	12PL-FR54-DT-1P	VHDK4600-BP160X8	8	12	130	2	2	520
220	transverse bulkhead frame 54 (FR54-BDH-SP)	CP11-12SL	8PL-DSG3550-1S	8	12	185	2	2	740
221	transverse bulkhead frame 54 (FR54-BDH-SP)	12SL-FR54-DT-1S	8PL-DSG3550-1S	8	12	72	2	1	144
222	transverse bulkhead frame 54 (FR54-BDH-SP)	CP12-12SL	VHDK4600-BP160X8	8	12	80	2	2	320
223	transverse bulkhead frame 54 (FR54-BDH-SP)	12SL-FR54-DT-1S	VHDK4600-BP160X8	8	12	130	2	2	520
224	Vehicle Deck (NB196-07-PL-VHDK4600)	12PL-VHDK4600	8PL-DSG1800-1P	8	12	6000	2	2	24000
225	Vehicle Deck (NB196-07-PL-VHDK4600)	12PL-VHDK4600	8PL-DSG1800-1S	8	12	6000	2	2	24000
226	side girder & bottom plate	14PL-CG-1C	8PL-TT1500	8	14	6000	2	1	12000
227	Void slank tank (NB196-07-TT900)	8PL-TT900-1P	14PL-CG-1C	8	14	1190	2	1	2380
228	Void slank tank (NB196-07-TT900)	8PL-TT900-1S	14PL-CG-1C	8	14	1190	2	1	2380
229	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-3P	9PL-SS-P	9	10	750	2	1	1500
230	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-3S	9PL-SS-S	9	10	750	2	1	1500

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung			tebal komponen (mm)	panjang sambungan (mm)	sisi yang di las	jumlah komponen	panjang pengelasan (mm)
23 1	bracket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-3P	10PL-BS	10	10	2176	2	1	4352
23 2	bracket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-1P-2P	10PL-BS	10	10	1095	2	1	2190
23 3	bracket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-3S	10PL-BS	10	10	2176	2	1	4352
23 4	bracket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-1S-2S	10PL-BS	10	10	1095	2	1	2190
23 5	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-4P	10PL-BS	10	10	2236	2	1	4472
23 6	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FRR50-BT-3P	10PL-SG4150-P	10	10	1474	2	1	2948
23 7	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FRR50-BT-3P	10PL-BS	10	10	1155	2	1	2310
23 8	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-2P	10PL-BS	10	10	2162	2	1	4324
23 9	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-2P	10PL-SG1800-P	10	10	1500	2	1	3000
24 0	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-1P	10PL-SG1800-P	10	10	1500	2	1	3000
24 1	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-1P	10PL-BS	10	10	1040	2	1	2080
24 2	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-4S	10PL-BS	10	10	2236	2	1	4472
24 3	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FRR50-BT-3S	10PL-SG4150-S	10	10	1474	2	1	2948
24 4	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FRR50-BT-3S	10PL-BS	10	10	1155	2	1	2310
24 5	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-2S	10PL-BS	10	10	2162	2	1	4324
24 6	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-2S	10PL-SG1800-S	10	10	1500	2	1	3000
24 7	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-1S	10PL-SG1800-S	10	10	1500	2	1	3000
24 8	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-1S	10PL-BS	10	10	1040	2	1	2080



sambungan fillet weld										
no.	nama panel	nama komponen yang disambung			tebal kompone n (mm)		panjang sambunga n (mm)	sisi yan g di las	jumlah kompone n	panjang pengelasa n (mm)
24 9	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	CP6-10PL-P	FR50-BT-P	10	10	80	2	5	800	
25 0	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	CP6-10PL-S	FR50-BT-S	10	10	80	2	5	800	
25 1	bracket floor frame 51 (NB196-07-10PL-FR51-BT-SP)	10PL-FR51-BT-2P	10PL-BS	10	10	2236	2	1	4472	
25 2	bracket floor frame 51 (NB196-07-10PL-FR51-BT-SP)	10PL-FR51-BT-1P	10PL-BS	10	10	1105	2	1	2210	
25 3	bracket floor frame 51 (NB196-07-10PL-FR51-BT-SP)	10PL-FR51-BT-2S	10PL-BS	10	10	2236	2	1	4472	
25 4	bracket floor frame 51 (NB196-07-10PL-FR51-BT-SP)	10PL-FR51-BT-1S	10PL-BS	10	10	1105	2	1	2210	
25 5	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-5P	10PL-BS	10	10	2236	2	1	4472	
25 6	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-4P	10PL-BS	10	10	1105	2	1	2210	
25 7	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-3P	10PL-SG5300-P	10	10	592	2	1	1184	
25 8	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-3P	10PL-SG4150-P	10	10	592	2	1	1184	
25 9	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-2P	10PL-SG4150-P	10	10	592	2	1	1184	
26 0	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-2P	10PL-SG1800-P	10	10	592	2	1	1184	
26 1	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-1P	10PL-SG1800-P	10	10	592	2	1	1184	
26 2	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-5S	10PL-BS	10	10	2236	2	1	4472	
26 3	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-4S	10PL-BS	10	10	1105	2	1	2210	
26 4	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-3S	10PL-SG5300-S	10	10	592	2	1	1184	
26 5	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-3S	10PL-SG4150-S	10	10	592	2	1	1184	
26 6	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-2S	10PL-SG4150-S	10	10	592	2	1	1184	

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung			tebal komponen (mm)	panjang sambungan (mm)	sisi yang di las	jumlah komponen	panjang pengelasan (mm)
267	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-2S	10PL-SG1800-S	10	10	592	2	1	1184
268	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-1S	10PL-SG1800-S	10	10	592	2	1	1184
269	bracket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-3P	10PL-BS	10	10	2176	2	1	4352
270	bracket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-1P-2P	10PL-BS	10	10	1095	2	1	2190
271	bracket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-3S	10PL-BS	10	10	2176	2	1	4352
272	bracket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-1S-2S	10PL-BS	10	10	1095	2	1	2190
273	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-5P	10PL-BS	10	10	2176	2	1	4352
274	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-4P-3P	10PL-BS	10	10	1095	2	1	2190
275	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-2P	10PL-BS	10	10	2010	2	1	4020
276	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-2P	10PL-SG1800-P1	10	10	1500	2	1	3000
277	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-1P	10PL-BS	10	10	930	2	1	1860
278	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-1P	10PL-SG1800-P1	10	10	1500	2	1	3000
279	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-5S	10PL-BS	10	10	2176	2	1	4352
280	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-4S-3S	10PL-BS	10	10	1095	2	1	2190
281	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-2S	10PL-BS	10	10	2010	2	1	4020
282	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-2S	10PL-SG1800-S1	10	10	1500	2	1	3000
283	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-1S	10PL-BS	10	10	930	2	1	1860
284	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-1S	10PL-SG1800-S1	10	10	1500	2	1	3000

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung			tebal komponen (mm)	panjang sambungan (mm)	sisi yang di las	jumlah komponen	panjang pengelasan (mm)
28 5	bracket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-3P	10PL-BS	10	10	2176	2	1	4352
28 6	bracket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-1P-2P	10PL-BS	10	10	1095	2	1	2190
28 7	bracket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-3S	10PL-BS	10	10	2176	2	1	4352
28 8	bracket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-1S-2S	10PL-BS	10	10	1095	2	1	2190
28 9	bracket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-3P	10PL-BS	10	10	2176	2	1	4352
29 0	bracket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-1P-2P	10PL-BS	10	10	1095	2	1	2190
29 1	bracket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-3S	10PL-BS	10	10	2176	2	1	4352
29 2	bracket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-1S-2S	10PL-BS	10	10	1095	2	1	2190
29 3	bracket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-3P	10PL-BS	10	10	2176	2	1	4352
29 4	bracket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-1P-2P	10PL-BS	10	10	1095	2	1	2190
29 5	bracket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-3S	10PL-BS	10	10	2176	2	1	4352
29 6	bracket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-1S-2S	10PL-BS	10	10	1095	2	1	2190
29 7	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-3P	10PL-BS	10	10	2176	2	1	4352
29 8	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-1P-2P	10PL-BS	10	10	1095	2	1	2190
29 9	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-3S	10PL-BS	10	10	2176	2	1	4352
30 0	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-1S-2S	10PL-BS	10	10	1095	2	1	2190
30 1	side girder & bottom plate	10PL-SG5300-P	10PL-BS	10	10	6000	2	1	12000
30 2	side girder & bottom plate	10PL-SG4150-P	10PL-BS	10	10	6000	2	1	12000

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung		tebal komponen (mm)		panjang sambungan (mm)	sisi yang dilas	jumlah komponen	panjang pengelasan (mm)
303	side girder & bottom plate	10PL-SG1800-P	10PL-BS	10	10	6000	2	1	12000
304	side girder & bottom plate	10PL-SG5300-S	10PL-BS	10	10	6000	2	1	12000
305	side girder & bottom plate	10PL-SG4150-S	10PL-BS	10	10	6000	2	1	12000
306	side girder & bottom plate	10PL-SG1800-S	10PL-BS	10	10	6000	2	1	12000
307	Side Girder 4150 (NB196-07-10PL-SG4150)	FR48-BT-1P	SG4150-1P	10	10	1474	2	1	2948
308	Side Girder 4150 (NB196-07-10PL-SG4150)	FR49-BT-1P	SG4150-1P	10	10	1474	2	1	2948
309	Side Girder 4150 (NB196-07-10PL-SG4150)	FR50-BT-2P	SG4150-1P	10	10	1474	2	1	2948
310	Side Girder 4150 (NB196-07-10PL-SG4150)	FR51-BT-1P	SG4150-1P	10	10	824	2	1	1648
311	Side Girder 4150 (NB196-07-10PL-SG4150)	FR52-BT-2P	SG4150-1P	10	10	824	2	1	1648
312	Side Girder 4150 (NB196-07-10PL-SG4150)	FR53-BT-1P	SG4150-1P	10	10	1474	2	1	2948
313	Side Girder 4150 (NB196-07-10PL-SG4150)	FR54-BT-2P	SG4150-1P	10	10	1474	2	1	2948
314	Side Girder 4150 (NB196-07-10PL-SG4150)	FR55-BT-1P	SG4150-1P	10	10	1474	2	1	2948
315	Side Girder 4150 (NB196-07-10PL-SG4150)	FR56-BT-1P	SG4150-1P	10	10	1474	2	1	2948
316	Side Girder 4150 (NB196-07-10PL-SG4150)	FR57-BT-1P	SG4150-1P	10	10	1474	2	1	2948
317	Side Girder 4150 (NB196-07-10PL-SG4150)	FR48-BT-1S	SG4150-1S	10	10	1474	2	1	2948
318	Side Girder 4150 (NB196-07-10PL-SG4150)	FR49-BT-1S	SG4150-1S	10	10	1474	2	1	2948
319	Side Girder 4150 (NB196-07-10PL-SG4150)	FR50-BT-2S	SG4150-1S	10	10	1474	2	1	2948
320	Side Girder 4150 (NB196-07-10PL-SG4150)	FR51-BT-1S	SG4150-1S	10	10	824	2	1	1648

