

DAFTAR PUSTAKA

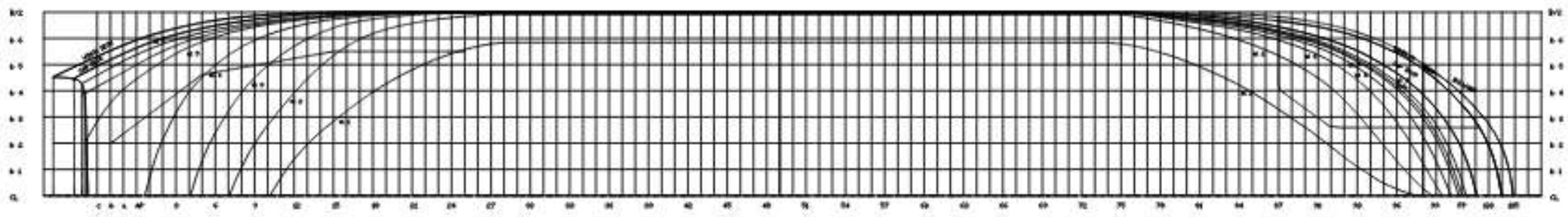
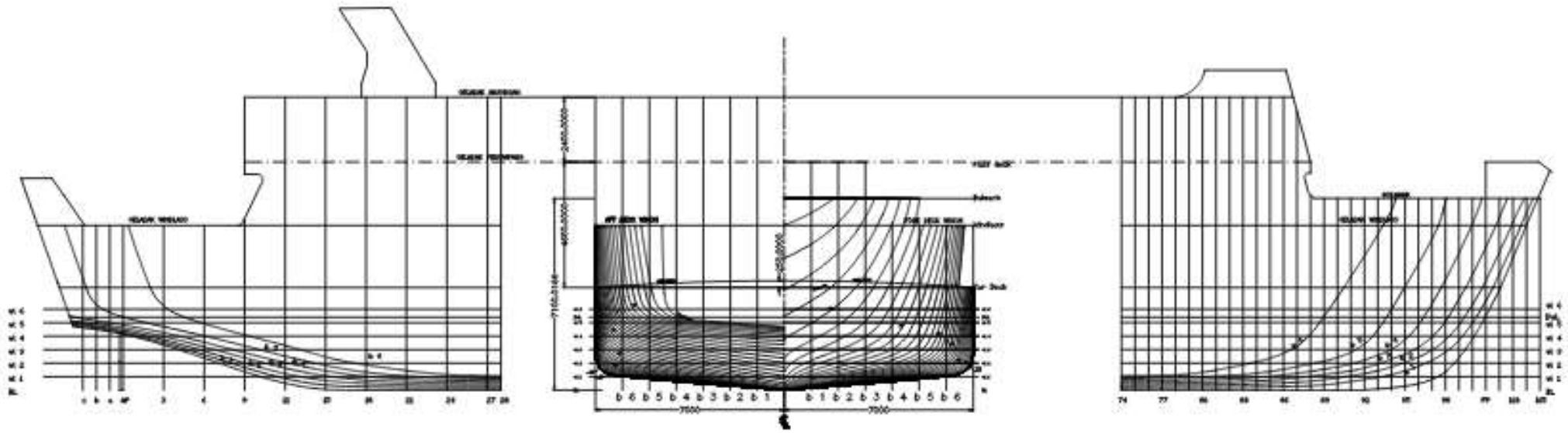
- Eyres, D.J. 2001. *Ship Construction, Fifth Edition*. Woburn: Butterworth-Heinenmann.
- Kasama, M. 1982. *Pipe Piece Family Manufacturing*. Washington: US Department of Transportation.
- Nasya G, Rahmatia. 2018. *Perencanaan Jaringan Kerja Perakitan Blok Lambung Kapal Ferry Roro 750 GT yang Terintegrasi dengan Sistem Perpipa-an Bahan Bakar dan Minyak Pelumas*. Skripsi Program Studi Strata Satu Departemen Teknik Perkapalan Fakultas Teknik. Skripsi. Makassar: Universitas Hasanuddin.
- Putra, Donny Pratama, dkk. 2017. *Studi Peningkatan Produktivitas Tenaga Kerja Subkontraktor Pada Pekerjaan Bangunan Kapal Baru di PT. Adiluhung Sarana Segara Indonesia*. Surabaya: Universitas Teknologi Adhi Tama Surabaya.
- Sofi', Moch, dkk. 2018. *Teknik Konstruksi Kapal Baja Jilid 1*. Jakarta: Direktorat Pembinaan Sekolah Menengah Kejuruan.
- Sunaryo, Hery. 2008. *Teknik Pengelasan Kapal Jilid 1*. Jakarta: Direktorat Pembinaan Sekolah Menengah Kejuruan.
- Wahyuddin. 2011. *Buku Ajar Teknologi Produksi Kapal*. Makassar: Lembaga Kajian Pengembangan Pendidikan Universitas Hasanuddin.
- Yuli A, Rahmawati. 2007. *Penerapan Analisis Jaringan Kerja Untuk Optimalisasi Perencanaan Produksi Dengan Metode Jalur Kritis*. Skripsi. Yogyakarta: Universitas Sanata Dharma.



LAMPIRAN 1

Gambar Lines Plan KMP Lakaan






Optimization Software:
www.balesio.com

PANJANG BELUKAN : 65,70 M
 PANJANG GARIS TEGAK : 60,00 M
L E N A R
 TINGGI BILADAK : 14 M
 TINGGI BARAT : 2,8 M
 T : 2,7 M
 ANAK KAPAL : 20 ORANG
 PENJALANAN : 100 ORANG
 KENDARAAN : 15 Truck 8 ton + 10 Sedan
 MESIN INSUL : 3 x 1100 HP
 KECEPATAN BERTEN : 11 knot


KEMENTERIAN PERHUBUNGAN
 DIREKTORAT JENDERAL PERALANGAN DARAT
 DIREKTORAT LALAY
 Jl. Medan Merdeka Barat No. 1, Jakarta 10115
 T. 71-50101, Fax. 71-50102

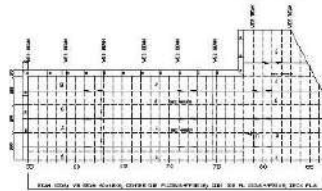
RENCANA GARIS
 KAPAL PENYEBERANGAN PENUNJANG RD-RD 700 GT
 LINTAS : ANJURANG - PANAMBUN - MARDI

DESAIN : 01	REVISI : 01	STATUS : LAYAN/DIRUBAH
SKALA : 1/100	NO. DESAIN : 10-01-001	NO. PERUBAHAN : 1
NO. DESAIN : 10-01-001	NO. DESAIN : 10-01-001	NO. DESAIN : 10-01-001
NO. DESAIN : 10-01-001	NO. DESAIN : 10-01-001	NO. DESAIN : 10-01-001

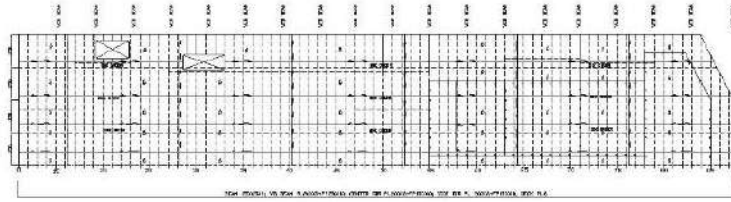
LAMPIRAN 2

Gambar Konstruksi Profil

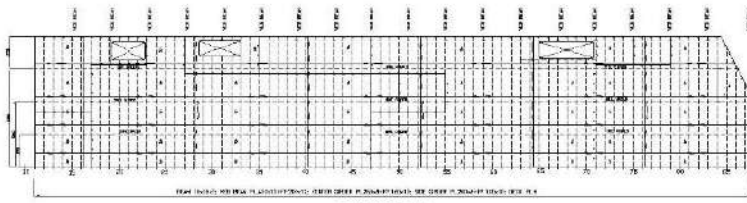




TOP DECK



NAVIGATION DECK



PASSENGER DECK



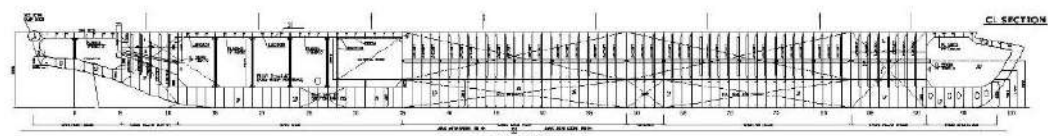
CREW CABIN DECK

AFT WINCH DECK

FORWINCH DECK

UKURAN UTAMA

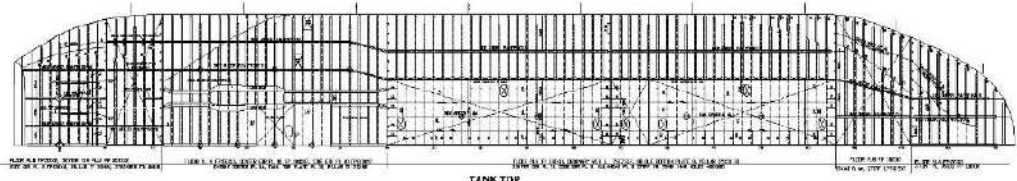
PANJANG SELURUH	Lda	56,70 M
PANJANG GARIS TEGAK	LBP	50,58 M
LEBAR	B	14,4
TINGGI GELADAK	D	13,8 M
TINGGI SARAT	T	12,7 M
AWAK KAPAL		100 Orang
PENUMPANG		100 Orang
KENDARAAN		15 TRUK 2TON + 10 SEDAN
MESIN INDUK	HP	12 x 1100HP
KECEPATAN SERVIS	Vs	11 Knot
KELAS BKIA		100 ⊕ + P 'KAPAL PENYEBERANGAN' + SM



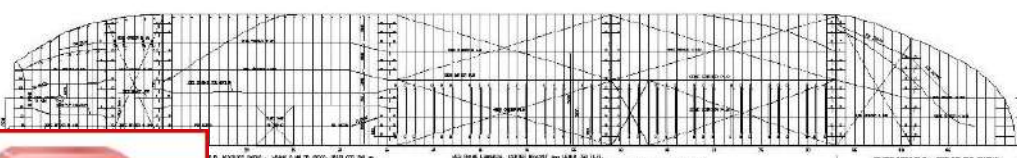
CL SECTION



CAR DECK



TANK TOP



BOTTOM FLOOR



SIDE DECK END OF CL

NO.		TITLE		DRAWING NO.	
NO.		REFERENCE		NO.	
NO.	ALTERATION	DATE	BY	APPROVED	
1	KMP, LAKAAN LINTAS ELPANG-NUAD			DESIGNER	DATE
2	RENCANA KONSTRUKSI			CHECKED	DATE
3	DISCRETIONARY PARTS			APPROVED	DATE
4				DATE	BY
PT. INDUSTRIE LAM, INDONESIA		NO. EISG			
PT. INDUSTRIE LAM, INDONESIA		NO. EISG			