sambungan fillet weld										
no.	nama panel	nama komponen yang disambung			tebal kompone n (mm)		panjang sambunga n (mm)	sisi yan g di las	jumlah kompone n	panjang pengelasa n (mm)
32 1	Side Girder 4150 (NB196-07-10PL-SG4150)	FR52-BT-2S	SG4150-1S	10	10	824	2	1	1648	
32 2	Side Girder 4150 (NB196-07-10PL-SG4150)	FR53-BT-1S	SG4150-1S	10	10	1474	2	1	2948	
32 3	Side Girder 4150 (NB196-07-10PL-SG4150)	FR54-BT-2S	SG4150-1S	10	10	1474	2	1	2948	
32 4	Side Girder 4150 (NB196-07-10PL-SG4150)	FR55-BT-1S	SG4150-1S	10	10	1474	2	1	2948	
32 5	Side Girder 4150 (NB196-07-10PL-SG4150)	FR56-BT-1S	SG4150-1S	10	10	1474	2	1	2948	
32 6	Side Girder 4150 (NB196-07-10PL-SG4150)	FR57-BT-1S	SG4150-1S	10	10	1474	2	1	2948	
32 7	Side Girder 5300 (NB196-07-10PL-SG5300)	FR48-BT-3P	SG5300-1P	10	10	1229	2	1	2458	
32 8	Side Girder 5300 (NB196-07-10PL-SG5300)	FR49-BT-3P	SG5300-1P	10	10	1229	2	1	2458	
32 9	Side Girder 5300 (NB196-07-10PL-SG5300)	FR50-BT-4P	SG5300-1P	10	10	1229	2	1	2458	
33 0	Side Girder 5300 (NB196-07-10PL-SG5300)	FR51-BT-2P	SG5300-1P	10	10	1229	2	1	2458	
33 1	Side Girder 5300 (NB196-07-10PL-SG5300)	FR52-BT-3P	SG5300-1P	10	10	1229	2	1	2458	
33 2	Side Girder 5300 (NB196-07-10PL-SG5300)	FR53-BT-3P	SG5300-1P	10	10	1229	2	1	2458	
33 3	Side Girder 5300 (NB196-07-10PL-SG5300)	FR54-BT-5P	SG5300-1P	10	10	1229	2	1	2458	
33 4	Side Girder 5300 (NB196-07-10PL-SG5300)	FR55-BT-3P	SG5300-1P	10	10	1229	2	1	2458	
33 5	Side Girder 5300 (NB196-07-10PL-SG5300)	FR56-BT-3P	SG5300-1P	10	10	1229	2	1	2458	
33 6	Side Girder 5300 (NB196-07-10PL-SG5300)	FR57-BT-3P	SG5300-1P	10	10	1229	2	1	2458	
33 7	Side Girder 5300 (NB196-07-10PL-SG5300)	FR48-BT-3S	SG5300-1S	10	10	1229	2	1	2458	
33 8	Side Girder 5300 (NB196-07-10PL-SG5300)	FR49-BT-3S	SG5300-1S	10	10	1229	2	1	2458	

sambungan fillet weld										
no.	nama panel	nama komponen yang disambung			tebal kompone n (mm)		panjang sambunga n (mm)	sisi yan g di las	jumlah kompone n	panjang pengelasa n (mm)
33 9	Side Girder 5300 (NB196-07-10PL-SG5300)	FR50-BT-4S	SG5300-1S	10	10	1229	2	1	2458	
34 0	Side Girder 5300 (NB196-07-10PL-SG5300)	FR51-BT-2S	SG5300-1S	10	10	1229	2	1	2458	
34 1	Side Girder 5300 (NB196-07-10PL-SG5300)	FR52-BT-3S	SG5300-1S	10	10	1229	2	1	2458	
34 2	Side Girder 5300 (NB196-07-10PL-SG5300)	FR53-BT-3S	SG5300-1S	10	10	1229	2	1	2458	
34 3	Side Girder 5300 (NB196-07-10PL-SG5300)	FR54-BT-5S	SG5300-1S	10	10	1229	2	1	2458	
34 4	Side Girder 5300 (NB196-07-10PL-SG5300)	FR55-BT-3S	SG5300-1S	10	10	1229	2	1	2458	
34 5	Side Girder 5300 (NB196-07-10PL-SG5300)	FR56-BT-3S	SG5300-1S	10	10	1229	2	1	2458	
34 6	Side Girder 5300 (NB196-07-10PL-SG5300)	FR57-BT-3S	SG5300-1S	10	10	1229	2	1	2458	
34 7	Side Girder 5300 (NB196-07-10PL-SG5300)	FR48-BT-1P-2P	SG5300-1P	10	10	1231	2	1	2462	
34 8	Side Girder 5300 (NB196-07-10PL-SG5300)	FR49-BT-1P-2P	SG5300-1P	10	10	1231	2	1	2462	
34 9	Side Girder 5300 (NB196-07-10PL-SG5300)	FR50-BT-3P	SG5300-1P	10	10	1231	2	1	2462	
35 0	Side Girder 5300 (NB196-07-10PL-SG5300)	FR51-BT-1P	SG5300-1P	10	10	641	2	1	1282	
35 1	Side Girder 5300 (NB196-07-10PL-SG5300)	FR52-BT-4P	SG5300-1P	10	10	641	2	1	1282	
35 2	Side Girder 5300 (NB196-07-10PL-SG5300)	FR53-BT-1P-2P	SG5300-1P	10	10	1231	2	1	2462	
35 3	Side Girder 5300 (NB196-07-10PL-SG5300)	FR54-BT-3P-4P	SG5300-1P	10	10	1231	2	1	2462	
35 4	Side Girder 5300 (NB196-07-10PL-SG5300)	FR55-BT-1P-2P	SG5300-1P	10	10	1231	2	1	2462	
35 5	Side Girder 5300 (NB196-07-10PL-SG5300)	FR56-BT-1P-2P	SG5300-1P	10	10	1231	2	1	2462	
35 6	Side Girder 5300 (NB196-07-10PL-SG5300)	FR57-BT-1P-2P	SG5300-1P	10	10	1231	2	1	2462	

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung			tebal komponen (mm)	panjang sambungan (mm)	sisi yang di las	jumlah komponen	panjang pengelasan (mm)
357	Side Girder 5300 (NB196-07-10PL-SG5300)	FR48-BT-1S-2S	SG5300-1S	10	10	1231	2	1	2462
358	Side Girder 5300 (NB196-07-10PL-SG5300)	FR49-BT-1S-2S	SG5300-1S	10	10	1231	2	1	2462
359	Side Girder 5300 (NB196-07-10PL-SG5300)	FR50-BT-3S	SG5300-1S	10	10	1231	2	1	2462
360	Side Girder 5300 (NB196-07-10PL-SG5300)	FR51-BT-1S	SG5300-1S	10	10	641	2	1	1282
361	Side Girder 5300 (NB196-07-10PL-SG5300)	FR52-BT-4S	SG5300-1S	10	10	641	2	1	1282
362	Side Girder 5300 (NB196-07-10PL-SG5300)	FR53-BT-1S-2S	SG5300-1S	10	10	1231	2	1	2462
363	Side Girder 5300 (NB196-07-10PL-SG5300)	FR54-BT-3S-4S	SG5300-1S	10	10	1231	2	1	2462
364	Side Girder 5300 (NB196-07-10PL-SG5300)	FR55-BT-1S-2S	SG5300-1S	10	10	1231	2	1	2462
365	Side Girder 5300 (NB196-07-10PL-SG5300)	FR56-BT-1S-2S	SG5300-1S	10	10	1231	2	1	2462
366	Side Girder 5300 (NB196-07-10PL-SG5300)	FR57-BT-1S-2S	SG5300-1S	10	10	1231	2	1	2462
367	Side Shell (NB196-07-PL-SS-SP)	SS-1P	10PL-FR54-ST-P	10	10	3042	2	1	6084
368	Side Shell (NB196-07-PL-SS-SP)	SS-1S	10PL-FR54-ST-S	10	10	3042	2	1	6084
369	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-2P	10PL-LBHD4150-1P	10	10	475	2	1	950
370	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-2P	FB90X10	10	10	640	2	1	1280
371	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1P	FB90X10	10	10	2278	2	1	4556
372	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-ST-1P	FB90X10	10	10	2222	2	1	4444
373	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-2S	10PL-LBHD4150-1S	10	10	475	2	1	950
374	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-2S	FB90X10	10	10	640	2	1	1280

<b>sambungan fillet weld</b>										
<b>no.</b>	<b>nama panel</b>	<b>nama komponen yang disambung</b>			<b>tebal kompone n (mm)</b>		<b>panjang sambunga n (mm)</b>	<b>sisi yan g di las</b>	<b>jumlah kompone n</b>	<b>panjang pengelasa n (mm)</b>
37 5	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1S	FB90X10	10	10	2278	2	1	4556	
37 6	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-ST-1S	FB90X10	10	10	2222	2	1	4444	
37 7	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-3P	10PL-SS-P	10	10	2242	2	1	4484	
37 8	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-3P	FB-90X10	10	10	2353	2	1	4706	
37 9	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-3P	10PL-VHDK4600-P	10	10	1475	2	1	2950	
38 0	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-3P	FB90X10	10	10	1783	2	1	3566	
38 1	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-3P	10PL-DSG5300-1P	10	10	170	2	1	340	
38 2	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-DSG5300-1P	10PL-FR54-DT-2P	10	10	170	2	1	340	
38 3	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-2P	10PL-LBHD4150-1P	10	10	650	2	1	1300	
38 4	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-2P	FB90X10	10	10	1218	2	1	2436	
38 5	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-2P	10PL-LBHD4150-P1	10	10	2342	2	1	4684	
38 6	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-2P	FB90X10	10	10	2438	2	1	4876	
38 7	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-1P	10PL-LBHD1400-1P	10	10	2116	2	1	4232	
38 8	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-1P	FB90X10	10	10	2165	2	1	4330	
38 9	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-3S	10PL-SS-S	10	10	2242	2	1	4484	
39 0	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-3S	FB-90X10	10	10	2353	2	1	4706	
39 1	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-3S	10PL-VHDK4600-S	10	10	1475	2	1	2950	
39 2	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-3S	FB90X10	10	10	1783	2	1	3566	



sambungan fillet weld									
no.	nama panel	nama komponen yang disambung		tebal komponen (mm)		panjang sambungan (mm)	sisi yang dilas	jumlah komponen	panjang pengelasan (mm)
393	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-3S	10PL-DSG5300-1S	10	10	170	2	1	340
394	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-DSG5300-1S	10PL-FR54-DT-2S	10	10	170	2	1	340
395	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-2S	10PL-LBHD4150-1S	10	10	650	2	1	1300
396	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-2S	FB90X10	10	10	1218	2	1	2436
397	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-2S	10PL-LBHD4150-S1	10	10	2342	2	1	4684
398	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-2S	FB90X10	10	10	2438	2	1	4876
399	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-1S	10PL-LBHD1400-1S	10	10	2116	2	1	4232
400	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-1S	FB90X10	10	10	2165	2	1	4330
401	bracket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-1P-2P	BT-FB120X12	10	12	2739	2	1	5478
402	bracket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-1S-2S	BT-FB120X12	10	12	2739	2	1	5478
403	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-1P	12PL-BS	10	12	743	2	1	1486
404	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-1S	12PL-BS	10	12	743	2	1	1486
405	bracket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-1P-2P	BT-FB120X12	10	12	2739	2	1	5478
406	bracket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-1S-2S	BT-FB120X12	10	12	2739	2	1	5478
407	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-4P-3P	BT-FB120X12	10	12	2739	2	1	5478
408	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-1P	12PL-BS	10	12	633	2	1	1266
409	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-4S-3S	BT-FB120X12	10	12	2739	2	1	5478
410	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-1S	12PL-BS	10	12	633	2	1	1266

<b>sambungan fillet weld</b>										
<b>no.</b>	<b>nama panel</b>	<b>nama komponen yang disambung</b>			<b>tebal kompone n (mm)</b>		<b>panjang sambunga n (mm)</b>	<b>sisi yan g di las</b>	<b>jumlah kompone n</b>	<b>panjang pengelasa n (mm)</b>
41 1	bracket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-1P-2P	BT-FB120X12	10	12	2739	2	1	5478	
41 2	bracket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-1S-2S	BT-FB120X12	10	12	2739	2	1	5478	
41 3	bracket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-1P-2P	BT-FB120X12	10	12	2739	2	1	5478	
41 4	bracket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-1S-2S	BT-FB120X12	10	12	2739	2	1	5478	
41 5	bracket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-1P-2P	BT-FB120X12	10	12	2739	2	1	5478	
41 6	bracket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-1S-2S	BT-FB120X12	10	12	2739	2	1	5478	
41 7	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-1P-2P	BT-FB120X12	10	12	2739	2	1	5478	
41 8	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-1S-2S	BT-FB120X12	10	12	2739	2	1	5478	
41 9	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-2P	12PL-VHDK4600	10	12	542	2	1	1084	
42 0	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1P	12PL-VHDK4600	10	12	1748	2	1	3496	
42 1	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1P	12PL-DSG1620-1P	10	12	272	2	1	544	
42 2	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1P	12PL-DK4278-1P	10	12	177	2	1	354	
42 3	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-2S	12SL-VHDK4600	10	12	542	2	1	1084	
42 4	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1S	12SL-VHDK4600	10	12	1748	2	1	3496	
42 5	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1S	12SL-DSG1620-1S	10	12	272	2	1	544	
42 6	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1S	12SL-DK4278-1S	10	12	177	2	1	354	
42 7	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-3P	12PL-VHDK4600-P	10	12	170	2	1	340	
42 8	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-2P	12PL-VHDK4600-P	10	12	1087	2	1	2174	

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung			tebal komponen (mm)	panjang sambungan (mm)	sisi yang di las	jumlah komponen	panjang pengelasan (mm)
429	transverse bulkhead frame 54 (FR54-BDH-SP)	12PL-FR54-DT-1P	10PL-LBHD4150-P1	10	12	675	2	1	1350
430	transverse bulkhead frame 54 (FR54-BDH-SP)	12PL-FR45-DT-1P	10PL-LBHD1400-1P	10	12	542	2	1	1084
431	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-3S	12SL-VHDK4600-S	10	12	170	2	1	340
432	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-2S	12SL-VHDK4600-S	10	12	1087	2	1	2174
433	transverse bulkhead frame 54 (FR54-BDH-SP)	12SL-FR54-DT-1S	10PL-LBHD4150-S1	10	12	675	2	1	1350
434	transverse bulkhead frame 54 (FR54-BDH-SP)	12SL-FR45-DT-1S	10PL-LBHD1400-1S	10	12	542	2	1	1084
435	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-1P	14PL-CG-1C	10	14	1500	2	1	3000
436	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-1P	14PL-CG-1C	10	14	592	2	1	1184
437	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	10PL-FR52-BT-1S	14SL-CG-1C	10	14	592	2	1	1184
438	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-1P	14PL-CG-1C	10	14	1500	2	1	3000
439	bracket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-1S	14PL-CG-1C	10	14	1500	2	1	3000
440	bracket pada vehicle deck	12PL-FR55-DT-1C	12PL-DSG1620-1P	12	12	262	2	1	524
441	bracket pada vehicle deck	12PL-FR55-DT-1C	12PL-DK4278-1P	12	12	190	2	1	380
442	bracket pada vehicle deck	12PL-DSG1800-2P	12PL-FR56-DT-1C	12	12	350	2	1	700
443	bracket pada vehicle deck	12PL-FR55-DT-1C	12PL-DSG1620-1S	12	12	262	2	1	524
444	bracket pada vehicle deck	12PL-FR55-DT-1C	12PL-DK4278-1S	12	12	190	2	1	380
445	bracket pada vehicle deck	12PL-DSG1800-2S	12PL-FR56-DT-1C	12	12	350	2	1	700
446	bracket pada vehicle deck	12PL-FR55-DT-1C	12PL-VHDK4600	12	12	3180	2	1	6360

sambungan fillet weld									
no.	nama panel	nama komponen yang disambung		tebal kompone n (mm)		panjang sambunga n (mm)	sisi yan g di las	jumlah kompone n	panjang pengelasa n (mm)
44 7	bracket pada vehicle deck	12PL-FR56-DT-1C	12PL-VHDK4600-1C	12	12	3526	2	1	7052
44 8	bracket pada vehicle deck	12PL-FR56-DT-1C	FB250X12	12	12	3388	2	1	6776
44 9	transverse bulkhead frame 54 (FR54-BDH-SP)	12PL-FR54-DT-1P	12PL-VHDK4600-P	12	12	2228	2	1	4456
45 0	transverse bulkhead frame 54 (FR54-BDH-SP)	12PL-FR54-DT-1P	12PL-DSG1620-1P	12	12	272	2	1	544
45 1	transverse bulkhead frame 54 (FR54-BDH-SP)	12PL-FR54-DT-1P	12PL-DK4278-1P	12	12	177	2	1	354
45 2	transverse bulkhead frame 54 (FR54-BDH-SP)	12PL-FR45-DT-1P	FB250X12	12	12	2899	2	1	5798
45 3	transverse bulkhead frame 54 (FR54-BDH-SP)	CP11-12PL	12PL-FR54-DT-1P	12	12	185	2	2	740
45 4	transverse bulkhead frame 54 (FR54-BDH-SP)	CP12-12PL	12PL-FR54-DT-1P	12	12	80	2	2	320
45 5	transverse bulkhead frame 54 (FR54-BDH-SP)	12SL-FR54-DT-1S	12SL-VHDK4600-S	12	12	2228	2	1	4456
45 6	transverse bulkhead frame 54 (FR54-BDH-SP)	12SL-FR54-DT-1S	12SL-DSG1620-1S	12	12	272	2	1	544
45 7	transverse bulkhead frame 54 (FR54-BDH-SP)	12SL-FR54-DT-1S	12SL-DK4278-1S	12	12	177	2	1	354
45 8	transverse bulkhead frame 54 (FR54-BDH-SP)	12SL-FR45-DT-1S	FB250X12	12	12	2899	2	1	5798
45 9	transverse bulkhead frame 54 (FR54-BDH-SP)	CP11-12SL	12SL-FR54-DT-1S	12	12	185	2	2	740
46 0	transverse bulkhead frame 54 (FR54-BDH-SP)	CP12-12SL	12SL-FR54-DT-1S	12	12	80	2	2	320
46 1	Vehicle Deck (NB196-07-PL-VHDK4600)	12PL-VHDK4600	12PL-DSG1620-1P	12	12	4387	2	2	17548
46 2	Vehicle Deck (NB196-07-PL-VHDK4600)	12PL-VHDK4600	12PL-DSG1620-1S	12	12	4387	2	2	17548
46 3	bracket pada vehicle deck	DB1-14PL	12PL-FR56-DT-1C	12	14	1280	2	5	12800
46 4	bracket pada vehicle deck	DB2-14PL	12PL-VHDK4600-1C	12	14	1605	2	5	16050

<b>sambungan fillet weld</b>									
<b>no.</b>	<b>nama panel</b>	<b>nama komponen yang disambung</b>		<b>tebal komponen (mm)</b>		<b>panjang sambungan (mm)</b>	<b>sisi yang dilas</b>	<b>jumlah komponen</b>	<b>panjang pengelasan (mm)</b>
<b>465</b>	side girder & bottom plate	14PL-CG-1C	12PL-BS	12	14	6000	2	1	12000
<b>466</b>	bracket pada vehicle deck	B11-20PL	12PL-FR55-DT-1C	12	20	116	2	5	1160
<b>467</b>	bracket pada vehicle deck	B11-20PL	DB1-14PL	14	20	292	2	5	2920
<b>468</b>	bracket pada vehicle deck	B11-20PL	DB2-14PL	14	20	477	2	5	4770

## Lampiran 5 Daftar komponen dengan sambungan fillet dengan profil

sambungan fillet weld dengan profile									
no.	nama panel	nama komponen yang disambung		tebal kompone n (mm)		panjang sambunga n (mm)	sisi yan g di las	jumlah kompone n	panjang pengelasa n (mm)
1	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	FR50-BT-2P-BP	TT1500-BP	7	7	115	2	3	690
2	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	FR50-BT-1P-BP	TT1500-BP	7	7	115	2	2	460
3	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	FR50-BT-2S-BP	TT1500-BP	7	7	115	2	3	690
4	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	FR50-BT-1S-BP	TT1500-BP	7	7	115	2	2	460
5	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	FR50-BT-2P-BP	BS-FB	7	8	115	2	3	690
6	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	FR50-BT-1P-BP	BS-FB	7	8	115	2	2	460
7	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	FR50-BT-2S-BP	BP-FB	7	8	115	2	3	690
8	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	FR50-BT-1S-BP	BP-FB	7	8	115	2	2	460
9	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	FR50-BT-2P-BP	7	8	170	2	3	1020
10	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	TT1500-BP	7	8	170	2	3	1020
11	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	FR50-BT-2P-BP	7	8	170	2	3	1020
12	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-RF50-BT-1P	FR50-BT-BP140X7-S1-P	7	8	1200	2	2	4800
13	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	FR50-BT-1P-BP	7	8	170	2	2	680
14	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	TT1500-BP	7	8	170	2	2	680
15	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	FR50-BT-1P-BP	7	8	170	2	2	680
16	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	FR50-BT-2S-BP	7	8	170	2	3	1020
17	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	TT1500-BP	7	8	170	2	3	1020
18	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	FR50-BT-2S-BP	7	8	170	2	3	1020
19	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-RF50-BT-1S	FR50-BT-BP140X7-S1-S	7	8	1200	2	2	4800
20	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	FR50-BT-1S-BP	7	8	170	2	2	680

sambungan fillet weld dengan profile									
no.	nama panel	nama komponen yang disambung		tebal komponen (mm)		panjang sambungan (mm)	sisi yang dilas	jumlah komponen	panjang pengelasan (mm)
21	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	TT1500-BP	7	8	170	2	2	680
22	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B3-8PL	FR50-BT-1S-BP	7	8	170	2	2	680
23	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	FR50-BT-BP140X7-S2-P	7	8	270	2	3	1620
24	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	FR50-BT-BP140X7-S2-P	7	8	270	2	3	1620
25	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	FR50-BT-BP140X7-S2-S	7	8	270	2	3	1620
26	breacket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	B9-8PL	FR50-BT-BP140X7-S2-S	7	8	270	2	3	1620
27	breacket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	FR52-BT-BP100X8	TT1500-BP140X7	7	8	67	2	12	1608
28	breacket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	B3-8PL	TT1500-BP140X7	7	8	170	2	12	4080
29	bracket pada side shell dan bulkhead	B3-8PL	LBHD4150-S1-BP140X7-1P	7	8	170	2	7	2380
30	bracket pada side shell dan bulkhead	B2-8PL	LBHD4150-S1-BP140X7-1P	7	8	220	2	8	3520
31	bracket pada side shell dan bulkhead	B3-8PL	LBHD4150-S1-BP140X7-1S	7	8	170	2	7	2380
32	bracket pada side shell dan bulkhead	B2-8PL	LBHD4150-S1-BP140X7-1S	7	8	220	2	8	3520
33	bracket pada vehicle deck	B1-8PL	LBHD1400-S1-BP140X7-1P	7	8	225	2	5	2250
34	bracket pada vehicle deck	B8-8PL	LBHD1400-BP140X7-1P	7	8	300	2	1	600
35	bracket pada vehicle deck	B1-8PL	LBHD1400-S1-BP140X7-1S	7	8	225	2	5	2250
36	bracket pada vehicle deck	B8-8PL	LBHD1400-BP140X7-1S	7	8	300	2	1	600
37	center girder & bracket	CG-B5-8PL	TT1500-BP140X7(TYP)	7	8	81	2	7	1134
38	inner bottom (NB196-07-TT1500)	TT1500-BP140X7(TYP)-S7	8PL-TT1500	7	8	590	2	4	4720
39	inner bottom (NB196-07-TT1500)	TT1500-BP140X7(TYP)-S6	8PL-TT1500	7	8	1150	2	8	5280
40	inner bottom (NB196-07-TT1500)	TT1500-BP140X7(TYP)-S5	8PL-TT1500	7	8	1050	2	2	1080