Optimization Software:
www.balesio.com

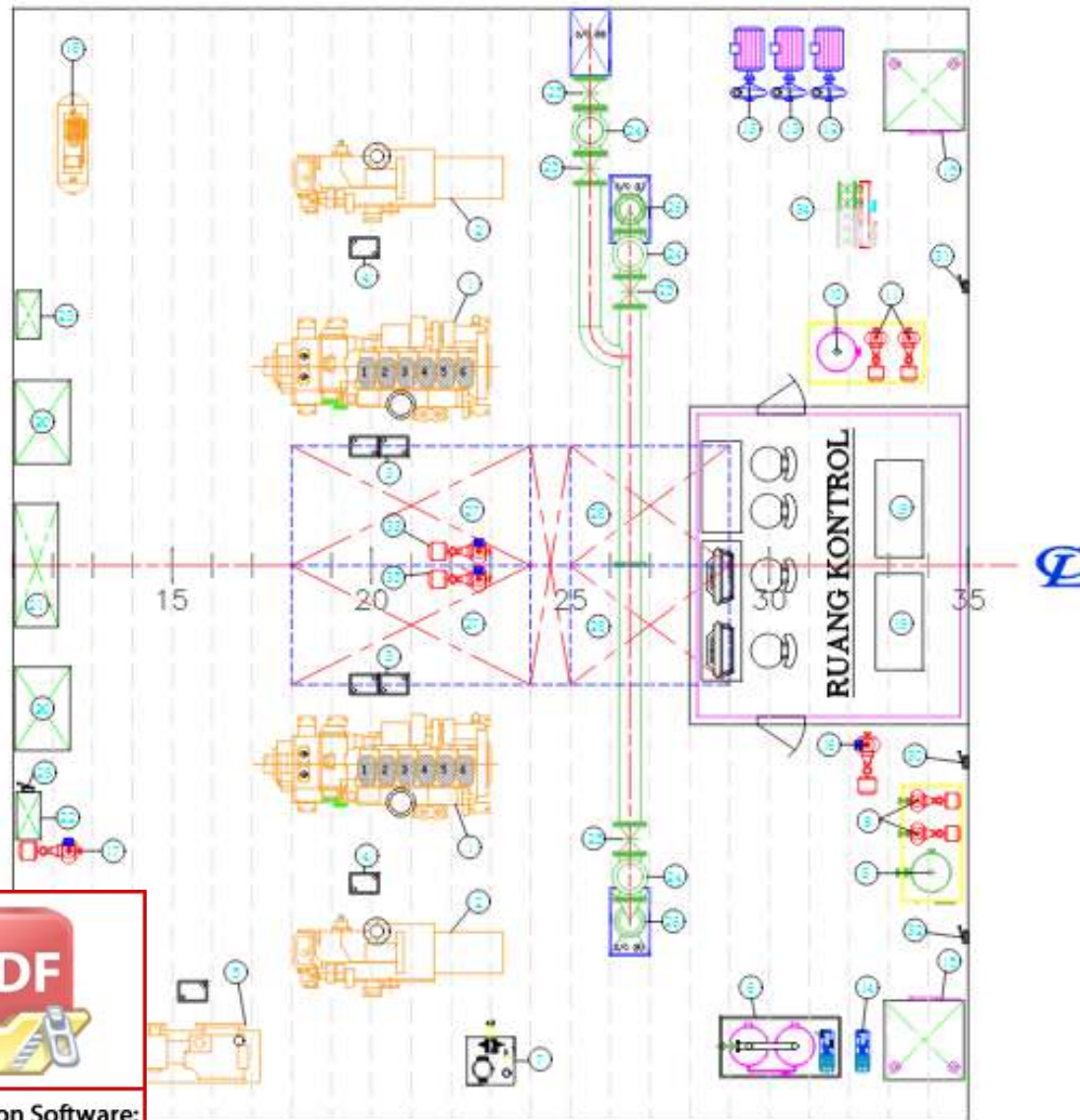
LAMPIRAN 3

Gambar Rencana Kamar Mesin



UKURAN UTAMA

PANJANG SELURUH L_{0A} : 56,70 M
 PANJANG GARIS TEGAK L_{BP} : 50,50 M
 L E B A R B : 14 M
 TINGGI GELADAK D : 3,8 M
 TINGGI SARAT T : 2,7 M



DATA PERALATAN

No	Nama	Jumlah	Spesifikasi
1	Weld Deck	2	220 Hp, 100 rpm
2	Weld Deck	2	220 Hp x 2
3	Battery Horn Main Deck	4	
4	Battery Horn Main Deck	2	
5	Generator Main Deck	1	27 kW
6	Oil Water Separator	1	100 m ³ /jam 27 hp
7	High Pressure Head	1	
8	Tangki Hydrogen Oil Fuel	1	
9	Pompa Hydrogen Oil Fuel	1	200 l/jam 10 hp x 2
10	Tangki Hydrogen Oil Fuel	1	
11	Pompa Hydrogen Oil Fuel	1	200 l/jam 10 hp x 2
12	Pompa Diesel Fuel	1	400 l/jam 5 hp
13	Pompa Air Ballast	2	200 l/jam 10 hp
14	Pompa Air Ballast	1	200 l/jam 10 hp
15	Tangki Air Ballast	2	100 liter
16	Pompa Transfer Ballast Ballast	1	20 l/jam 27 hp
17	Pompa Transfer Ballast	1	20 l/jam 27 hp
18	Compressor 1 Ballast Air	1	Power 2 hp/200 l/jam
19	Ballast Water 200 Liter	2	
20	Tangki Ballast Water Main Deck	2	50 liter x 2
21	Tangki Ballast Water Main Deck	1	70 liter
22	Tangki Ballast Water Ballast	1	50 liter
23	Tangki Ballast Water	1	50 liter
24	Penutup	1	
25	Ballast Valve	4	
26	Ballast Valve	2	
27	Tangki Air Ballast	1	
28	Tangki Air Ballast	1	
29	Pompa Transfer Fuel Oil	1	
30	Pompa Tangki Transfer Ballast Ballast	1	
31	Pompa Tangki Transfer Oil Fuel	1	
32	Pompa Transfer Oil Fuel	1	
33	Pompa Transfer Oil Fuel	1	
34	Pompa Transfer Oil Fuel	1	
35	Pompa Transfer Oil Fuel	1	



Optimization Software:
www.balesio.com

NO.		FILE	DATE	SPES
NO.		REFERENCE		
NO.		ALTERATION	DATE	SPES
KMP. LAKAAN		APPROVED		
LINTAS KUPANG-NOAO		CHECKED		
RENCANA KAMAR MESIN		DRAWN		
PT. INDUSTRI KAPAL INDONESIA		CALCULATED		
NO. 001		NO. 001		
NO. 001		NO. 001		
NO. 001		NO. 001		

LAMPIRAN 4

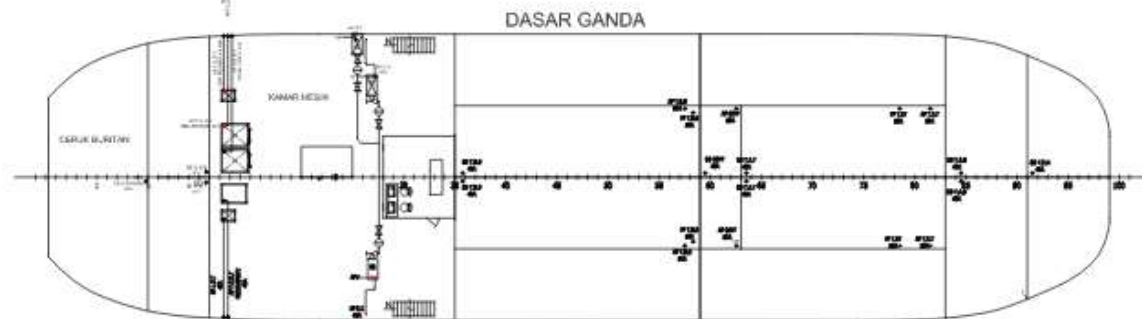
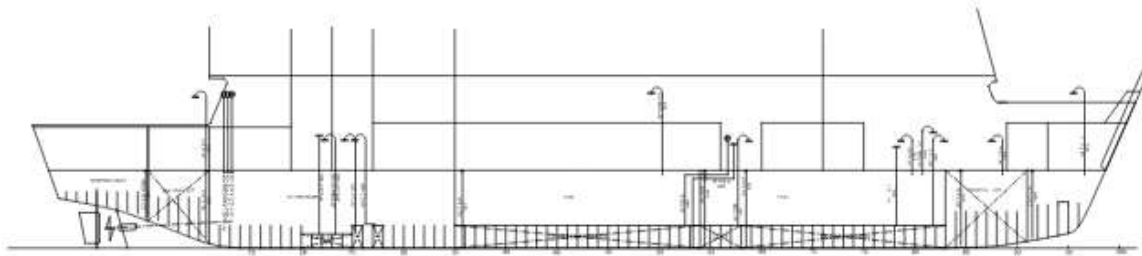
Gambar Pondasi Mesin



LAMPIRAN 5

Gambar *Piping Diagram* Sistem Perpipaan



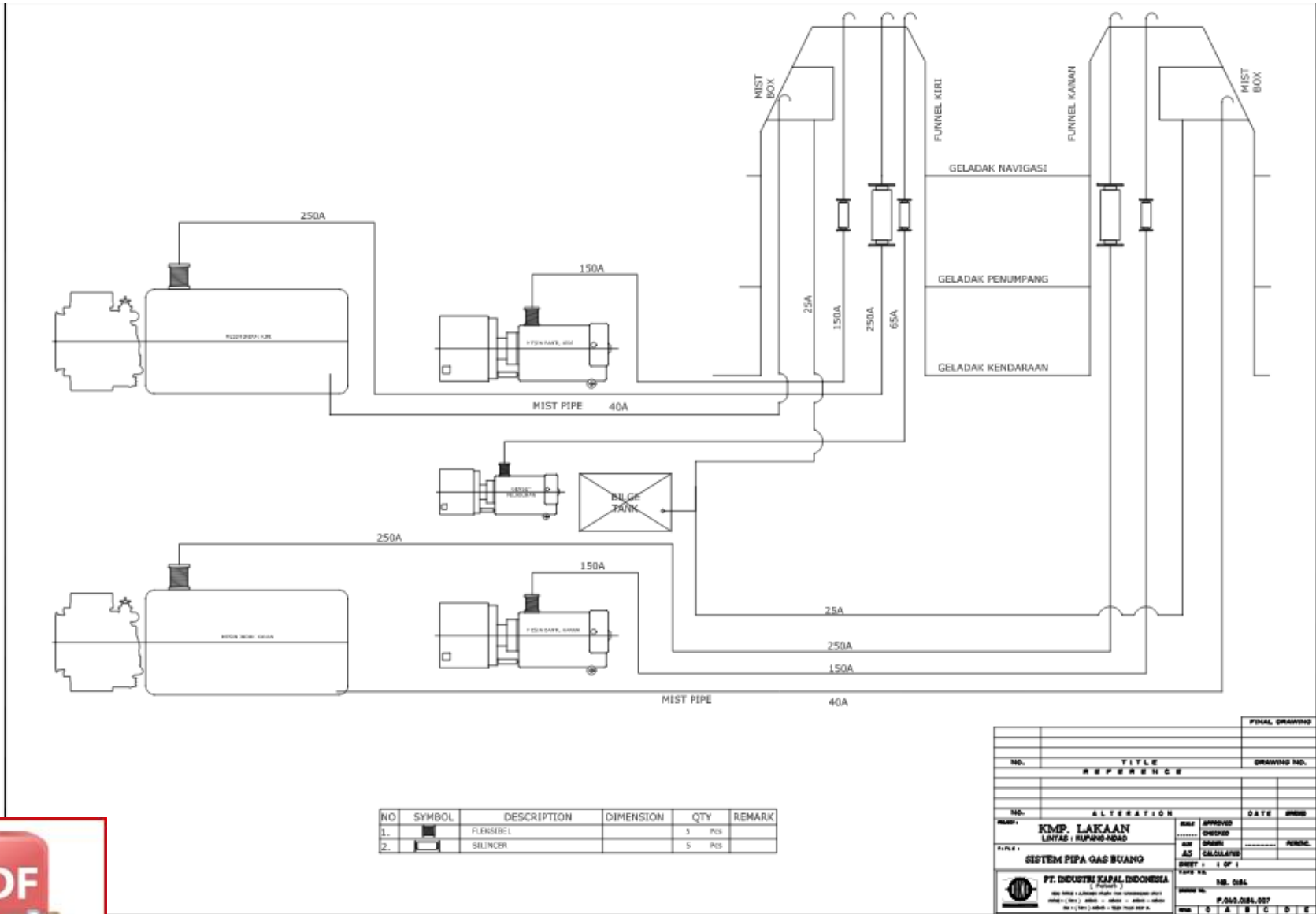


NO.	SYMBOL	DESCRIPTION	QUANTITY	UNIT	REMARKS
1.	T	TANGKAI	100	1	100
2.	T	TANGKAI	100	1	100
3.	T	TANGKAI	100	1	100
4.	T	TANGKAI	100	1	100

FINAL DRAWING			
NO.	TITLE	DATE	DRAWING NO.
	REFERENCE		
ALTERATION			
NO.	DESCRIPTION	DATE	BY
1.	KMP. LAKAAN		
2.	LINTAS I SUPAN-ANDAS		
3.	SISTEM PIPA DUGA, ISL & UDARA		
4.	FT. INDUSTRI KAPAL INDONESIA		
5.	PT. INDUSTRI KAPAL INDONESIA		
6.	PT. INDUSTRI KAPAL INDONESIA		
7.	PT. INDUSTRI KAPAL INDONESIA		
8.	PT. INDUSTRI KAPAL INDONESIA		
9.	PT. INDUSTRI KAPAL INDONESIA		
10.	PT. INDUSTRI KAPAL INDONESIA		