sambungan fillet weld dengan profile									
no.	nama panel	nama komponen yang disambung		tebal kompone n (mm)		panjang sambunga n (mm)	sisi yan g di las	jumlah kompone n	panjang pengelasa n (mm)
41	inner bottom (NB196-07-TT1500)	TT1500-BP140X7(TYP)-S4	8PL-TT1500	7	8	600	2	2	2400
42	inner bottom (NB196-07-TT1500)	TT1500-BP140X7(TYP)-S3	8PL-TT1500	7	8	800	2	4	960
43	inner bottom (NB196-07-TT1500)	TT1500-BP140X7(TYP)-S2	8PL-TT1500	7	8	3342	2	8	26323.2
44	inner bottom (NB196-07-TT1500)	TT1500-BP140X7(TYP)-S1	8PL-TT1500	7	8	2550	2	10	23400
45	Longitudinal Bulkhead 1400 (NB196-07-8PL-LBHD1400-PS)	8PL-LBHD1400-P	LBHD1400-S1-BP140X7-P	7	8	2708	2	6	15177.6
46	Longitudinal Bulkhead 1400 (NB196-07-8PL-LBHD1400-PS)	8PL-LBHD1400-S	LBHD1400-S1-BP140X7-S	7	8	2708	2	6	15177.6
47	Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)	8PL-LBHD4150-P	LBHD4150-S1-BP140X7-P	7	8	3037	2	6	17546.4
48	Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)	8PL-LBHD4150-P	LBHD4150-S2-BP140X8-P	7	8	3047	2	2	5872.8
49	Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)	8PL-LBHD4150-S	LBHD4150-S1-BP140X7-S	7	8	3037	2	6	17546.4
50	Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)	8PL-LBHD4150-S	LBHD4150-S2-BP140X8-S	7	8	3047	2	2	5872.8
51	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-P	FR50-BHD-BP140X7-1P	7	8	2932	2	3	8395.2
52	transverse bulkhead frame 50 (FR50-BDH-SP)	B3-8PL	FR50-BHD-BP140X7-1P	7	8	170	2	3	1020
53	transverse bulkhead frame 50 (FR50-BDH-SP)	FR50-BHD-BP140X7-1P	VHDK4600-BP-1P	7	8	115	2	3	690
54	transverse bulkhead frame 50 (FR50-BDH-SP)	B3-8PL	FR50-BHD-BP140X7-1P	7	8	170	2	3	1020
55	transverse bulkhead frame 50 (FR50-BDH-SP)	FR50-BHD-BP140X7-1P	8PL-TT1500-1P	7	8	115	2	3	690
56	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-S	FR50-BHD-BP140X7-1S	7	8	2932	2	3	8395.2
57	transverse bulkhead frame 50 (FR50-BDH-SP)	B3-8PL	FR50-BHD-BP140X7-1S	7	8	170	2	3	1020
58	transverse bulkhead frame 50 (FR50-BDH-SP)	FR50-BHD-BP140X7-1S	VHDK4600-BP-1S	7	8	115	2	3	690
59	transverse bulkhead frame 50 (FR50-BDH-SP)	B3-8PL	FR50-BHD-BP140X7-1S	7	8	170	2	3	1020
60	transverse bulkhead frame 50 (FR50-BDH-SP)	FR50-BHD-BP140X7-1S	8PL-TT1500-1S	7	8	115	2	3	690



sambungan fillet weld dengan profile									
no.	nama panel	nama komponen yang disambung		tebal kompone n (mm)		panjang sambunga n (mm)	sisi yan g di las	jumlah kompone n	panjang pengelasa n (mm)
61	Void slank tank (NB196-07-TT900)	TT900-FB140X7(TYP)	8PL-TT900	7	8	1190	2	10	7080
62	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-4P	FR50-BT-BP140X7-S2-P	7	10	824	2	1	268.8
63	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-4P	FR50-BT-BP140X7-S1-P	7	10	1129	2	1	634.8
64	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-RF50-BT-3P	FR50-BT-BP140X7-S1-P	7	10	1401	2	1	961.2
65	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-4S	FR50-BT-BP140X7-S2-S	7	10	824	2	1	268.8
66	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-FR50-BT-4S	FR50-BT-BP140X7-S1-S	7	10	1129	2	1	634.8
67	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-RF50-BT-3S	FR50-BT-BP140X7-S1-S	7	10	1401	2	1	961.2
68	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-RF50-BT-2P	FR50-BT-BP140X7-S1-P	7	10	1200	2	3	2160
69	bracket floor frame 50 (NB196-07-10PL-FR50-BT-SP)	10PL-RF50-BT-2S	FR50-BT-BP140X7-S1-S	7	10	1200	2	3	2160
70	center girder & bracket	CG-B5-8PL	CG-BP100X8(TPY)	8	8	170	2	7	2380
71	center girder & bracket	CG-B5A-8PL	CG-BP100X8(TYP)	8	8	170	2	7	2380
72	Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600	VHDK4600-BP160X8-S4-P	8	8	3600	2	1	3600
73	Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600	VHDK4600-BP160X8-S3-P	8	8	3750	2	1	3780
74	Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600	VHDK4600-BP160X8-S5-P	8	8	2140	2	2	3696
75	Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600	VHDK4600-BP160X8-S7-P	8	8	1200	2	1	720
76	Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600	VHDK4600-BP160X8-S4-S	8	8	3600	2	1	3600
77	Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600	VHDK4600-BP160X8-S3-S	8	8	3750	2	1	3780
78	Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600	VHDK4600-BP160X8-S5-S	8	8	2140	2	2	3696
79	Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600	VHDK4600-BP160X8-S7-S	8	8	1200	2	1	720
80	bracket floor frame 52 (NB196-07-10PL-FR52-BT-SP)	FR52-BT-BP100X8	10PL-FR52-BT	8	10	407	2	12	9768

sambungan fillet weld dengan profile									
no.	nama panel	nama komponen yang disambung		tebal komponen (mm)		panjang sambungan (mm)	sisi yang dilas	jumlah komponen	panjang pengelasan (mm)
81	bottom shell (NB196-07-BS)	10PL-BS	BS-FB160X8(TYP)	8	10	6000	2	8	51840
82	Side Girder 1800 (NB196-07-10PL-SG1800)	SG1800-S1-BP100X8	SG1800-1S	8	10	1500	2	6	18000
83	Side Girder 1800 (NB196-07-10PL-SG1800)	SG1800-P1-BP100X8	SG1800-1P	8	10	1500	2	6	18000
84	Side Girder 1800 (NB196-07-10PL-SG1800)	SG1800-S2-BP100X8	SG1800-1S	8	10	900	2	2	3600
85	Side Girder 1800 (NB196-07-10PL-SG1800)	SG1800-P2-BP100X8	SG1800-1P	8	10	900	2	2	3600
86	Side Girder 1800 (NB196-07-10PL-SG1800)	SG1800-S3-BP100X8	SG1800-1S	8	10	600	2	5	6000
87	Side Girder 1800 (NB196-07-10PL-SG1800)	SG1800-P3-BP100X8	SG1800-1P	8	10	600	2	5	6000
88	Side Girder 1800 (NB196-07-10PL-SG1800)	SG1800-S4-BP100X8	SG1800-1S	8	10	600	2	4	4800
89	Side Girder 1800 (NB196-07-10PL-SG1800)	SG1800-P4-BP100X8	SG1800-1P	8	10	600	2	4	4800
90	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1P	SG5300-1P	8	10	590	2	1	1180
91	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1P	SG5300-1P	8	10	590	2	1	1180
92	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1P	SG5300-1P	8	10	590	2	1	1180
93	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1P	SG5300-1P	8	10	590	2	1	1180
94	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1P	SG5300-1P	8	10	590	2	1	1180
95	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1P	SG5300-1P	8	10	590	2	1	1180
96	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1P	SG5300-1P	8	10	590	2	1	1180
97	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1P	SG5300-1P	8	10	590	2	1	1180
98	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1P	SG5300-1P	8	10	590	2	1	1180
99	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1S	SG5300-1S	8	10	590	2	1	1180
100	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1S	SG5300-1S	8	10	590	2	1	1180
101	Side Girder 5300 (NB196-07-10PL-SG5300)	BP100X8-1S	SG5300-1S	8	10	590	2	1	1180

sambungan fillet weld dengan profile										
no.	nama panel		nama komponen yang disambung		tebal komponen (mm)		panjang sambungan (mm)	sisi yang dilas	jumlah komponen	panjang pengelasan (mm)
102	Side Girder 5300 (NB196-07-10PL-SG5300)		BP100X8-1S	SG5300-1S	8	10	590	2	1	1180
103	Side Girder 5300 (NB196-07-10PL-SG5300)		BP100X8-1S	SG5300-1S	8	10	590	2	1	1180
104	Side Girder 5300 (NB196-07-10PL-SG5300)		BP100X8-1S	SG5300-1S	8	10	590	2	1	1180
105	Side Girder 5300 (NB196-07-10PL-SG5300)		BP100X8-1S	SG5300-1S	8	10	590	2	1	1180
106	Side Girder 5300 (NB196-07-10PL-SG5300)		BP100X8-1S	SG5300-1S	8	10	590	2	1	1180
107	Side Girder 5300 (NB196-07-10PL-SG5300)		BP100X8-1S	SG5300-1S	8	10	590	2	1	1180
108	bottom shell (NB196-07-BS)		12PL-BS	BS-FB160X8(TYP)	8	12	6000	2	2	12960
109	Vehicle Deck (NB196-07-PL-VHDK4600)		12PL-VHDK4600	VHDK4600-BP160X8-S5-P	8	12	2140	2	1	1848
110	Vehicle Deck (NB196-07-PL-VHDK4600)		12PL-VHDK4600	VHDK4600-BP160X8-S3-P	8	12	3750	2	1	3780
111	Vehicle Deck (NB196-07-PL-VHDK4600)		12PL-VHDK4600	VHDK4600-BP160X8-S2-P	8	12	4540	2	2	9456
112	Vehicle Deck (NB196-07-PL-VHDK4600)		12PL-VHDK4600	VHDK4600-BP160X8-S1-P	8	12	1350	2	2	1800
113	Vehicle Deck (NB196-07-PL-VHDK4600)		12PL-VHDK4600	VHDK4600-BP160X8-S6-C	8	12	1038	2	6	3153.6
114	Vehicle Deck (NB196-07-PL-VHDK4600)		12PL-VHDK4600	VHDK4600-BP160X8-S5-S	8	12	2140	2	1	1848
115	Vehicle Deck (NB196-07-PL-VHDK4600)		12PL-VHDK4600	VHDK4600-BP160X8-S3-S	8	12	3750	2	1	3780
116	Vehicle Deck (NB196-07-PL-VHDK4600)		12PL-VHDK4600	VHDK4600-BP160X8-S2-S	8	12	4540	2	2	9456
117	Vehicle Deck (NB196-07-PL-VHDK4600)		12PL-VHDK4600	VHDK4600-BP160X8-S1-S	8	12	1350	2	2	1800
118	Center Girder	(NB196-07-14PL-CG-1C)	BP100X8(TYP)-S1	CG-1C	8	14	1500	2	6	6480
119	Center Girder	(NB196-07-14PL-CG-1C)	BP100X8(TYP)-S2	CG-1C	8	14	900	2	2	720

## Lampiran 6 Daftar komponen dengan sambungan butt

sambungan butt weld									
no.	nama panel	nama komponen yang disambung		tebal komponen (mm)		panjang sambungan (mm)	sisi yang di las	jumlah komponen	panjang pengelasan (mm)
1	inner bottom (NB196-07-TT1500)	8PL-TT1500-4P	8PL-TT1500-3P	8	8	6000	2	1	12000
2	inner bottom (NB196-07-TT1500)	8PL-TT1500-3P	8PL-TT1500-2P	8	8	4250	2	1	8500
3	inner bottom (NB196-07-TT1500)	8PL-TT1500-2P	8PL-TT1500-1P	8	8	6000	2	1	12000
4	inner bottom (NB196-07-TT1500)	8PL-TT1500-1P	8PL-TT1500-1C	8	8	6000	2	1	12000
5	inner bottom (NB196-07-TT1500)	8PL-TT1500-1C	8PL-TT1500-1S	8	8	6000	2	1	12000
6	inner bottom (NB196-07-TT1500)	8PL-TT1500-1S	8PL-TT1500-2S	8	8	6000	2	1	12000
7	inner bottom (NB196-07-TT1500)	8PL-TT1500-2S	8PL-TT1500-3S	8	8	4250	2	1	8500
8	inner bottom (NB196-07-TT1500)	8PL-TT1500-3S	8PL-TT1500-4S	8	8	6000	2	1	12000
9	Longitudinal Bulkhead 1400 (NB196-07-8PL-LBHD1400-PS)	8PL-LBHD1400-2P	8PL-LBHD1400-1P	8	8	4387	2	1	8774
10	Longitudinal Bulkhead 1400 (NB196-07-8PL-LBHD1400-PS)	8PL-LBHD1400-2S	8PL-LBHD1400-1S	8	8	4387	2	1	8774
11	Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)	8PL-LBHD4150-2P	8PL-LBHD4150-1P	8	8	6000	2	1	12000
12	Longitudinal Bulkhead 4150 (NB196-07-8PL-LBHD4150-PS)	8PL-LBHD4150-2S	8PL-LBHD4150-1S	8	8	6000	2	1	12000
13	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-2P	8PL-FR50-BHD-1P	8	8	2827	2	1	5654
14	transverse bulkhead frame 50 (FR50-BDH-SP)	8PL-FR50-BHD-2S	8PL-FR50-BHD-1S	8	8	2827	2	1	5654
15	Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600-4P	12PL-VHDK4600-3P	8	12	6000	2	1	12000
16	Vehicle Deck (NB196-07-PL-VHDK4600)	8PL-VHDK4600-4S	12PL-VHDK4600-3S	8	12	6000	2	1	12000
17	Side Shell (NB196-07-PL-SS-SP)	9PL-SS-2P	10PL-SS-1P	9	10	6000	2	1	12000
18	Side Shell (NB196-07-PL-SS-SP)	9PL-SS-2S	10PL-SS-1S	9	10	6000	2	1	12000
19	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-1P	10PL-FR48-BT-2P	10	10	500	2	1	1000
20	bracket floor frame 48 (NB196-07-10PL-FR48-BT-SP)	10PL-FR48-BT-1S	10PL-FR48-BT-2S	10	10	500	2	1	1000

<b>sambungan butt weld</b>									
<b>no.</b>	<b>nama panel</b>	<b>nama komponen yang disambung</b>		<b>tebal komponen (mm)</b>		<b>panjang sambungan (mm)</b>	<b>sisi yang di las</b>	<b>jumlah komponen</b>	<b>panjang pengelasan (mm)</b>
21	breacket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-1P	10PL-FR49-BT-2P	10	10	500	2	1	1000
22	breacket floor frame 49 (NB196-07-10PL-FR49-BT-SP)	10PL-FR49-BT-1S	10PL-FR49-BT-2S	10	10	500	2	1	1000
23	breacket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-1P	10PL-FR53-BT-2P	10	10	500	2	1	1000
24	breacket floor frame 53 (NB196-07-10PL-FR53-BT-SP)	10PL-FR53-BT-1S	10PL-FR53-BT-2S	10	10	500	2	1	1000
25	breacket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-4P	10PL-FR54-BT-3P	10	10	500	2	1	1000
26	breacket floor frame 54 (NB196-07-10PL-FR54-BT-SP)	10PL-FR54-BT-4S	10PL-FR54-BT-3S	10	10	500	2	1	1000
27	breacket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-1P	10PL-FR55-BT-2P	10	10	500	2	1	1000
28	breacket floor frame 55 (NB196-07-10PL-FR55-BT-SP)	10PL-FR55-BT-1S	10PL-FR55-BT-2S	10	10	500	2	1	1000
29	breacket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-1P	10PL-FR56-BT-2P	10	10	500	2	1	1000
30	breacket floor frame 56 (NB196-07-10PL-FR56-BT-SP)	10PL-FR56-BT-1S	10PL-FR56-BT-2S	10	10	500	2	1	1000
31	breacket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-1P	10PL-FR57-BT-2P	10	10	500	2	1	1000
32	breacket floor frame 57 (NB196-07-10PL-FR57-BT-SP)	10PL-FR57-BT-1S	10PL-FR57-BT-2S	10	10	500	2	1	1000
33	bottom shell (NB196-07-BS)	10PL-BS-4P	10PL-BS-3P	10	10	6000	2	1	12000
34	bottom shell (NB196-07-BS)	10PL-BS-3P	10PL-BS-2P	10	10	6000	2	1	12000
35	bottom shell (NB196-07-BS)	10PL-BS-2P	10PL-BS-1P	10	10	6000	2	1	12000
36	bottom shell (NB196-07-BS)	10PL-BS-S1	10PL-BS-S2	10	10	6000	2	1	12000
37	bottom shell (NB196-07-BS)	10PL-BS-S2	10PL-BS-S3	10	10	6000	2	1	12000
38	bottom shell (NB196-07-BS)	10PL-BS-S3	10PL-BS-S4	10	10	6000	2	1	12000
39	Side Shell (NB196-07-PL-SS-SP)	10PL-SS-1P	10PL-BS-4P	10	10	6000	2	1	12000
40	Side Shell (NB196-07-PL-SS-SP)	10PL-SS-1S	10PL-BS-4S	10	10	6000	2	1	12000
41	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1P	10PL-FR50-ST-1P	10	10	150	2	1	300
42	transverse bulkhead frame 50 (FR50-BDH-SP)	10PL-FR50-DT-1S	10PL-FR50-ST-1S	10	10	150	2	1	300

sambungan butt weld									
no.	nama panel	nama komponen yang disambung		tebal komponen (mm)		panjang sambungan (mm)	sisi yang di las	jumlah komponen	panjang pengelasan (mm)
43	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-3P	10PL-FR54-DT-3P	10	10	200	2	1	400
44	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-2P	10PL-FR54-ST-2P	10	10	150	2	1	300
45	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-ST-3S	10PL-FR54-DT-3S	10	10	200	2	1	400
46	transverse bulkhead frame 54 (FR54-BDH-SP)	10PL-FR54-DT-2S	10PL-FR54-ST-2S	10	10	150	2	1	300
47	bottom shell (NB196-07-BS)	10PL-BS-1P	12PL-BS-1C	10	12	6000	2	1	12000
48	bottom shell (NB196-07-BS)	12PL-BS-1C	10PL-BS-1S	10	12	6000	2	1	12000
49	transverse bulkhead frame 54 (FR54-BDH-SP)	12PL-FR45-DT-1P	10PL-FR54-ST-1P	10	12	151	2	1	302
50	transverse bulkhead frame 54 (FR54-BDH-SP)	12PL-FR54-DT-1P	10PL-FR54-ST-1P	10	12	150	2	1	300
51	transverse bulkhead frame 54 (FR54-BDH-SP)	FB250X12	FB90X10	10	12	90	2	1	180
52	transverse bulkhead frame 54 (FR54-BDH-SP)	12SL-FR45-DT-1S	10PL-FR54-ST-1S	10	12	151	2	1	302
53	transverse bulkhead frame 54 (FR54-BDH-SP)	12SL-FR54-DT-1S	10PL-FR54-ST-1S	10	12	150	2	1	300
54	transverse bulkhead frame 54 (FR54-BDH-SP)	FB250X12	FB90X10	10	12	90	2	1	180
55	bracket pada vehicle deck	FR56-DT-FB250X12	12PL-DSG1800-2P-FB	12	12	250	2	1	500
56	bracket pada vehicle deck	FR56-DT-FB250X12	12PL-DSG1800-2S-FB	12	12	250	2	1	500
57	Vehicle Deck (NB196-07-PL-VHDK4600)	12PL-VHDK4600-3P	12PL-VHDK4600-2P	12	12	6000	2	1	12000
58	Vehicle Deck (NB196-07-PL-VHDK4600)	12PL-VHDK4600-2P	12PL-VHDK4600-1P	12	12	6000	2	1	12000
59	Vehicle Deck (NB196-07-PL-VHDK4600)	12PL-VHDK4600-1P	12PL-VHDK4600-1C	12	12	1660	2	1	3320
60	Vehicle Deck (NB196-07-PL-VHDK4600)	12PL-VHDK4600-3S	12PL-VHDK4600-2S	12	12	6000	2	1	12000
61	Vehicle Deck (NB196-07-PL-VHDK4600)	12PL-VHDK4600-2S	12PL-VHDK4600-1S	12	12	6000	2	1	12000
62	Vehicle Deck (NB196-07-PL-VHDK4600)	12PL-VHDK4600-1S	12PL-VHDK4600-1C	12	12	1660	2	1	3320

## Lampiran 7 Penentuan jumlah sampling dengan metode slovin

<b>Sampling</b>			
<b>error</b>	<b>sample (mm)</b>	<b>jumlah</b>	<b>kebutuhan</b>
5%	398.6779045	40	4
5%	399.7204771	40	4
5%	398.6615359	40	4
5%	390.6759907	39	4
5%	352.9411765	35	4
5%	399.6985341	40	4
5%	398.4533292	40	4
5%	386.4038069	39	4
5%	398.0796006	40	4
5%	396.1212121	40	4
5%	297.4358974	30	4
5%	380.2224969	38	4
5%	340.7407407	34	4
5%	399.2900538	40	4
5%	381.0641924	38	4
5%	394.4351697	39	4
5%	398.0780319	40	4
5%	396.8179215	40	4
5%	378.9473684	38	4
5%	398.8752671	40	4
5%	393.442623	39	4
5%	393.442623	39	4
5%	398.5765125	40	4
5%	393.8376213	39	4
5%	397.1448965	40	4

Lampiran 8 Perhitungan berat las secara empirik

massa jenis mild steel :		7.85 g/cm <sup>3</sup>		jenis sambungan		erat las (kg)		total (kg)	
berat blok 7 :		48595 kg		fillet weld		522.3921		733.7169	
				fillet weld with profile		103.8078			
				butt weld		107.5171			

Jenis Las	variasi ukuran		Panjang Las (mm)	A (mm <sup>2</sup> )	V (cm <sup>3</sup> )	berat las		total (kg)	pertambahan		sudut bevel = 30				
						gram	Kg		g/mm	kg/m	g/mm	kg/m			
Fillet Weld	8	8	120620	32	3859.84	30299.74	30.29974	522.3921	0.2512	0.2512	perhitungan volume kampuh las				
	8	10	507204	32	16230.53	127409.64	127.4096		0.2512	0.2512	root	bevel A	bevel B	cap	total V
	8	12	119140	32	3812.48	29927.97	29.92797		0.2512	0.2512	16	10.3923	10.3923	13.3923048	50.176915
	8	14	16760	32	536.32	4210.11	4.210112		0.2512	0.2512	24	10.3923	28.86751	16.8564065	80.116225
	9	10	3000	40.5	121.5	953.78	0.953775		0.317925	0.317925	20	14.14508	18.47521	15.9903811	68.610671
	10	10	530340	50	26517	208158.45	208.1585		0.3925	0.3925	20	18.47521	18.47521	16.8564065	73.806824
	10	12	103048	50	5152.4	40446.34	40.44634		0.3925	0.3925	24	18.47521	28.86751	18.5884573	89.931179
	10	14	11368	50	568.4	4461.94	4.46194		0.3925	0.3925	24	28.86751	28.86751	20.3205081	102.05553
	12	12	82916	72	5969.952	46864.12	46.86412		0.5652	0.5652	r1	r2	w1	w2	W
	12	14	40850	72	2941.2	23088.42	23.08842		0.5652	0.5652	6.92820323	6.928203	3.464102	3.46410162	8.9282032
	12	20	1160	72	83.52	655.63	0.655632		0.7693	0.7693	6.92820323	11.54701	3.464102	5.77350269	11.237604
	14	20	7690	98	753.62	5915.92	5.915917		0.192325	0.192325	8.082903769	9.237604	4.041452	4.61880215	10.660254
Fillet weld with profile	7	7	2300	24.5	56.35	442.35	0.442348	103.8078	0.192325	0.192325	9.237604307	9.237604	4.618802	4.61880215	11.237604
	7	8	224969.2	24.5	5511.745	43267.20	43.2672		0.192325	0.192325	9.237604307	11.54701	4.618802	5.77350269	12.392305
	7	10	8049.6	24.5	197.2152	1548.14	1.548139		0.2512	0.2512	11.54700538	11.54701	5.773503	5.77350269	13.547005
	8	8	28352	32	907.264	7122.02	7.122022		0.2512	0.2512					
	8	10	147648	32	4724.736	37089.18	37.08918		0.2512	0.2512					
	8	12	49881.6	32	1596.211	12530.26	12.53026		0.2512	0.2512					
8	14	7200	32	230.4	1808.64	1.81 Kg	0.2512	0.2512							

Jenis Las	variasi ukuran		Panjang Las (mm)	A (luas penamp)	luas penampa	V kampuh (cm <sup>3</sup> )	V sambung	berat kampuh kg	kg	berat las (gram)	kg	total berat	total berat las (kg)	pertambahan	
														g/mm	kg/m
Butt Weld	8	8	141856	50.176915	29.3923	7117.896388	4169.475	55875.49	55.87549	32730.38	32.73038	211.41 Kg	107.5170509	0.230729593	0.23073
	8	12	24000	80.116225	40.85641	1922.789394	980.5538	15093.9	15.0939	7697.347	7.697347			0.320722791	0.320723
	9	10	24000	68.610671	35.99038	1646.65611	863.7691	12926.25	12.92625	6780.588	6.780588			0.282524491	0.282524
	10	10	112000	73.806824	36.85641	8266.364253	4127.918	64890.96	64.89096	32404.15	32.40415			0.289322791	0.289323
	10	12	25564	89.931179	42.58846	2299.000669	1088.731	18047.16	18.04716	8546.541	8.546541			0.33431939	0.334319
	12	12	55640	102.05553	44.32051	5678.369967	2465.993	44575.2	44.5752	19358.05	19.35805			0.347915988	0.347916