Lampiran 5.2. Diagram Sistem Perpipaan Isi, Duga, dan Pipa Udara

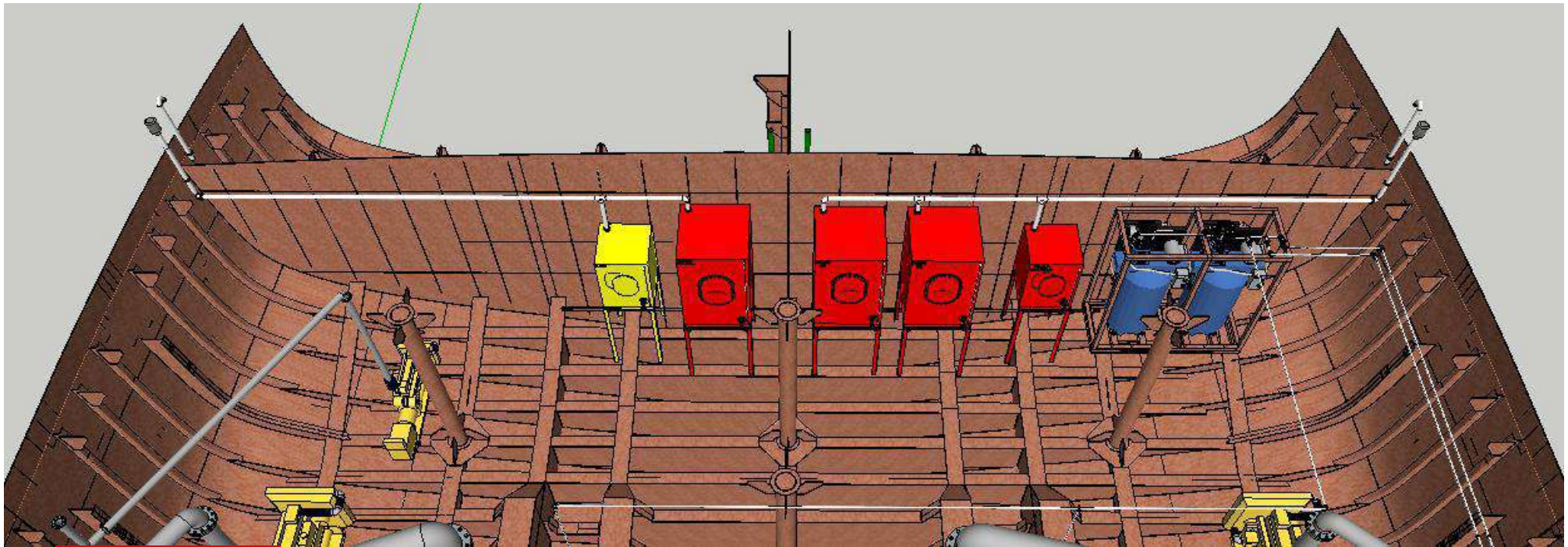


Lampiran 5.3. Diagram Sistem Perpipaan Exhaust

LAMPIRAN 6

Gambar 3D Sistem Perpipaan

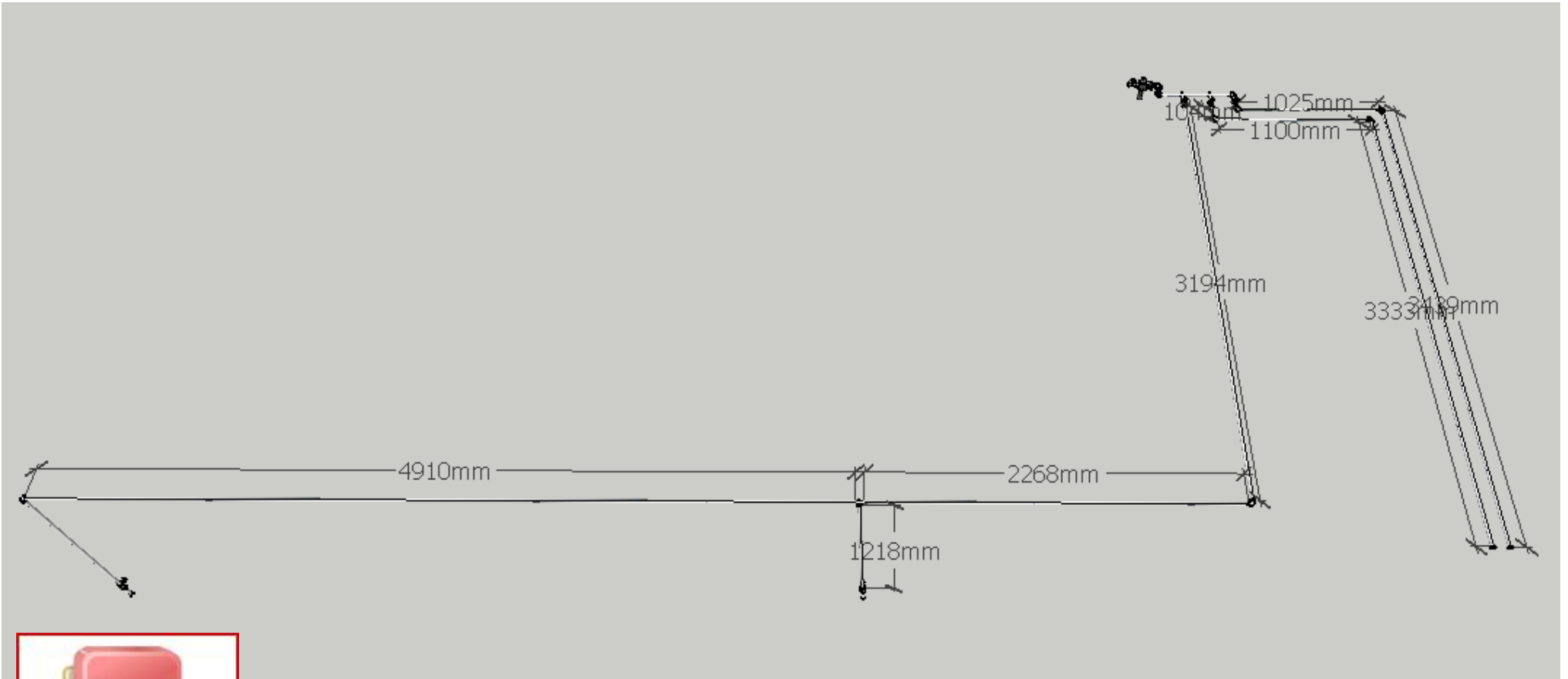




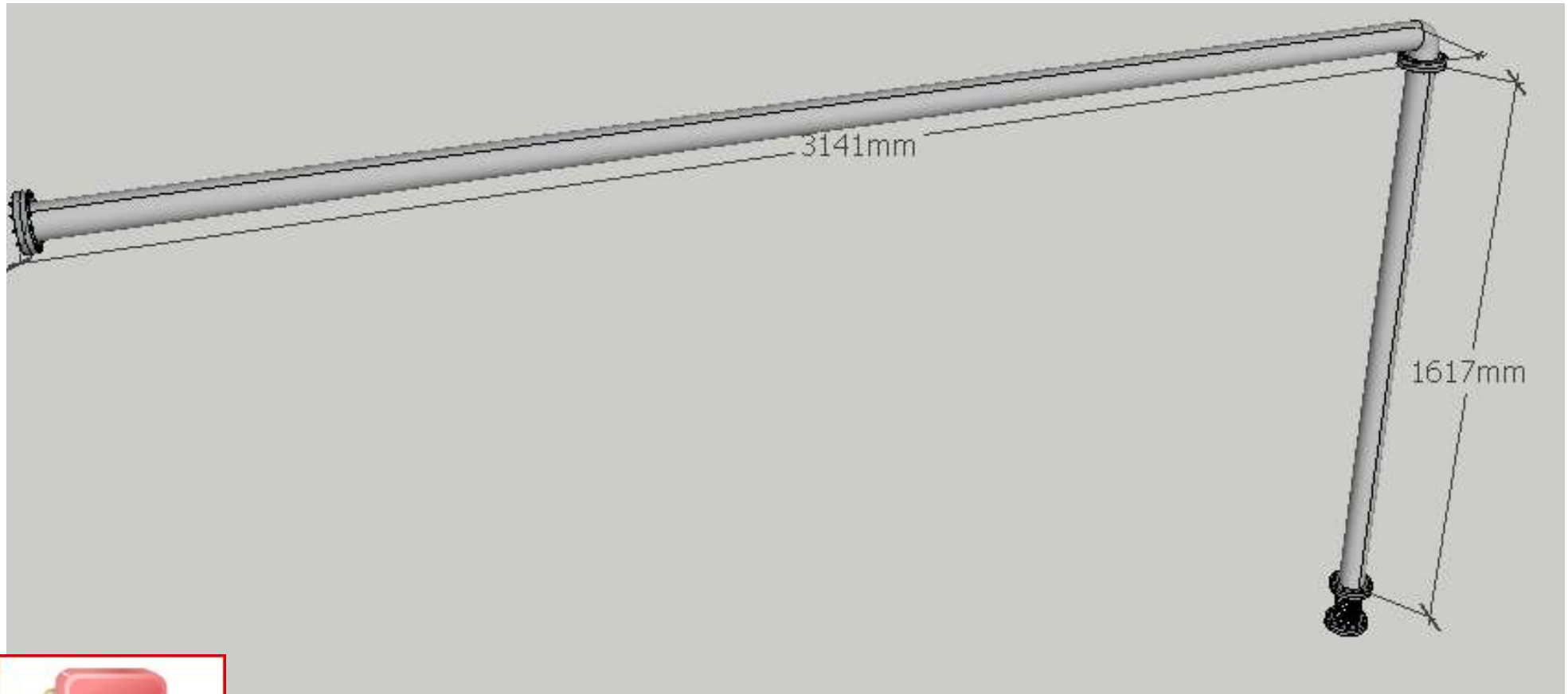
Lampiran 6.1. Gambar 3D Sistem Perpipaan HS2



Optimization Software:
www.balesio.com



Lampiran 6.2. Gambar Isometri Sistem Perpipaan Udara Tekan HS2

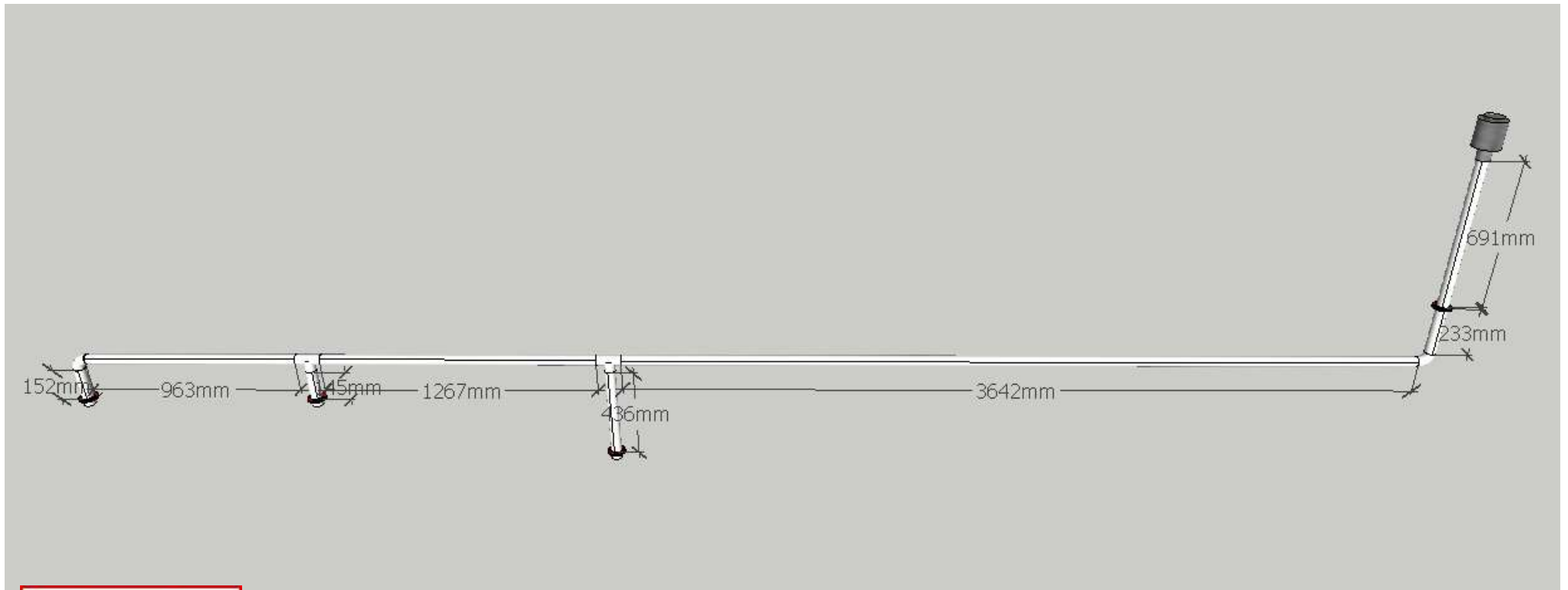


Lampiran 6.3. Gambar Isometri Sistem Perpipaan Gas Buang Generator Pelabuhan



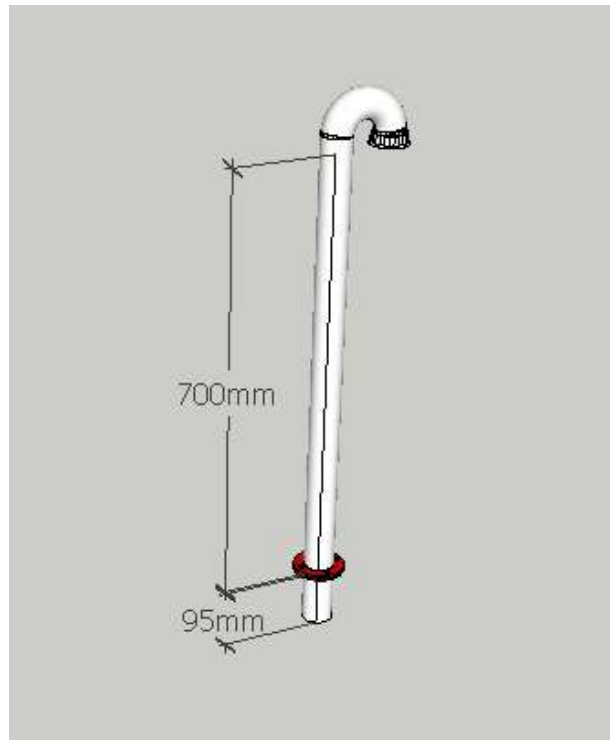


Lampiran 6.4. Gambar Isometri Sistem Perpipaan Udara FOTD dan LOTD HS2

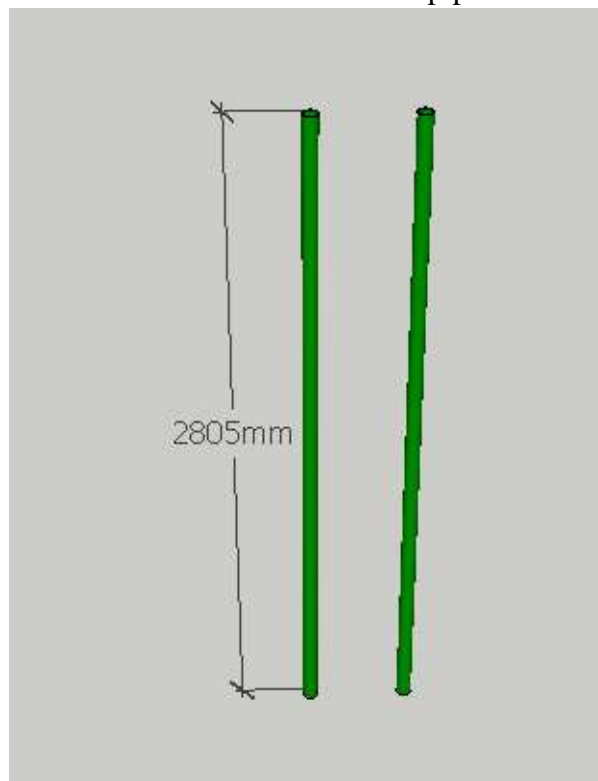


Lampiran 6.5. Gambar Isometri Sistem Perpipaan Udara FOTD HS2





Lampiran 6.6. Gambar Isometri Sistem Perpipaan Udara WBT HS2



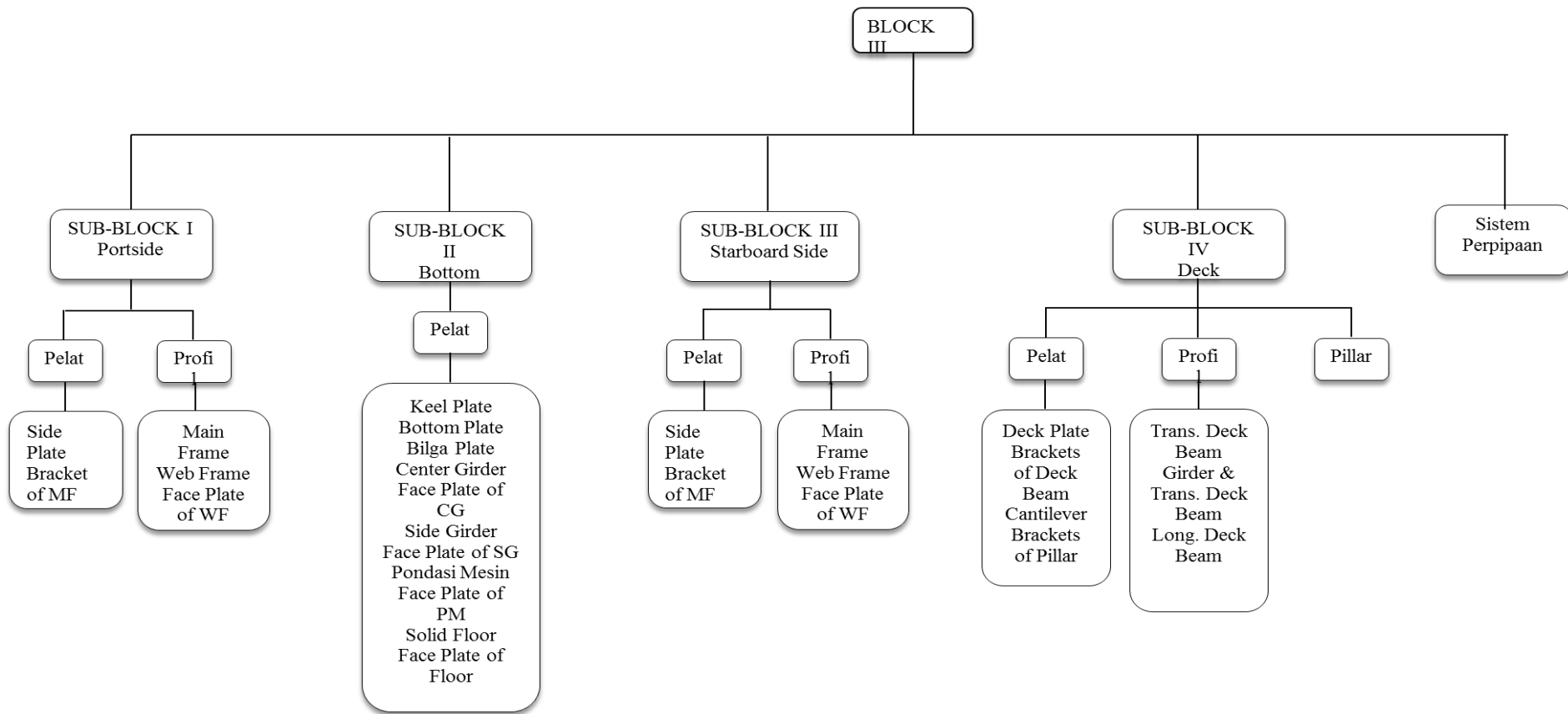
Lampiran 6.7. Gambar Isometri Sistem Perpipaan Duga WBT HS2



LAMPIRAN 7

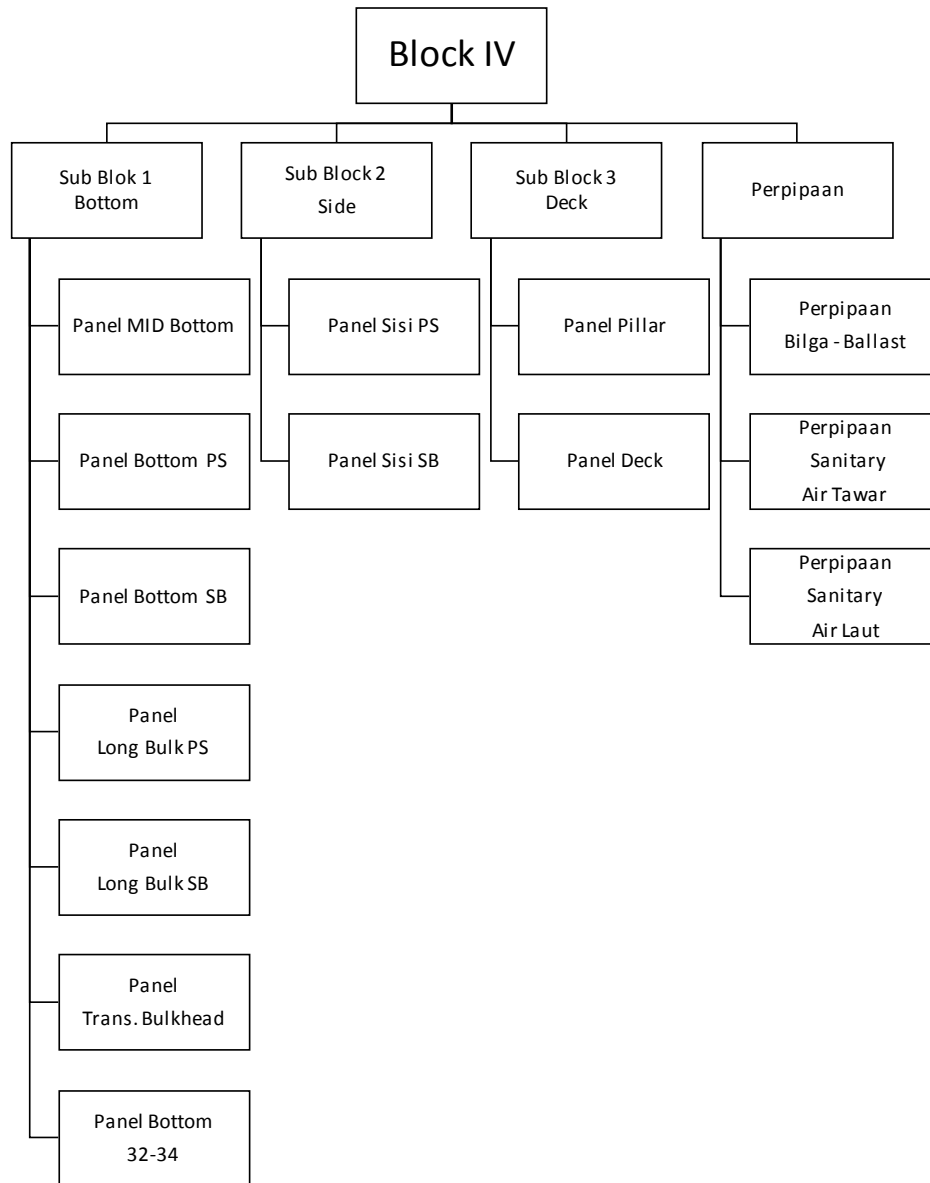
Gambar PWBS blok HS3 dan HS4





Lampiran 7.1. Gambar Hirarki PWBS HS3





Lampiran 7.2. Gambar Hirarki PWBS HS4



LAMPIRAN 8

Tabel Pengukuran Beban Kerja dan Perhitungan Durasi Fabrikasi dan Perakitan



Lampiran 8.1. Tabel PWBS Blok HS2

HULL STRUCTURE 2 FRAME 8-19

NO	NAMA	KOMPONEN	UKURAN (mm)				JUMLAH	LUASAN mm ²	VOLUME (V) mm ³	BERAT (W) kg	
			panjang (p)	lebar (l)	tebal (t)	l ₂					
A. SUB-BLOK 1 BOTTOM 11-19											
2.1 Plate											
1	8-19.KP.Sb2.HS2	Keel Plate	6000	x	1500	x	12	1	9000000	108000000	847.8
2	8-19.BPa.Sb2.HS2	Bottom Plate	6000	x	1120	x	8	2	6720000	107520000	844.032
	8-19.BPb.Sb2.HS2		6000	x	1120	x	8	2	6720000	107520000	844.032
	8-19.BPc.Sb2.HS2		6000	x	1400	x	8	2	8400000	134400000	1055.04
	8-19.BPd.Sb2.HS2		6000	x	800	x	8	2	4800000	76800000	602.88
3	8-19.BS.Sb2.HS2		Bilga plate	6000	x	1500	x	8	2	9000000	144000000
4		Centre Girder	6000	x	1000	x	10	1	4788171	47881710	375.8714235
5		Face Plate of CG	4350	x	200	x	12	1	870000	10440000	81.954