Lampiran 9 Perhitungan berat las dari sampel spesimen

berat fillet welding dari eksperimen										fillet weld										
jenis sambungan	Panjang las (mm)	berat sample sebelum las (gram)				berat sample setelah di las (gram)				berat las (gram)				fillet weld				pertambahan berat		
		a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	modus	median	g/mm
L-8-8	100	803	803	803	803	841	825	855	850	38	22	52	47	4.73%	2.74%	6.48%	5.85%	#N/A	49.5	0.495
L-8-10	100	784	784	784	784	833	828	828	829	49	44	44	45	6.25%	5.61%	5.61%	5.74%	44		0.44
L-8-12	100	810	810			855	854	0	0	45	44			5.56%	5.43%			#N/A	44.5	0.445
L-8-14	100	723	723	723	723	764	772	772	768	41	49	49	45	5.67%	6.78%	6.78%	6.22%	49		0.49
L-9-10	100	719	719	719	719	777	767	765	769	58	48	46	50	8.07%	6.68%	6.40%	6.95%	#N/A	49	0.49
L-10-10	100	746	746	746	746	815	795	798	798	69	49	52	52	9.25%	6.57%	6.97%	6.97%	52		0.52
L-10-12	100	788	788	0	0	843	844	0	0	55	56			6.98%	7.11%			#N/A	55.5	0.555
L-10-14	100	705	705	705	705	771	758	755	755	66	53	50	50	9.36%	7.52%	7.09%	7.09%	50		0.5
L-12-12	100	833	833			919	905			86	72			10.32%	8.64%			#N/A	79	0.79
L-12-14	100	734	734			813	800			79	66			10.76%	8.99%			#N/A	72.5	0.725
L-12-20	100	1213	1213			1307	1310			94	97			7.75%	8.00%			#N/A	95.5	0.955
L-14-20	100	1130	1130	1130	1130	1232	1227	1220	1230	102	97	90	100	9.03%	8.58%	7.96%	8.85%	#N/A	98.5	0.985

berat fillet welding dengan profil dari eksperimen										profil fillet weld										
jenis sambungan	Panjang las (mm)	berat sample sebelum las (gram)				berat sample setelah di las (gram)				berat las (gram)				profil fillet weld				pertambahan berat		
		a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	modus	median	g/mm
P-7-7	140	1842	1842	1842	1842	1894	1900	1903	1900	52	58	61	58	2.82%	3.15%	3.31%	3.15%	58		0.414286
P-7-8	50	1334	1334	1334	1334	1358	1359	1359	1357	24	25	25	23	1.80%	1.87%	1.87%	1.72%	25		0.5
P-7-10	50	1267	1267	1267	1267	1290	1291	1291	1291	23	24	24	24	1.82%	1.89%	1.89%	1.89%	24		0.48
P-8-8	50	1806	1806	1806	1806	1837	1830	1831	1832	31	24	25	26	1.72%	1.33%	1.38%	1.44%	#N/A	24.5	0.49
P-8-10	50	1775	1775	1775	1841	1797	1798	1802	1869	22	23	27	28	1.24%	1.30%	1.52%	1.52%	#N/A	27.5	0.55
P-8-12	50	1840	1840	1840	1840	1865	1865	1863	1863	25	25	23	23	1.36%	1.36%	1.25%	1.25%	25		0.5
P-8-14	50	1771	1771	1771	1771	1793	1794	1791	1795	22	23	20	24	1.24%	1.30%	1.13%	1.36%	#N/A	23.5	0.47

butt welding										pertambahan berat														
jenis sambungan	Panjang las (mm)	berat sampel (gram)				berat sample setelah di bevel (gram)				berat sample setelah di las (gram)				berat las (gram)				pertambahan berat						
		a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	modus	median	g/mm
B-8-8	100	798	798	798	798	768	775	758	760	811	792	796	808	13	-6	-2	10	1.63%	-0.75%	-0.25%	1.25%	#N/A	11.5	0.115
B-8-12	100	815	815			760	755			817	815			2	0			0.25%	0.00%			#N/A	1	0.01
B-9-10	100	730	730	730	730	680	690	674	680	740	739	730	733	10	9	0	3	1.37%	1.23%	0.00%	0.41%	#N/A	9.5	0.095
B-10-10	100	773	773	773	773	645	716	726	709	712	777	798	780	-61	4	25	7	-7.89%	0.52%	3.23%	0.91%	#N/A	5.5	0.055
B-10-12	100	800	800	800	800	738	722	720	726	794	774	773	809	-6	-26	-27	9	-0.75%	-3.25%	-3.38%	1.13%	#N/A	-26.5	-0.265
B-12-12	100	795	795	795	795	732	705	712	748	802	802	797	823	7	7	2	28	0.88%	0.88%	0.25%	3.52%	7	0.07	

berat pengelasan pada blok 7 berdasarkan eksperimen							
jenis sambungan	tebal material		Panjang Las (mm)	pertambahan berat (g/mm)	berat pengelasan		total berat (kg)
					gram	kg	
Fillet Weld	8	8	120620	0.495	59706.9	59.7069	788.03114
	8	10	507204	0.440	223169.8	223.1698	
	8	12	119140	0.445	53017.3	53.0173	
	8	14	16760	0.490	8212.4	8.2124	
	9	10	3000	0.490	1470	1.47	
	10	10	530340	0.520	275776.8	275.7768	
	10	12	103048	0.555	57191.64	57.19164	
	10	14	11368	0.500	5684	5.684	
	12	12	82916	0.790	65503.64	65.50364	
	12	14	40850	0.725	29616.25	29.61625	
	12	20	1160	0.955	1107.8	1.1078	
Fillet weld with profile	14	20	7690	0.985	7574.65	7.57465	240.7249451
	7	7	2300	0.414	952.8571	0.952857	
	7	8	224969.2	0.500	112484.6	112.4846	
	7	10	8049.6	0.480	3863.808	3.863808	
	8	8	28352	0.490	13892.48	13.89248	
	8	10	147648	0.550	81206.4	81.2064	
	8	12	49881.6	0.500	24940.8	24.9408	
Butt Weld	8	14	7200	0.470	3384	3.384	22.11378
	8	8	141856	0.115	16313.44	16.31344	
	8	12	24000	0.010	240	0.24	
	9	10	24000	0.095	2280	2.28	
	10	10	112000	0.055	6160	6.16	
	10	12	25564	-0.265	-6774.46	-6.77446	
total berat pengelasan secara eksperimental						1050.870	

Lampiran 10 Perbandingan berat hasil las secara empirik dan eksperimental

berat pengelasan pada blok 7														
jenis sambung	variasi tebal sambungan		berat las empirik (kg)	pertambah g/mm	berat las eksperimental (kg)	pertambah g/mm	berat blok 7 (kg)	berat pengelasan empirik (kg)		berat pengelasan eksperimen (kg)				
Fillet Weld	8	8	30.300	0.251	59.707	0.495	48595	<b>733.717</b>	<b>1050.870</b>					
	8	10	127.410	0.251	223.170	0.440		1.49%	2.12%					
	8	12	29.928	0.251	53.017	0.445								
	8	14	4.210	0.251	8.212	0.490								
	9	10	0.954	0.318	1.470	0.490								
	10	10	208.158	0.393	275.777	0.520								
	10	12	40.446	0.393	57.192	0.555								
	10	14	4.462	0.393	5.684	0.500								
	12	12	46.864	0.565	65.504	0.790								
	12	14	23.088	0.565	29.616	0.725								
	12	20	0.656	0.565	1.108	0.955								
	14	20	5.916	0.769	7.575	0.985								
		<b>total berat =</b>		<b>522.392</b>		<b>788.031</b>								
Fillet weld with profile	7	7	0.442	0.192	0.953	0.414								
	7	8	43.267	0.192	112.485	0.500								
	7	10	1.548	0.192	3.864	0.480								
	8	8	7.122	0.251	13.892	0.490								
	8	10	37.089	0.251	81.206	0.550								
	8	12	12.530	0.251	24.941	0.500								
	8	14	1.809	0.251	3.384	0.470								
		<b>total berat =</b>		<b>103.808</b>		<b>240.725</b>								
Butt Weld	8	8	32.730	0.231	16.313	0.115								
	8	12	7.697	0.321	0.240	0.010								
	9	10	6.781	0.283	2.280	0.095								
	10	10	32.404	0.289	6.160	0.055								
	10	12	8.547	0.334	-6.774	-0.265								
	12	12	19.358	0.348	3.895	0.070								
	<b>total berat =</b>		<b>107.517</b>		<b>22.114</b>									

Kategori	Berat (kg)
Berat Pengelasan Empirik (kg)	733.717
Berat Pengelasan Eksperimen (kg)	1050.870

### Lampiran 11 Welding procedure specification



#### Manufacturer's Welding Procedure Specification

Preliminary WPS       Final WPS

**Informasi umum (General information)**

No. WPS: 01/WPS.IK/IGC/2018      No. WPQR: \_\_\_\_\_  
 WPS No. \_\_\_\_\_      WPQR No. \_\_\_\_\_

Standard uji: BKI RULES FOR WELDING Vol 6 section 04  
 Testing standard \_\_\_\_\_

Proses las: 111 (SMAW)      Mode transfer logam las: NONE  
 Welding Process \_\_\_\_\_      Mode of metal transfer \_\_\_\_\_

Tipe sambungan: BUTT JOINT DAN SINGEL V - GROVE  
 Joint type \_\_\_\_\_

Material penahan:  Ya  Tidak      Material: NONE  
 Backing material: Yes No Material \_\_\_\_\_

Couging balik:  Ya  Tidak      Metode: GRINDING  
 Back gouging: Yes No Method \_\_\_\_\_

Spesifikasi material dasar: KI GRADE A  
 Base material(s) specification \_\_\_\_\_

Rentang tebal material: 3 mm – 25 mm      Rentang diameter luar: NONE  
 Material thickness range \_\_\_\_\_      Outside diameter range \_\_\_\_\_

Posisi las: 1G      Metode persiapan dan pembersihan: CHIPING DAN GRINDING  
 Welding position \_\_\_\_\_      Method of preparation and cleaning \_\_\_\_\_

**Kawat las (Welding consumables)**

Klasifikasi kawat las (sesuai ISO atau AWS): AWS A5.1 6013  
 Welding consumables classification (acc. to ISO or AWS) \_\_\_\_\_

Tipe / merek: RD-460      Pembuat: NIKKO STEEL  
 Brand name \_\_\_\_\_      Manufacturer \_\_\_\_\_

Dilakukan pemanasan atau pengeringan khusus: NONE  
 Any special baking or drying \_\_\_\_\_

**Gas pelindung (Shielding gas)**

Tipe gas / komposisi: NONE      Kec. alir gas: NONE  
 Type of gas / composition \_\_\_\_\_      Gas flow rate \_\_\_\_\_

**Fluks (Flux)**

Klasifikasi fluks (sesuai ISO atau AWS): NONE  
 Flux classification (acc. to ISO or AWS) \_\_\_\_\_

Tipe / merek: NONE      Pembuat: NONE  
 Brand name \_\_\_\_\_      Manufacturer \_\_\_\_\_

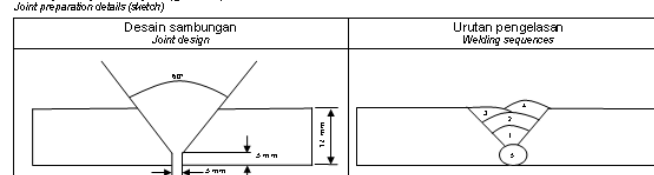
Suhu pemanasan awal: NONE      Suhu antar lejur: MIN. 65° C, MAX 250° C  
 Preheating temperature \_\_\_\_\_      Interpass temperature \_\_\_\_\_