6	8-19.SGa.Sb2.HS2		4350	x	620	x	10		2	1851388	37027760	290.667916	
	8-19.SGb.Sb2.HS2	Side Girder	4350	x	750	x	10		2	834932	16698640	131.084324	
7	8-19.FSG.Sb2.HS2	Face Plate of SG	4350	x	200	x	12		4	870000	41760000	327.816	
8	8-19.PM.Sb2.HS2	Pondasi Mesin	4350	x	1000	x	14		4	3761955	210669452	1653.755198	
9	8-19.FM.Sb2.HS2		1750	x	350	x	25		4	612500	61250000	480.8125	
	8-19.FM.Sb2.HS2	Face Plate of PM	2628	x	200	x	14		4	525600	29433600	231.05376	
10	17-19.IB.Sb2.HS2	Inner Bottom	850	x	3000	x	10		1	2550000	25500000	200.175	
11	17-19.STP.Sb2.HS2	Pelat Sisi Tangki	850	x	845	x	10		2	718250	14365000	112.76525	
12	(12).WF.Sb2.HS2		5213.6691	x	570	x	8	l=	2	2269010	4538020	36304160	284.987656
	(13).WF.Sb2.HS2		5372.1107	x	610	x	8	l=	2	2289336	4578672	36629376	287.5406016
		Floor	5596.729	x	640	x	8	l=	2	2345168	4690336	37522688	294.5531008
			5759.0592	x	710	x	8	l=	2	2767407	5534814	44278512	347.5863192



(16).WF.Sb2.HS2		5855.3577	x	820	x	8	l=	3127244	2	6254488	50035904	392.7818464
(17).WF.Sb2.HS2		5980.6544	x	2760	x	8	l=	3408136	2	6816272	54530176	428.0618816
(18).WF.Sb2.HS2		6113.0828	x	2950	x	8	l=	3655692	2	7311384	58491072	459.1549152
(19).WF.Sb2.HS2		6242.4349	x	2950	x	8	l=	3867220	2	7734440	61875520	485.722832

13	8-19.FF.Sb2.HS2	Face Plate of Floor	52297	x	150	x	10		2	7844488.5	156889770	1231.584695
----	-----------------	---------------------	-------	---	-----	---	----	--	---	-----------	-----------	-------------

**B. SUB-BLOK 2
BOTTOM 8-11**

3.1 Plate

1	(8).WF.Sb2.HS2	Floor	4380	x	510	x	8	l=	1469810	2	2939620	23516960	184.608136
	(9).WF.Sb2.HS2		4729.4953	x	540	x	8	l=	1573888	2	3147776	25182208	197.6803328
	(10).WF.Sb2.HS2		4897.4865	x	550	x	8	l=	1498783	2	2997566	23980528	188.2471448

2	8-19.FF.Sb2.HS2	Face Plate of Floor	18234	x	150	x	10		2	2735091	54701820	429.409287
---	-----------------	---------------------	-------	---	-----	---	----	--	---	---------	----------	------------

3	2	Center Girder/Longitudinal Bulkhead	1650	x	1257	x	8		1	2086216	16689728	131.0143648
---	---	-------------------------------------	------	---	------	---	---	--	---	---------	----------	-------------

C. SUB BLOK 3



PANEL SIDE
(Port side)

3.1 Plate

1	8-19.SP.Sb1.HS2.PS		6000	x	1650	x	8	1	7093036	56744288	445.4426608
	8-19.SS.Sb1.HS2.PS	Side Plate	6000	x	950	x	8	1	7958168	63665344	499.7729504
2	9.BM.Sb1.HS2.PS		250		x		8	1	43081	344648	2.7054868
	10.BM.Sb1.HS2.PS		250		x		8	1	43081	344648	2.7054868
	12.BM.Sb1.HS2.PS		250		x		8	1	43081	344648	2.7054868
	13.BM.Sb1.HS2.PS		250		x		8	1	43081	344648	2.7054868
	14.BM.Sb1.HS2.PS	Brackets of Main Frame (atas)	250		x		8	1	43081	344648	2.7054868
	16.BM.Sb1.HS2.PS		250		x		8	1	43081	344648	2.7054868
	17.BM.Sb1.HS2.PS		250		x		8	1	43081	344648	2.7054868
			250		x		8	1	43081	344648	2.7054868
3		Brackets of Main Frame (bawah)	250		x		8	1	176107	1408856	11.0595196



10.BM.Sb1.HS2.PS	250	x	8	1	185555	1484440	11.652854
12.BM.Sb1.HS2.PS	250	x	8	1	155753	1246024	9.7812884
13.BM.Sb1.HS2.PS	250	x	8	1	158036	1264288	9.9246608
14.BM.Sb1.HS2.PS	250	x	8	1	159793	1278344	10.0350004
16.BM.Sb1.HS2.PS	250	x	8	1	131832	1054656	8.2790496
17.BM.Sb1.HS2.PS	250	x	8	1	121377	971016	7.6224756
18.BM.Sb1.HS2.PS	250	x	8	1	115894	927152	7.2781432

3.2 Profile

4	9.MF.Sb1.HS2.PS	90	x	90	x	9	l=	2510.8765	1	451957.77	4067619.93	31.93081645
	10.MF.Sb1.HS2.PS	90	x	90	x	9	l=	2500.9018	1	450162.324	4051460.916	31.80396819
	12.MF.Sb1.HS2.PS	90	x	90	x	9	l=	2450.9122	1	441164.196	3970477.764	31.16825045
		90	x	90	x	9	l=	2450.7392	1	441133.056	3970197.504	31.16605041
		90	x	90	x	9	l=	2450.7711	1	441138.798	3970249.182	31.16645608

Main Frame



	16.MF.Sb1.HS2.PS		90	x	90	x	9	l=	2450.4615	1	441083.07	3969747.63	31.1625189
	17.MF.Sb1.HS2.PS		90	x	90	x	9	l=	2450.2736	1	441049.248	3969443.232	31.16012937
	18.MF.Sb1.HS2.PS		90	x	90	x	9	l=	2400.4181	1	432075.258	3888677.322	30.52611698
5	8.WF.Sb1.HS2.PS	Web Frame	3258	x	250	x	8			1	814500	11403000	89.51355
			FP	150	x	10						488700	
	15.WF.Sb1.HS2.PS		2615	x	250	x	8			1	653750	9152500	71.847125
			FP	150	x	10						392250	
	19.WF.Sb1.HS2.PS		2228	x	250	x	8			1	557000	7798000	61.2143
			FP	150	x	10						334200	

**D. SUB BLOK 4
PANEL SIDE
(Starboard)**

4.1 Plate

1	8-19.SP.Sb3.HS2.SB	Side Plate	6000	x	1650	x	8			1	7093036	56744288	445.4426608
	8-19.SS.Sb3.HS2.SB		6000	x	950	x	8			1	7958168	63665344	499.7729504
2	9.BM.Sb3.HS2.SB	Brackets of Main Frame (atas)	250		x		8			1	43081	344648	2.7054868
			250		x		8			1	43081	344648	2.7054868
			250		x		8			1	43081	344648	2.7054868



	13.BM.Sb3.HS2.SB		250	x	8	1	43081	344648	2.7054868
	14.BM.Sb3.HS2.SB		250	x	8	1	43081	344648	2.7054868
	16.BM.Sb3.HS2.SB		250	x	8	1	43081	344648	2.7054868
	17.BM.Sb3.HS2.SB		250	x	8	1	43081	344648	2.7054868
	18.BM.Sb3.HS2.SB		250	x	8	1	43081	344648	2.7054868
3	9.BM.Sb3.HS2.SB		250	x	8	1	176107	1408856	11.0595196
	10.BM.Sb3.HS2.SB		250	x	8	1	185555	1484440	11.652854
	12.BM.Sb3.HS2.SB		250	x	8	1	155753	1246024	9.7812884
	13.BM.Sb3.HS2.SB	Brackets of Main Frame (bawah)	250	x	8	1	158036	1264288	9.9246608
	14.BM.Sb3.HS2.SB		250	x	8	1	159793	1278344	10.0350004
	B		250	x	8	1	131832	1054656	8.2790496
	B		250	x	8	1	121377	971016	7.6224756



	18.BM.Sb3.HS2.SB		250	x		8		1	115894	927152	7.2781432
4.2 Profile											
4	9.MF.Sb3.HS2.SB		90	x	90	x	9	l=	2510.8765	1	451957.77 4067619.93 31.93081645
	10.MF.Sb3.HS2.SB		90	x	90	x	9	l=	2500.9018	1	450162.324 4051460.916 31.80396819
	12.MF.Sb3.HS2.SB		90	x	90	x	9	l=	2450.9122	1	441164.196 3970477.764 31.16825045
	13.MF.Sb3.HS2.SB		90	x	90	x	9	l=	2450.7392	1	441133.056 3970197.504 31.16605041
	14.MF.Sb3.HS2.SB	Main Frame	90	x	90	x	9	l=	2450.7711	1	441138.798 3970249.182 31.16645608
	16.MF.Sb3.HS2.SB		90	x	90	x	9	l=	2450.4615	1	441083.07 3969747.63 31.1625189
	17.MF.Sb3.HS2.SB		90	x	90	x	9	l=	2450.2736	1	441049.248 3969443.232 31.16012937
	18.MF.Sb3.HS2.SB		90	x	90	x	9	l=	2400.4181	1	432075.258 3888677.322 30.52611698
5	8.WF.Sb3.HS2.SB		3258	x	250	x	8			1	814500 11403000 89.51355
				FP	150	x	10				488700
			2615	x	250	x	8			1	653750 9152500 71.847125
				FP	150	x	10				392250
			2228	x	250	x	8			1	557000 7798000 61.2143
				FP	150	x	10				334200

Main Frame

Web Frame



E. SUB BLOK 5

Deck

5.1 Plate

1	8- 19.DP.Sb4.HS2.DS		6000	x	1776	x	10		2	10656000	213120000	1672.992
		Deck Plate										
	8- 19.DP.Sb4.HS2.DS		6000	x	1500	x	10		7	9000000	630000000	4945.5
2	9.BD.Sb4.HS2.DS		250		x		8		14	43081	4825072	37.8768152
	10.BD.Sb4.HS2.DS		250		x		8		14	43081	4825072	37.8768152
	12.BD.Sb4.HS2.DS		250		x		8		14	43081	4825072	37.8768152
	13.BD.Sb4.HS2.DS		250		x		8		14	43081	4825072	37.8768152
	14.BD.Sb4.HS2.DS	Brackets of Deck Beam	250		x		8		14	43081	4825072	37.8768152
	16.BD.Sb4.HS2.DS		250		x		8		14	43081	4825072	37.8768152
			250		x		8		14	43081	4825072	37.8768152
			250		x		8		14	43081	4825072	37.8768152
									112			



3	8.BW.Sb4.HS2.DS	Cantilever	250		x		8			2	256461	6038376	47.4012516	
					FP	150	x	10	l=	645		96750		
	15.BW.Sb4.HS2.DS			250		x		8			2	256461	6038376	47.4012516
					FP	150	x	10	l=	645		96750		
	19.BW.Sb4.HS2.DS			250		x		8			2	256461	6038376	47.4012516
					FP	150	x	10	l=	645		96750		
5.1 Profile														
4	9.TD.Sb4.HS2.DS	Transversed Deck Beam	90	x	90	x	9	l=	4619	2	831420	14965560	117.479646	
									l=	4000	1	720000	6480000	50.868
	10.TD.Sb4.HS2.DS			90	x	90	x	9	l=	4683	2	842940	15172920	119.107422
									l=	4000	1	720000	6480000	50.868
	12.TD.Sb4.HS2.DS			90	x	90	x	9	l=	4826	2	868680	15636240	122.744484
									l=	4000	1	720000	6480000	50.868
	13.TD.Sb4.HS2.DS			90	x	90	x	9	l=	4669	2	840420	15127560	118.751346
									l=	4315	1	776700	6990300	54.873855
	14.TD.Sb4.HS2.DS			90	x	90	x	9	l=	4700	2	846000	15228000	119.5398
									l=	4315	1	776700	6990300	54.873855
	16.TD.Sb4.HS2.DS			90	x	90	x	9	l=	4750	2	855000	15390000	120.8115
									l=	4315	1	776700	6990300	54.873855
	17.TD.Sb4.HS2.DS		90	x	90	x	9	l=	4750	2	855000	15390000	120.8115	
								l=	4315	1	776700	6990300	54.873855	
			90	x	90	x	9	l=	4750	2	855000	15390000	120.8115	
								l=	4315	1	776700	6990300	54.873855	
5		Girder Deck Beam	5956	x	250	x	8			2	1489000	41692000	327.2822	
				FP	150	x	10				893400			



	15.GD.Sb4.HS2.DS		6335	x	250	x	8		2	1583750	44345000	348.10825
				FP	150	x	10			950250		
	19.GD.Sb4.HS2.DS		6371	x	250	x	8		2	1592750	44597000	350.08645
				FP	150	x	10			955650		
6	8- 19.LD.Sb4.HS2.DS	Longitudinal Deck Beam	6000	x	250	x	8		7	1500000	147000000	1153.95
				FP	150	x	10			900000		


**F. SUB-BLOCK 6
TRANSVERS
Bulkhead**

6.1 Plate

1	(11).BP.Sb5.HS2		6000	x	611	x	8		1	3850406	30803248	241.8054968
	(11).BP.Sb5.HS2		3783	x	611	x	8		2	2013371	32213936	252.8793976
	(11).BP.Sb5.HS2		6000	x	1500	x	8		1	9000000	72000000	565.2
	(11).BP.Sb5.HS2	Bulkhead Plate	351	x	1500	x	8		2	5399933	86398928	678.2315848
	(11).BP.Sb5.HS2		6000	x	931	x	8		1	7412929	59303432	465.5319412
			351	x	931	x	8		2	1809950	28959200	227.32972
2		Bracket	250		x		8		40	43081	13785920	108.219472



6.2 Profile

3	11.ST.Sb5.HS2.a		75	x	75	x	7	l=	3412	2	511800	7165200	56.24682	
	11.ST.Sb5.HS2.b		75	x	75	x	7	l=	3322	2	498300	6976200	54.76317	
	11.ST.Sb5.HS2.c		75	x	75	x	7	l=	3228	2	484200	6778800	53.21358	
	11.ST.Sb5.HS2.d		75	x	75	x	7	l=	3015	2	452250	6331500	49.702275	
	11.ST.Sb5.HS2.e		75	x	75	x	7	l=	2898	2	434700	6085800	47.77353	
	11.ST.Sb5.HS2.f	Stiffener	75	x	75	x	7	l=	2784	2	417600	5846400	45.89424	
	11.ST.Sb5.HS2.g		75	x	75	x	7	l=	2531	2	379650	5315100	41.723535	
	11.ST.Sb5.HS2.h		75	x	75	x	7	l=	2371	2	355650	4979100	39.085935	
	11.ST.Sb5.HS2.i		75	x	75	x	7	l=	1911	2	286650	4013100	31.502835	
	11.ST.Sb5.HS2.j		75	x	75	x	7	l=	1431	2	214650	3005100	23.590035	
4		Web Stiffener	8000	x	250	x	8			1	2000000	28000000	219.8	
				FP	150	x	10					1200000		
			2699	x	250	x	8				1	674750	9446500	74.155025
				FP	150	x	10					404850		

11.ST.Sb5.HS2.m		2350	x	250	x	8		2	587500	16450000	129.1325
			FP	150	x	10			352500		
11.ST.Sb5.HS2.n		1865	x	250	x	8		2	466250	13055000	102.48175
			FP	150	x	10			279750		
11.ST.Sb5.HS2.n		1375	x	250	x	8		2	343750	9625000	75.55625
			FP	150	x	10			206250		

**G. SUB-BLOCK 7
LONGITUDINAL
Bulkhead**

7.1 Plate

1	(11).BP.Sb5.HS2	Long Bulkhead	1650	x	1500	x	8		1	2475000	19800000	155.43
	(11).BP.Sb5.HS2	Plate	1650	x	657	x	8		1	1084050	8672400	68.07834
2	(11).B.Sb5.HS2	Bracket	250		x		8		2	43081	689296	5.4109736

7.2 Profile

3	9.ST.Sb5.HS2	Long Bulkhead	75	x	75	x	7	l=	2855	1	428250	2997750	23.5323375
	10.ST.Sb5.HS2	Stiffener	75	x	75	x	7	l=	3016	1	452400	3166800	24.85938
4		Long Bulkhead	2692	x	250	x	8			1	673000	9422000	73.9627
		Web Stiffener		FP	150	x	10				403800		

**F. SUB-BLOK
Pillar**



1	8-19.PL.Sb6.HS2	Pillar	2700	x	d	x	6.6	r	4	2791.5228	30148446.24	236.665303
					141.3			70.65				
2	8-19.BPL.Sb6.HS2	Bracket	250	x			8		32	43081	11028736	86.5755776

Lampiran 8.2. Tabel PWBS Sistem Perpipaan HS2

NO	NAMA	KOMPONEN	UKURAN (mm)				JUMLAH	LUASAN m ²	VOLUME (V) m ³	BERAT (W) kg	BERAT (W) kg	
			panjang (p)	D luar	tebal (t)	l ₂						
PERPIPAAN												
Pipa Udara												
(11).PU.WBT.HS2		Pipa Diameter 40A	100	x	48.3	3.68	r= 24.15	2	0.000515593	0.0000516	0.405	0.81
		W.B.T					20.47					
(11).PU.WBT.HS2		Pipa Diameter 40A	700	x	48.3	3.68	r= 24.15	2	0.000515593	0.0003609	2.835	5.67
		W.B.T					20.47					
(11).FL.WBT.HS2		Flange	22.4	x	127			4			1.32	5.28
		W.B.T										
		Pipa U Diameter 40A	114.4					2			0.74	1.48
		W.B.T										



(12).PU.LOT.HS2	Pipa Diameter 40A	150	x	48.3	3.68	r=	24.15	1	0.000515593	0.0000773	0.6075	0.6075
	L.O.T & F.O						20.47					
(12).PU.LOT.HS2	Pipa Diameter 40A	836	x	48.3	3.68	r=	24.15	1	0.000515593	0.0004310	3.3858	3.3858
	L.O.T & F.O						20.47					
(12).PU.LOT.HS2	Pipa Diameter 40A	4420	x	48.3	3.68	r=	24.15	1	0.000515593	0.0022789	17.901	17.901
	L.O.T & F.O						20.47					
(12).PU.LOT.HS2	Pipa Diameter 40A	230	x	48.3	3.68	r=	24.15	1	0.000515593	0.0001186	0.9315	0.9315
	L.O.T & F.O						20.47					
(12).PU.LOT.HS2	Pipa Diameter 40A	690	x	48.3	3.68	r=	24.15	1	0.000515593	0.0003558	2.7945	2.7945
	L.O.T & F.O						20.47					
(12).TEE.LOT.HS2	Tee	114.4						1			0.91	0.91
	L.O.T & F.O											
(12).EL.LOT.HS2	Elbow	57.2						2			0.37	0.74
	L.O.T & F.O											
(12).FL.LOT.HS2	Flange	22.4	x	127				4			1.32	5.28
	L.O.T & F.O											
	Air Vent Bonnet							1			3.2	3.2
	L.O.T & F.O											
(12).PU.LOT.HS2	Pipa Diameter 40A	150	x	48.3	3.68	r=	24.15	1	0.000515593	0.0000773	0.6075	0.6075
	F.O						20.47					



(12).PU.FODT.HS2	Pipa Diameter 40A	150	x	48.3	3.68	r=	24.15	1	0.000515593	0.0000773	0.6075	0.6075
	F.O						20.47					
(12).PU.FODT.HS2	Pipa Diameter 40A	963	x	48.3	3.68	r=	24.15	1	0.000515593	0.0004965	3.90015	3.90015
	F.O						20.47					
(12).PU.FODT.HS2	Pipa Diameter 40A	1267	x	48.3	3.68	r=	24.15	1	0.000515593	0.0006533	5.13135	5.13135
	F.O						20.47					
(12).PU.FODT.HS2	Pipa Diameter 40A	436	x	48.3	3.68	r=	24.15	1	0.000515593	0.0002248	1.7658	1.7658
	F.O						20.47					
(12).PU.FODT.HS2	Pipa Diameter 40A	3633	x	48.3	3.68	r=	24.15	1	0.000515593	0.0018731	14.71365	14.71365
	F.O						20.47					
(12).PU.FODT.HS2	Pipa Diameter 40A	230	x	48.3	3.68	r=	24.15	1	0.000515593	0.0001186	0.9315	0.9315
	F.O						20.47					
(12).PU.FODT.HS2	Pipa Diameter 40A	690	x	48.3	3.68	r=	24.15	1	0.000515593	0.0003558	2.7945	2.7945
	F.O						20.47					
(12).EL.FODT.HS2	Elbow	57.2						2			0.37	0.74
	F.O											
	2 Tee	114.4						2			0.91	1.82
	F.O											
	2 Flange	22.4	x	127				5			1.32	6.6
	F.O											



(12).AV.FODT.HS2	Air Vent Bonnet							1			3.2	3.2
	F.O											
	Pipa Gas Buang											
(14- 19).PGB.GP.HS2	Pipa Diameter 65A	1600	x	73	5.16	r=	36.5	1	0.001099171	0.0017587	13.808	13.808
	GEN PORT						31.34					
(14- 19).PGB.GP.HS2	Pipa Diameter 65A	3164	x	73	5.16	r=	36.5	1	0.001099171	0.0034778	27.30532	27.30532
	GEN PORT						31.34					
(14- 19).F.PGB.GP.HS2	Fleksible Pipe	150		73				1			1.2945	1.2945
	GEN PORT											
(14- 19).EL.PGB.GP.HS2	Elbow	95.2						1			1.32	1.32
	GEN PORT											
(14- 19).FL.PGB.GP.HS2	Flange	28.4		177.8				6			3.28	19.68
	GEN PORT											
	Pipa Udara Tekan											
	Pipa Diameter 15	50	x	21.3	3.73	r=	10.65	4	0.000205783	0.0000103	0.081	0.324
							6.92					
	Pipa Diameter 15	130	x	21.3	3.73	r=	10.65	3	0.000205783	0.0000268	0.2106	0.6318



	To HORN											
(12-19).PUT.HS2	Pipa Diameter 15	50	x	21.3	3.73	r=	10.65	2	0.000205783	0.0000103	0.081	0.162
	To SEACHEST						6.92					
(12-19).PUT.HS2	Pipa Diameter 15	1020	x	21.3	3.73	r=	10.65	1	0.000205783	0.0002099	1.6524	1.6524
	To SEACHEST						6.92					
(12-19).PUT.HS2	Pipa Diameter 15	3435	x	21.3	3.73	r=	10.65	1	0.000205783	0.0007069	5.5647	5.5647
	To SEACHEST						6.92					
(12-19).EL.PUT.HS2	Elbow	38.1						2			0.1	0.2
	To SEACHEST											
(12-19).FL.PUT.HS2	Flange	15.7		88.9				2			0.39	0.78
	To SEACHEST											
(12-19).PUT.HS2	Pipa Diameter 15	3194	x	21.3	3.73	r=	10.65	1	0.000205783	0.0006573	5.17428	5.17428
	To ENGINE						6.92					
(12-19).PUT.HS2	Pipa Diameter 15	2270	x	21.3	3.73	r=	10.65	1	0.000205783	0.0004671	3.6774	3.6774
	To ENGINE						6.92					
(12-19).PUT.HS2	Pipa Diameter 15	2280	x	21.3	3.73	r=	10.65	1	0.000205783	0.0004692	3.6936	3.6936
	To ENGINE						6.92					



(12-19).PUT.HS2	Pipa Diameter 15	1220	x	21.3	3.73	r=	10.65	2	0.000205783	0.0002511	1.9764	3.9528
	To ENGINE						6.92					
(12-19).PUT.HS2	Pipa Diameter 15	4910	x	21.3	3.73	r=	10.65	1	0.000205783	0.0010104	7.9542	7.9542
	To ENGINE						6.92					
(12-19).EL.PUT.HS2	Elbow	38.1						2			0.1	0.2
	To ENGINE											
(12-19).TEE.PUT.HS2	Tee	76.2						1			0.22	0.22
	To ENGINE											
(12-19).FL.PUT.HS2	Flange	15.7		88.9				7			0.39	2.73
	To ENGINE											
(12-19).SGV.PUT.HS2	STOP GLOBE VALVE							2			2	4
	To ENGINE											
Pipa Duga												
(11).PD.WBT.HS2	Pipa Diameter 50A	2805	x	60.3	3.91	r=	30.15	2	0.000692323	0.0019420	14.4177	28.8354
	W.B.T						26.24					
(11).PPD.WBT.HS2	Penutup Pipa W.B.T	60		60.3				2			0.3084	0.6168



Lampiran 8.3. Tabel Perhitungan Durasi Fabrikasi Pelat Bottom

PERHITUNGAN DURASI FABRIKASI <i>BLOCK 2</i>										
NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		PANJANG (m)	BERAT (ton)	CUTTING JO/unit	LIFTING JO/unit	WELDING JO/unit			FITTING JO/unit	JAM
		2.00			3.00		4=2*3	5	6=4/5	7=6*60
Sub-Block 2 (Panel Bottom)				Cutting	Lifting	Welding	Fitting			
1	Lifting pelat 5.10.1		0.729		0.180		0.13	2	0.07	3.94
2	Cutting pelat 5.10.1	34.224		0.028			0.96	1	0.96	57.50
3	Lifting pelat 5.10.1		0.729		0.180		0.13	2	0.07	3.94
4	Lifting pelat 5.10.2		0.729		0.180		0.13	2	0.07	3.94
5	Cutting pelat 5.10.2	34.532		0.028			0.97	1	0.97	58.01
6	Lifting pelat 5.10.2		0.729		0.180		0.13	2	0.07	3.94
7	Lifting pelat 5.10.3		0.729		0.180		0.13	2	0.07	3.94
8	Cutting pelat 5.10.3	60.137		0.028			1.68	1	1.68	101.03
9	Lifting pelat 5.10.3		0.729		0.180		0.13	2	0.07	3.94
10	Lifting pelat 5.10.4		0.729		0.180		0.13	2	0.07	3.94
11	Cutting pelat 5.10.4	47.878		0.028			1.34	1	1.34	80.44
12	Lifting pelat 5.10.4		0.729		0.180		0.13	2	0.07	3.94
	at 5.12.2		0.875		0.180		0.16	2	0.08	4.73
	at 5.12.2	59.680		0.030			1.79	1	1.79	107.42
	at 5.12.2		0.875		0.180		0.16	2	0.08	4.73
	at 6.8.10		0.700		0.180		0.13	2	0.06	3.78