**Perlakuan panas pasca las**

Post-weld heat treatment  
 Temperatur: NONE      Waktu tahanan: NONE  
 Temperature \_\_\_\_\_      Hold time \_\_\_\_\_

Kec. pemanasan dan pendinginan: NONE  
 Heating and cooling rate \_\_\_\_\_

**Detail persiapan kampuh (gambar)**



**Detail pengelasan**

Alur Run	Proses las Welding process	Diameter kawat las Diameter of filler metal [mm]	Arus las Current [A]	Tegangan Voltage [V]	Tipe arus/ polaritas Type of current/ polarity	Kec. umpan kawat Wire feed Speed	Kec las Travel speed [cm/min]
1	111	3.2	90 – 130	24 – 27	DCEP	--	8 – 18
2	111	4.0	110 – 140	24 – 27	DCEP	--	8 – 18
3	111	4.0	110 – 140	24 – 27	DCEP	--	8 – 18
4	111	4.0	110 – 140	24 – 27	DCEP	--	8 – 18
5	111	3.2	110 – 140	24 – 27	DCEP	--	8 – 24

**Informasi lain (Other information)**

Jumlah kawat las: 1 (SINGLE)      Tipe & diameter elektrodatungsten: NONE  
 Number of electrode \_\_\_\_\_      Tungsten electrode type & diameter \_\_\_\_\_

Jarak ujung nosel ke benda kerja: NONE      Diameter nosel: NONE  
 Distance contact tube to workpiece \_\_\_\_\_      Nozzle diameter \_\_\_\_\_

Tipe tangkai las: NONE      Merek & pembuat cat dasar: NONE  
 Type of torch \_\_\_\_\_      Brand name & manufacturer of shop primer \_\_\_\_\_

Prepared By: H. MUNIR HR      Checked By: AHMADI M  
 Welding supervisor      Quality Control



**Manufacturer's Welding Procedure Specification**

Preliminary WPS       Final WPS

**Informasi umum (General information)**

No. WPS: 02/WPS.IKI/QC/2018      No. WPQR: \_\_\_\_\_  
 WPS No.      WPQR No.

Standard uji: BKI RULES FOR WELDING Vol 6 section 04  
 Testing standard

Proses las: 111 (SMAW)      Mode transfer logam las: NONE  
 Welding Process      Mode of metal transfer

Tipe sambungan: BUTT JOINT DAN SINGEL V - GROVE  
 Joint type

Material penahan:  Ya       Tidak      Material: NONE  
 Backing material      Yes      No      Material

Gouging balik:  Ya       Tidak      Metode: GRINDING  
 Back gouging      Yes      No      Method

Spesifikasi material dasar: KI GRADE A  
 Base material(s) specification

Rentang tebal material: 3 mm – 25 mm      Rentang diameter luar: NONE  
 Material thickness range      Outside diameter range

Posisi las: 4G      Metode persiapan dan pembersihan: CHIPING DAN GRINDING  
 Welding position      Method of preparation and cleaning

**Kawat las (Welding consumables)**

Klasifikasi kawat las (sesuai ISO atau AWS): AWS A5.1 6013  
 Welding consumables classification (acc. to ISO or AWS)

Tipe / merek: RD-460      Pembuat: NIKKO STEEL  
 Brand name      Manufacturer

Dilakukan pemanasan atau pengeringan khusus: NONE  
 Any special baking or drying

**Gas pelindung (Shielding gas)**

Tipe gas / komposisi: NONE      Kec. alir gas: NONE  
 Type of gas / composition      Gas flow rate

**Fluks (Flux)**

Klasifikasi fluks (sesuai ISO atau AWS): NONE  
 Flux classification (acc. to ISO or AWS)

Tipe / merek: NONE      Pembuat: NONE  
 Brand name      Manufacturer

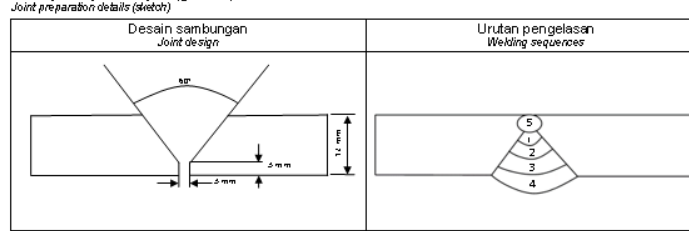
Suhu pemanasan awal: NONE      Suhu antar lajur: MIN. 65° C, MAX 250° C  
 Preheating temperature      Interpass temperature

**Perlakuan panas pasca las**

Post-weld heat treatment  
 Temperatur: NONE      Waktu tahanan: NONE  
 Temperature      Holding time

Kec. pemanasan dan pendinginan: NONE  
 Heating and cooling rate

**Detail persiapan kumpul (gambar)**



**Detail pengelasan**

Alur Run	Proses las Welding process	Diameter kawat las Diameter of filler metal [mm]	Arus las Current [A]	Tegangan Voltage [V]	Tipe arus/ polaritas Type of current/ polarity	Kec. umpan kawat Wire feed Speed	Kec las Travel speed [cm/min]
1	111	3.2	90 – 130	24 – 27	DCEP	--	8 – 18
2	111	4.0	110 – 140	24 – 27	DCEP	--	8 – 18
3	111	4.0	110 – 140	24 – 27	DCEP	--	8 – 18
4	111	4.0	110 – 140	24 – 27	DCEP	--	8 – 18
5	111	3.2	110 – 140	24 – 27	DCEP	--	8 – 24

**Informasi lain (Other information)**

Jumlah kawat las: 1 (SINGLE)      Tipe & diameter elektrodatungsten: NONE  
 Number of electrode      Tungsten electrode type & diameter

Jarak ujung nosel ke benda kerja: NONE      Diameter nosel: NONE  
 Distance contact tube to workpiece      Nozzle diameter

Tipe tangkai las: NONE      Merek & pembuat cat dasar: NONE  
 Type of torch      Brand name & manufacturer of shop primer

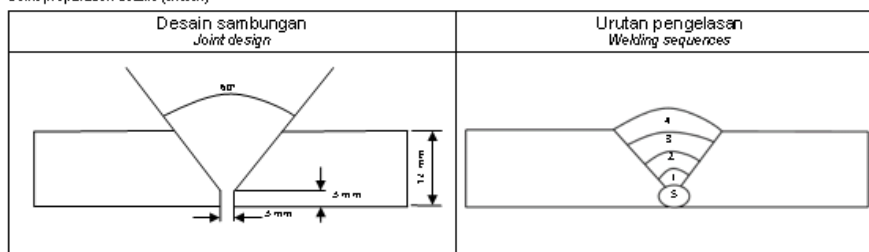
Prepared By: PT Industri Kapal Indonesia      Checked By: PT Industri Kapal Indonesia

H. MUNIR HR      AHMADI M  
 Welding supervisor      (Quality Control)

**Perlakuan panas pasca las***Post-weld heat treatment*

Temperatur : \_\_\_\_\_ NONE \_\_\_\_\_ Waktu tahanan : \_\_\_\_\_ NONE \_\_\_\_\_  
*Temperature Heating time*

Kec. pemanasan dan pendinginan : NONE \_\_\_\_\_  
*Heating and cooling rate*

**Detail persiapan kampuh (gambar)***Joint preparation details (sketch)***Detail pengelasan***Welding details*

Ajur Run	Proses las <i>Welding process</i>	Diameter kawat las <i>Diameter of filler metal</i> [mm]	Arus las <i>Current</i> [A]	Tegangan <i>Voltage</i> [V]	Tipe arus/ polaritas <i>Type of current/ polarity</i>	Kec. umpan kawat <i>Wire feed Speed</i>	Kec las <i>Travel speed</i> [cm/min]
1	111	3.2	90 – 130	24 – 27	DCEP	--	8 – 18
2	111	4.0	110 – 140	24 – 27	DCEP	--	8 – 18
3	111	4.0	110 – 140	24 – 27	DCEP	--	8 – 18
4	111	4.0	110 – 140	24 – 27	DCEP	--	8 – 18
5	111	3.2	110 – 140	24 – 27	DCEP	--	8 – 24

**Informasi lain (Other information)**

Jumlah kawat las : \_\_\_\_\_ 1 (SINGLE) \_\_\_\_\_ Tipe & diameter elektrodatungsten : \_\_\_\_\_ NONE \_\_\_\_\_  
*Number of electrode Tungsten electrode type & diameter*

Jarak ujung nosel ke benda kerja : \_\_\_\_\_ NONE \_\_\_\_\_ Diameter nosel : \_\_\_\_\_ NONE \_\_\_\_\_  
*Distance contact tube to workpiece Nozzle diameter*

Tipe tangkai las : \_\_\_\_\_ NONE \_\_\_\_\_ Merek & pembuat cat dasar : \_\_\_\_\_ NONE \_\_\_\_\_  
*Type of torch Brand name & manufacturer of shop primer*

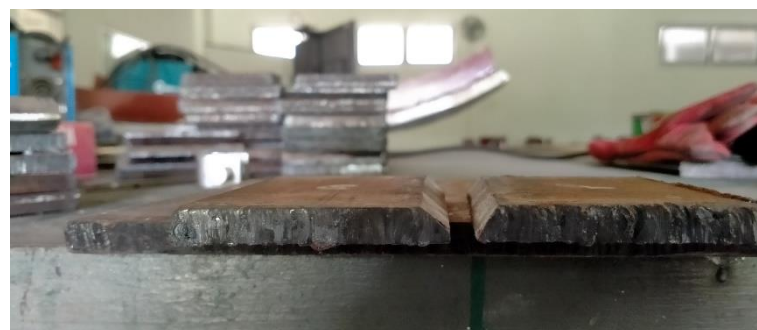
Prepared By  
PT Industri Kapal Indonesia