17	Cutting pelat	6.8.10	34.991	0.026	0.91	1	0.91	54.59
18	Lifting pelat	6.8.10		0.700	0.180	0.13	2	0.06 3.78
19	Lifting pelat	6.8.11		0.700	0.180	0.13	2	0.06 3.78
20	Cutting pelat	6.8.11	26.432	0.026	0.69	1	0.69	41.23
21	Lifting pelat	6.8.11		0.700	0.180	0.13	2	0.06 3.78
22	Lifting pelat	6.8.12		0.700	0.180	0.13	2	0.06 3.78
23	Cutting pelat	6.8.12	19.321	0.026	0.50	1	0.50	30.14
24	Lifting pelat	6.8.12		0.700	0.180	0.13	2	0.06 3.78
25	Lifting pelat	6.8.13		0.700	0.180	0.13	2	0.06 3.78
26	Cutting pelat	6.8.13	19.321	0.026	0.50	1	0.50	30.14
27	Lifting pelat	6.8.13		0.700	0.180	0.13	2	0.06 3.78
28	Lifting pelat	6.8.14		0.700	0.180	0.13	2	0.06 3.78
29	Cutting pelat	6.8.14	31.840	0.026	0.83	1	0.83	49.67
30	Lifting pelat	6.8.14		0.700	0.180	0.13	2	0.06 3.78
31	Lifting pelat	6.8.15		0.700	0.180	0.13	2	0.06 3.78
32	Cutting pelat	6.8.15	29.018	0.026	0.75	1	0.75	45.27
33	Lifting pelat	6.8.15		0.700	0.180	0.13	2	0.06 3.78
34	Lifting pelat	6.8.16		0.700	0.180	0.13	2	0.06 3.78
35	Cutting pelat	6.8.16	27.278	0.026	0.71	1	0.71	42.55
36	Lifting pelat	6.8.16		0.700	0.180	0.13	2	0.06 3.78
37	Lifting pelat	6.8.17		0.700	0.180	0.13	2	0.06 3.78
	at	6.8.17	32.701	0.026	0.85	1	0.85	51.01
	at	6.8.17		0.700	0.180	0.13	2	0.06 3.78
	at	6.8.18		0.700	0.180	0.13	2	0.06 3.78
	at	6.8.18	15.572	0.026	0.40	1	0.40	24.29



42	Lifting pelat	6.8.18		0.700		0.180		0.13	2	0.06	3.78
43	Lifting pelat	5.14.1		1.021		0.180		0.18	2	0.09	5.51
44	Cuttting pelat	5.14.1	12.419		0.032			0.40	1	0.40	23.84
45	Lifting pelat	5.14.1		1.021		0.180		0.18	2	0.09	5.51
46	Lifting pelat	5.14.2		1.021		0.180		0.18	2	0.09	5.51
47	Cuttting pelat	5.14.2	12.554		0.032			0.40	1	0.40	24.10
48	Lifting pelat	5.14.2		1.021		0.180		0.18	2	0.09	5.51
49	Lifting pelat	5.14.3		1.021		0.180		0.18	2	0.09	5.51
50	Cuttting pelat	5.14.3	12.419		0.032			0.40	1	0.40	23.84
51	Lifting pelat	5.14.3		1.021		0.180		0.18	2	0.09	5.51
52	Lifting pelat	5.14.4		1.021		0.180		0.18	2	0.09	5.51
53	Cuttting pelat	5.14.4	12.554		0.032			0.40	1	0.40	24.10
54	Lifting pelat	5.14.4		1.021		0.180		0.18	2	0.09	5.51
55	Lifting pelat	5.25.1		1.823		0.180		0.33	2	0.16	9.85
56	Cuttting pelat	5.25.1	25.264		0.061			1.54	1	1.54	92.47
57	Lifting pelat	5.25.1		1.823		0.180		0.33	2	0.16	9.85
JUMLAH			548.134	31.996				21.787			
1	Lifting pelat	5.8.1		0.583		0.180		0.11	2	0.05	3.15
2	Cuttting pelat	5.8.1	7.120		0.026			0.19	1	0.19	11.11
3	Lifting pelat	5.8.1		0.583		0.180		0.11	2	0.05	3.15
	Lifting pelat	5.8.2		0.583		0.180		0.11	2	0.05	3.15
	Cuttting pelat	5.8.2	7.120		0.026			0.19	1	0.19	11.11
	Lifting pelat	5.8.2		0.583		0.180		0.11	2	0.05	3.15
	Lifting pelat	5.8.3		0.583		0.180		0.11	2	0.05	3.15



8	Cutting pelat	5.8.3	7.120	0.026	0.19	1	0.19	11.11
9	Lifting pelat	5.8.3	0.583	0.180	0.11	2	0.05	3.15
10	Lifting pelat	5.8.4	0.583	0.180	0.11	2	0.05	3.15
11	Cutting pelat	5.8.4	7.120	0.026	0.19	1	0.19	11.11
12	Lifting pelat	5.8.4	0.583	0.180	0.11	2	0.05	3.15
13	Lifting pelat	5.8.5	0.583	0.180	0.11	2	0.05	3.15
14	Cutting pelat	5.8.5	7.400	0.026	0.19	1	0.19	11.54
15	Lifting pelat	5.8.5	0.583	0.180	0.11	2	0.05	3.15
16	Lifting pelat	5.8.6	0.583	0.180	0.11	2	0.05	3.15
17	Cutting pelat	5.8.6	7.400	0.026	0.19	1	0.19	11.54
18	Lifting pelat	5.8.6	0.583	0.180	0.11	2	0.05	3.15
19	Lifting pelat	6.8.9	0.700	0.180	0.13	2	0.06	3.78
20	Cutting pelat	6.8.9	13.620	0.026	0.35	1	0.35	21.25
21	Lifting pelat	6.8.9	0.700	0.180	0.13	2	0.06	3.78
JUMLAH			56.900	8.401	2.992			

Lampiran 8.4. Tabel Perhitungan Durasi Fabrikasi Pelat dan Profil Bulkhead

PERHITUNGAN DURASI FABRIKASI <i>BLOCK 2</i>										
NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO				PERKIRAAN TENAGA KERJA	DURASI	
		PANJANG (m)	BERAT (ton)	CUTTING JO/unit	LIFTING JO/unit	WELDING JO/unit	FITTING JO/unit		JAM	MENIT
		2.00			3.00			4=2*3	5	6=4/5 7=6*60
				Cutting	Lifting	Welding	Fitting			



1	Lifting pelat	6.8.5		0.700		0.180		0.13	2	0.06	3.78
2	Cutting pelat	6.8.5	17.584		0.026			0.46	1	0.46	27.43
3	Lifting pelat	6.8.5		0.700		0.180		0.13	2	0.06	3.78
4	Lifting pelat	6.8.6		0.700		0.180		0.13	2	0.06	3.78
5	Cutting pelat	6.8.6	32.943		0.026			0.86	1	0.86	51.39
6	Lifting pelat	6.8.6		0.700		0.180		0.13	2	0.06	3.78
7	Lifting pelat	5.10.1		0.729		0.180		0.13	2	0.07	3.94
8	Cutting pelat	5.10.1	26.413		0.028			0.74	1	0.74	44.37
9	Lifting pelat	5.10.1		0.729		0.180		0.13	2	0.07	3.94
10	Lifting pelat	5.8.2		0.583		0.180		0.11	2	0.05	3.15
11	Cutting pelat	5.8.2	7.048		0.026			0.18	1	0.18	10.99
12	Lifting pelat	5.8.2		0.583		0.180		0.11	2	0.05	3.15
13	Lifting pelat	5.8.3		0.583		0.180		0.11	2	0.05	3.15
14	Cutting pelat	5.8.3	10.319		0.026			0.27	1	0.27	16.10
15	Lifting pelat	5.8.3		0.583		0.180		0.11	2	0.05	3.15
16	Lifting pelat	5.8.4		0.583		0.180		0.11	2	0.05	3.15
17	Cutting pelat	5.8.4	18.238		0.026			0.47	1	0.47	28.45
18	Lifting pelat	5.8.4		0.583		0.180		0.11	2	0.05	3.15
JUMLAH			112.55	7.76				4.38			

3.68
0.45966



PERHITUNGAN DURASI FABRIKASI *BLOCK 2*

NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI		
		PANJANG	BERAT	CUTTING	LIFTING	WELDING			FITTING	JAM	MENIT
		(m)	(ton)	JO/unit	JO/unit				JO/unit	6=4/5	7=6*60
		2.00			3.00		4=2*3	5			
	Sub-Block Bulkhead			Cutting	Lifting	Welding	Fitting				
1	Lifting profil 150.7.1		0.050		0.180		0.01	2	0.00	0.27	
2	Cutting profil 150.7.1	0.300		0.025			0.01	1	0.01	0.45	
3	Lifting profil 150.7.1		0.050		0.180		0.01	2	0.00	0.27	
4	Lifting profil 150.7.2		0.050		0.180		0.01	2	0.00	0.27	
5	Cutting profil 150.7.2	0.300		0.025			0.01	1	0.01	0.45	
6	Lifting profil 150.7.2		0.050		0.180		0.01	2	0.00	0.27	
7	Lifting profil 150.7.3		0.050		0.180		0.01	2	0.00	0.27	
8	Cutting profil 150.7.3	0.300		0.025			0.01	1	0.01	0.45	
9	Lifting profil 150.7.3		0.050		0.180		0.01	2	0.00	0.27	
10	Lifting profil 150.7.4		0.050		0.180		0.01	2	0.00	0.27	
		150.7.4	0.300		0.025		0.01	1	0.01	0.45	
		150.7.4		0.050		0.180	0.01	2	0.00	0.27	
		150.7.5		0.050		0.180	0.01	2	0.00	0.27	
		150.7.5	0.300		0.025		0.01	1	0.01	0.45	



15	Lifting profil	150.7.5		0.050		0.180		0.01	2	0.00	0.27
16	Lifting profil	150.7.6		0.050		0.180		0.01	2	0.00	0.27
17	Cutting profil	150.7.6	0.300		0.025			0.01	1	0.01	0.45
18	Lifting profil	150.7.6		0.050		0.180		0.01	2	0.00	0.27
19	Lifting profil	150.7.7		0.050		0.180		0.01	2	0.00	0.27
20	Cutting profil	150.7.7	0.300		0.025			0.01	1	0.01	0.45
21	Lifting profil	150.7.7		0.050		0.180		0.01	2	0.00	0.27
22	Lifting profil	150.7.8		0.050		0.180		0.01	2	0.00	0.27
23	Cutting profil	150.7.8	0.300		0.025			0.01	1	0.01	0.45
24	Lifting profil	150.7.8		0.050		0.180		0.01	2	0.00	0.27
25	Lifting profil	150.7.9		0.050		0.180		0.01	2	0.00	0.27
26	Cutting profil	150.7.9	0.300		0.025			0.01	1	0.01	0.45
27	Lifting profil	150.7.9		0.050		0.180		0.01	2	0.00	0.27
28	Lifting profil	150.7.10		0.050		0.180		0.01	2	0.00	0.27
29	Cutting profil	150.7.10	0.300		0.025			0.01	1	0.01	0.45
30	Lifting profil	150.7.10		0.050		0.180		0.01	2	0.00	0.27
31	Lifting profil	150.7.11		0.050		0.180		0.01	2	0.00	0.27
32	Cutting profil	150.7.11	0.300		0.025			0.01	1	0.01	0.45
33	Lifting profil	150.7.11		0.050		0.180		0.01	2	0.00	0.27
JUMLAH			3.30	1.11				0.28		0.18	