Checked By  
PT Industri Kapal Indonesia

H. MUNIR HR  
*Welding supervisor*

AHMADI M  
*(Quality Control)*

Lampiran 12 Dokumentasi penelitian









Lampiran 13 Welding tabel

DAFTAR HUBUNGAN LAS					DAFTAR HUBUNGAN LAS						
NO.	BAGIAN YG AKAN DIHUBUNGAN	TEBAL PELAT (mm)	TEBAL LEHER LAS (mm)	JENIS SAMBUNGAN	KET.	NO.	BAGIAN YG AKAN DIHUBUNGAN	TEBAL PELAT (mm)	TEBAL LEHER LAS (mm)	JENIS SAMBUNGAN	KET.
<b>A. WRANG KE:</b>						<b>I. SEKAT KEDAP MELINTANG</b>					
1.	LUNAS	10				1.	PENEGAR KECIL	7	4.0		
2.	PELAT ALAS	10	4.0			2.	PENEGAR BESAR	8	4.0		
3.	PENJUMPU TENGAH	14	4.0			3.	PELAT ALAS DALAM	8	4.0		
4.	PENJUMPU SAMPIING	10	4.0			4.	PELAT LUNAS	12	4.0		
5.	PELAT ALAS DALAM	8	4.0			5.	PELAT ALAS	10	4.0		
6.	FLENS WRANG	12	4.0			6.	PENJUMPU TENGAH	14	4.0		
<b>B. WRANG PD KAMAR MESIN KE:</b>						<b>J. SEKAT KEDAP MEMANJANG</b>					
1.	LUNAS	12	4.0			1.	PENEGAR KECIL	7	4.0		
2.	PELAT ALAS	10	4.0			2.	PENEGAR BESAR	10	4.0		
3.	PELAT TANK TOP	8	4.0			3.	WRANG	10/12	4.0		
4.	PENJUMPU TENGAH	14	4.0			4.	PELAT GELADAK KENDARAAN	12	4.0		
5.	PENJUMPU SAMPIING	10	4.0			<b>K. PELAT GELADAK KENDARAAN</b>					
6.	FLENS WRANG	12	4.0			1.	BILAH BALOK GELADAK TENGAH	14/12	4.0		
7.	PELAT BILAH PENEGAR	8	4.0			2.	BILAH BALOK GELADAK SISI	10	4.0		
8.	PELAT BILAH PONDASI MOTOR INDUK	16	5.0		DETAIL A	3.	SEKAT KEDAP MELINTANG	8	4.0		
<b>C. PELAT ALAS KE:</b>						<b>L. PELAT PENJUMPU TENGAH &amp; SISI</b>					
1.	PENJUMPU SAMPIING	10	4.0			1.	BILAH BALOK GELADAK	8	4.0		
2.	PELAT BILAH PONDASI MOTOR INDUK	16	5.0		DETAIL A	2.	SEKAT KEDAP MEMANJANG	8	4.0		
<b>D. PELAT TANK TOP KE:</b>						<b>M. PEMBUJUR GELADAK</b>					
1.	PENJUMPU TENGAH	14	4.0			1.	PELAT SISI	8/12/8	4.0		
2.	PENJUMPU SAMPIING	10	4.0			2.	BILAH BALOK OLD PENJUMPU	12	4.0		
3.	PELAT SEKAT MEMANJANG	8	4.0			3.	BILAH BALOK OLD HANGGAR	8	4.0		
<b>E. PELAT BILAH GADING BESAR KE:</b>						<b>N. DINDING MEMANJANG</b>					
1.	PELAT TANK TOP	8	4.0			1.	DINDING MELINTANG	8	4.0		
2.	PELAT KULIT	8/10	6.0			2.	PENJUMPU TENGAH & SISI	8	4.0		
<b>F. P. BILAH G. BESAR KAMAR MESIN</b>						<b>O. PEMBUJUR GELADAK</b>					
1.	PELAT HADAP	10	4.0			1.	PELAT SISI	8/12/8	4.0		
2.	PELAT KULIT	8/10	4.0			2.	BILAH BALOK GELADAK	8	4.0		
<b>G. PELAT BILAH PENJUMPU PONDASI MOTOR INDUK</b>						<b>P. PELAT SISI</b>					
1.	PELAT HADAP	30	5.0		DETAIL A	1.	GADING BIASA	8/10	4.0		
2.	BRAKET	12	4.0			2.	GADING BESAR	8/10	4.0		
<b>H. PELAT SISI KE:</b>						<b>Q. SEKAT MELINTANG / MEMANJANG</b>					
1.	GADING BIASA	8	4.0			1.	PELAT MELINTANG	8	4.0		
2.	PELAT BILAH GADING BESAR	10	4.0			2.	PELAT MELINTANG / MEMANJANG	8	4.0		
3.	PELAT GELADAK KENDARAAN	8	4.0			<b>UKURAN UTAMA :</b>					
4.	WRANG	10	4.0			PANJANG SELURUHNYA (L <sub>06</sub> ) = 77.72 m					
5.	SEKAT KEDAP MELINTANG	8/10	4.0			PANJANG A.G.T. (L <sub>05</sub> ) = 72.00 m					
6.	TRANSOM	8/10	4.0			LEBAR (B) = 14.00 m					
7.	PELAT TANK TOP	8	4.0			TINGGI (H) = 4.60 m					
						SARAT (T) = 3.30 m					

**CATATAN :**

- LAS MENERUS
- LAS PUTUS-PUTUS / RANTAI

**LAS FULL PENETRASI (DETAIL A)**

1 > 25 : 02-45°  
1 > 25 : 02-40°

**MACAM LAS TUMPUL**

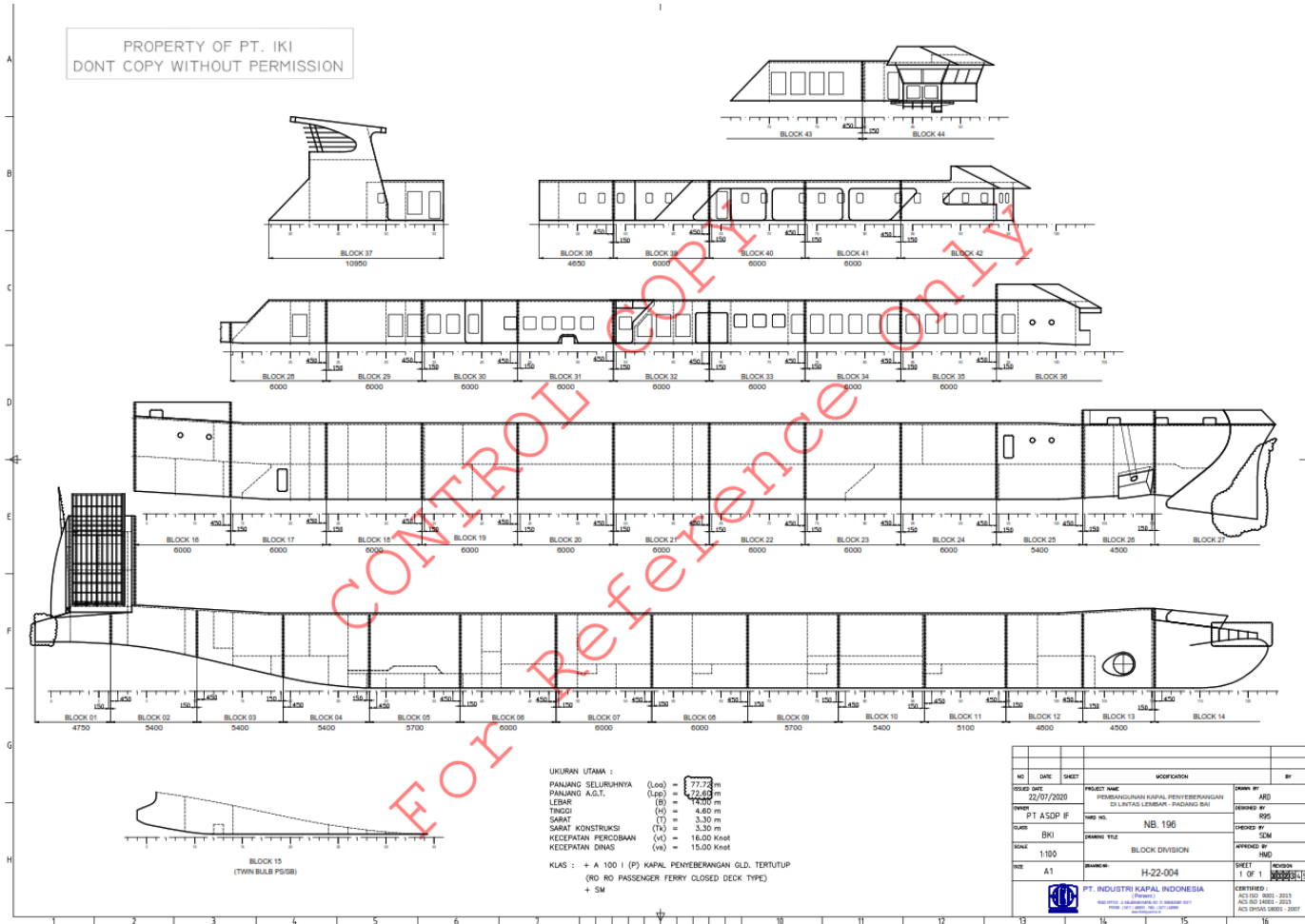
**APPROVED**  
Disetujui

Number 2001150011  
JAKARTA, 10 FEB 2022

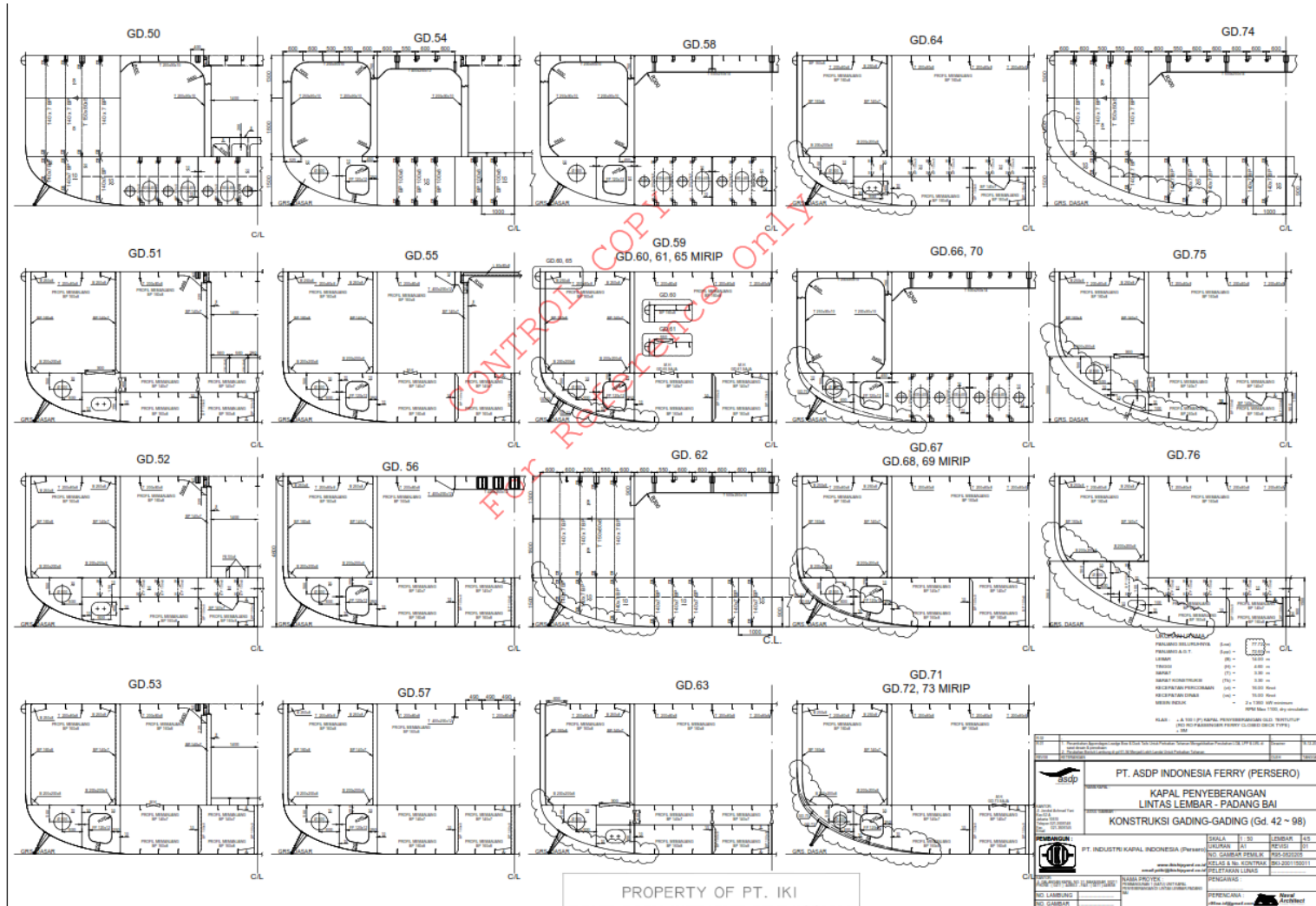
**REMARKS SEE LETTER NO.**  
REKOMENDASI LHAH SURAT NO. B.01468 /SV.001/PRB.KI-22 AND ENTRIES IN THE DRAWING DOCUMENT TO BE OBSERVED DAN CATATAN MERAH PADA GAMBAR/DOKUMEN AGAR DIPERHATIKAN

<b>PT. ASDP INDONESIA FERRY (PERSERO)</b>	
<b>KAPAL PENYEBERANGAN LINTAS LEMBAR - PADANG BAI</b>	
<b>SAMBUNGAN LAS</b>	
KAWAT: 2.0008-A40004-1000 Rasio 50/50 Panjang 2000000 Nomor 021-2000145 Email: 021-2000145	NAMA PROJEK : PERENCANAAN / DETAILING KAPAL PENYEBERANGAN KE LINTAS LEMBAR PADANG BAI NO. LAMBUUNG : NB.197 NO. GAMBAR : H-24-009
PERENCANAAN : www.asdpindonesia.com email: pms@asdpindonesia.com	SKALA : 1 : 1 LEMBAR : 1/1 NO. GAMBAR PEMBUK : R95-0020215 KELAS & No. KONTRAK : BKI-2001135011 PELESTARIAN LINAS : PERENCANA : r95na.tg@gmail.com

Lampiran 14 Pembagian blok pada kapal feri ro-ro 1500 gt



Lampiran 15 Desain gading-gading blok 7



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