Lampiran 8.5. Tabel Perhitungan Durasi Fabrikasi Pelat dan Profil Side HS2

PERHITUNGAN DURASI FABRIKASI <i>BLOCK 2</i>										
NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		PANJANG (m)	BERAT (ton)	CUTTING JO/unit	LIFTING JO/unit	WELDING JO/unit			FITTING JO/unit	JAM
		2.00		3.00			4=2*3	5	6=4/5	7=6*60
Sub-Block Side (ps&sb)				Cutting	Lifting	Welding	Fitting			
1	Lifting pelat 5.10.1		0.729		0.180			0.13	2	0.07 3.94
2	Cutting pelat 5.10.1	46.390		0.028				1.30	1	1.30 77.94
3	Lifting pelat 5.10.1		0.729		0.180			0.13	2	0.07 3.94
4	Lifting pelat 5.8.1		0.583		0.180			0.11	2	0.05 3.15
5	Cutting pelat 5.8.1	78.742		0.026				2.05	1	2.05 122.84
6	Lifting pelat 5.8.1		0.583		0.180			0.11	2	0.05 3.15
7	Lifting pelat 5.8.2		0.583		0.180			0.11	2	0.05 3.15
8	Cutting pelat 5.8.2	7.650		0.026				0.20	1	0.20 11.93
9	Lifting pelat 5.8.2		0.583		0.180			0.11	2	0.05 3.15
10	Lifting pelat 5.8.3		0.583		0.180			0.11	2	0.05 3.15
11	Cutting pelat 5.8.3	25.770		0.026				0.67	1	0.67 40.20
12	Lifting pelat 5.8.3		0.583		0.180			0.11	2	0.05 3.15
12	Lifting pelat 5.8.4		0.583		0.180			0.11	2	0.05 3.15
	Lifting pelat 5.8.4	7.650		0.026				0.20	1	0.20 11.93
	Lifting pelat 5.8.4		0.583		0.180			0.11	2	0.05 3.15
	Lifting pelat 5.8.5		0.583		0.180			0.11	2	0.05 3.15



17	Cutting pelat	5.8.5	25.770		0.026			0.67	1	0.67	40.20
18	Lifting pelat	5.8.5		0.583		0.180		0.11	2	0.05	3.15
JUMLAH			191.973	7.293				6.397		5.74	
											0.7175531

PERHITUNGAN DURASI FABRIKASI *BLOCK 2*

NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		PANJANG (m)	BERAT (ton)	CUTTING JO/unit	LIFTING JO/unit	WELDING JO/unit			FITTING JO/unit	JAM
		2.00		3.00			4=2*3	5	6=4/5	7=6*60
Sub-Block Side (ps&sb)				Cutting	Lifting	Welding	Fitting			
1	Lifting profil	180.9.1	0.078		0.180		0.01	2	0.01	0.42
2	Cutting profil	180.9.1	0.360	0.027			0.01	2	0.00	0.29
3	Lifting profil	180.9.1	0.078		0.180		0.01	2	0.01	0.42
4	Lifting profil	180.9.2	0.078		0.180		0.01	2	0.01	0.42
5	Cutting profil	180.9.2	0.360	0.027			0.01	2	0.00	0.29
6	Lifting profil	180.9.2	0.078		0.180		0.01	2	0.01	0.42
7	Lifting profil	180.9.3	0.078		0.180		0.01	2	0.01	0.42
8	Cutting profil	180.9.3	0.360	0.027			0.01	2	0.00	0.29
9	Lifting profil	180.9.3	0.078		0.180		0.01	2	0.01	0.42
		180.9.4	0.078		0.180		0.01	2	0.01	0.42
		180.9.4	0.360	0.027			0.01	2	0.00	0.29
		180.9.4	0.078		0.180		0.01	2	0.01	0.42
			1.440	0.620			0.151		0.08	



Lampiran 8.6. Tabel Perhitungan Durasi Fabrikasi Pelat dan Profil Deck

PERHITUNGAN DURASI FABRIKASI <i>BLOCK 2</i>										
NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		PANJANG (m)	BERAT (ton)	CUTTING JO/unit	LIFTING JO/unit	WELDING			FITTING JO/unit	JAM
		2.00			3.00		4=2*3	5	6=4/5	7=6*60
	Sub-Block 5 (Panel Deck)			Cutting	Lifting	Welding	Fitting			
1	Lifting pelat 5.8.1		0.583		0.180			0.11	2	0.05 3.15
2	Cutting pelat 5.8.1	88.857		0.026				2.31	1	2.31 138.62
3	Lifting pelat 5.8.1		0.583		0.180			0.11	2	0.05 3.15
4	Lifting pelat 5.8.2		0.583		0.180			0.11	2	0.05 3.15
5	Cutting pelat 5.8.2	37.500		0.026				0.98	1	0.98 58.50
6	Lifting pelat 5.8.2		0.583		0.180			0.11	2	0.05 3.15
7	Lifting pelat 5.8.3		0.583		0.180			0.11	2	0.05 3.15
8	Cutting pelat 5.8.3	63.307		0.026				1.65	1	1.65 98.76
9	Lifting pelat 5.8.3		0.583		0.180			0.11	2	0.05 3.15
10	Lifting pelat 5.10.1		0.729		0.180			0.13	2	0.07 3.94
11	Cutting pelat 5.10.1	56.512		0.028				1.58	1	1.58 94.94
12	Lifting pelat 5.10.1		0.729		0.180			0.13	2	0.07 3.94
	TOTAL	246.176	4.959					7.406		6.960



PERHITUNGAN DURASI FABRIKASI *BLOCK 2*

NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI		
		PANJANG (m)	BERAT (ton)	CUTTING JO/unit	LIFTING JO/unit	WELDING FITTING JO/unit			JAM	MENIT	
		2.00			3.00			4=2*3	5	6=4/5	7=6*60
	Sub-Block 5 (Panel Deck)			Cutting	Lifting	Welding	Fitting				
1	Lifting profil 180.9.1		0.078		0.180		0.01	2	0.01	0.42	
2	Cutting profil 180.9.1	0.180		0.027			0.005	1	0.00	0.29	
3	Lifting profil 180.9.1		0.078		0.180		0.01	2	0.01	0.42	
4	Lifting profil 180.9.2		0.078		0.180		0.01	2	0.01	0.42	
5	Cutting profil 180.9.2	0.180		0.027			0.00	1	0.00	0.29	
6	Lifting profil 180.9.2		0.078		0.180		0.01	2	0.01	0.42	
7	Lifting profil 180.9.3		0.078		0.180		0.01	2	0.01	0.42	
8	Cutting profil 180.9.3	0.180		0.027			0.00	1	0.00	0.29	
9	Lifting profil 180.9.3		0.078		0.180		0.01	2	0.01	0.42	
10	Lifting profil 180.9.4		0.078		0.180		0.01	2	0.01	0.42	
11	Cutting profil 180.9.4	0.180		0.027			0.00	1	0.00	0.29	
12	Lifting profil 180.9.4		0.078		0.180		0.01	2	0.01	0.42	
13	Lifting profil 180.9.5		0.078		0.180		0.01	2	0.01	0.42	
14	Cutting profil 180.9.5	0.180		0.027			0.00	1	0.00	0.29	
			0.078		0.180		0.01	2	0.01	0.42	
			0.078		0.180		0.01	2	0.01	0.42	
		0.180		0.027			0.00	1	0.00	0.29	
			0.078		0.180		0.01	2	0.01	0.42	



19	Lifting profil	180.9.7		0.078	0.180	0.01	2	0.01	0.42
20	Cutting profil	180.9.7	0.180		0.027	0.00	1	0.00	0.29
21	Lifting profil	180.9.7		0.078	0.180	0.01	2	0.01	0.42
22	Lifting profil	180.9.8		0.078	0.180	0.01	2	0.01	0.42
23	Cutting profil	180.9.8	0.180		0.027	0.00	1	0.00	0.29
24	Lifting profil	180.9.8		0.078	0.180	0.01	2	0.01	0.42
25	Lifting profil	180.9.9		0.078	0.180	0.01	2	0.01	0.42
26	Cutting profil	180.9.9	0.180		0.027	0.00	1	0.00	0.29
27	Lifting profil	180.9.9		0.078	0.180	0.01	2	0.01	0.42
28	Lifting profil	180.9.10		0.078	0.180	0.01	2	0.01	0.42
29	Cutting profil	180.9.10	0.180		0.027	0.00	1	0.00	0.29
30	Lifting profil	180.9.10		0.078	0.180	0.01	2	0.01	0.42
31	Lifting profil	180.9.11		0.078	0.180	0.01	2	0.01	0.42
32	Cutting profil	180.9.11	0.180		0.027	0.00	1	0.00	0.29
33	Lifting profil	180.9.11		0.078	0.180	0.01	2	0.01	0.42
34	Lifting profil	180.9.12		0.078	0.180	0.01	2	0.01	0.42
35	Cutting profil	180.9.12	0.180		0.027	0.00	1	0.00	0.29
36	Lifting profil	180.9.12		0.078	0.180	0.01	2	0.01	0.42
37	Lifting profil	180.9.13		0.078	0.180	0.01	2	0.01	0.42
38	Cutting profil	180.9.13	0.180		0.027	0.00	1	0.00	0.29
39	Lifting profil	180.9.13		0.078	0.180	0.01	2	0.01	0.42
		180.9.14		0.078	0.180	0.01	2	0.01	0.42
		180.9.14	0.180		0.027	0.00	1	0.00	0.29
		180.9.14		0.078	0.180	0.01	2	0.01	0.42
		180.9.15		0.078	0.180	0.01	2	0.01	0.42



44	Cutting profil	180.9.15	0.180	0.027	0.00	1	0.00	0.29	
45	Lifting profil	180.9.15		0.078	0.180	0.01	2	0.01	0.42
46	Lifting profil	180.9.16		0.078	0.180	0.01	2	0.01	0.42
47	Cutting profil	180.9.16	0.180	0.027	0.00	1	0.00	0.29	
48	Lifting profil	180.9.16		0.078	0.180	0.01	2	0.01	0.42
49	Lifting profil	180.9.17		0.078	0.180	0.01	2	0.01	0.42
50	Cutting profil	180.9.17	0.180	0.027	0.00	1	0.00	0.29	
51	Lifting profil	180.9.17		0.078	0.180	0.01	2	0.01	0.42
52	Lifting profil	180.9.18		0.078	0.180	0.01	2	0.01	0.42
53	Cutting profil	180.9.18	0.180	0.027	0.00	1	0.00	0.29	
54	Lifting profil	180.9.18		0.078	0.180	0.01	2	0.01	0.42
55	Lifting profil	180.9.19		0.078	0.180	0.01	2	0.01	0.42
56	Cutting profil	180.9.19	0.180	0.027	0.00	1	0.00	0.29	
57	Lifting profil	180.9.19		0.078	0.180	0.01	2	0.01	0.42
58	Lifting profil	180.9.20		0.078	0.180	0.01	2	0.01	0.42
59	Cutting profil	180.9.20	0.180	0.027	0.00	1	0.00	0.29	
60	Lifting profil	180.9.20		0.078	0.180	0.01	2	0.01	0.42
61	Lifting profil	180.9.21		0.078	0.180	0.01	2	0.01	0.42
62	Cutting profil	180.9.21	0.180	0.027	0.00	1	0.00	0.29	
63	Lifting profil	180.9.21		0.078	0.180	0.01	2	0.01	0.42
64	Lifting profil	180.9.22		0.078	0.180	0.01	2	0.01	0.42
		180.9.22	0.180	0.027	0.00	1	0.00	0.29	
		180.9.22		0.078	0.180	0.01	2	0.01	0.42
		180.9.23		0.078	0.180	0.01	2	0.01	0.42
		180.9.23	0.180	0.027	0.00	1	0.00	0.29	



69	Lifting profil	180.9.23		0.078		0.180		0.01	2	0.01	0.42
70	Lifting profil	180.9.24		0.078		0.180		0.01	2	0.01	0.42
71	Cutting profil	180.9.24	0.180		0.027			0.00	1	0.00	0.29
72	Lifting profil	180.9.24		0.078		0.180		0.01	2	0.01	0.42
JUMLAH			4.320	3.721				0.786		0.452	

Lampiran 8.7. Tabel Perhitungan Durasi Fabrikasi Pillar HS2

PERHITUNGAN DURASI FABRIKASI <i>BLOCK 2</i>											
NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI		
		PANJANG (m)	BERAT (ton)	CUTTING JO/unit	LIFTING JO/unit	WELDING JO/unit			FITTING JO/unit	JAM	MENTIT
		2.00			3.00		4=2*3	5	6=4/5	7=6*60	
Sub-Block Pillar				Cutting	Lifting	Welding	Fitting				
1	Lifting pelat	5.8.1		0.729		0.180		0.13	2	0.07	3.94
2	Cutting pelat	5.8.1	28.864		0.026			0.75	1	0.75	45.03
3	Lifting pelat	5.8.1		0.729		0.180		0.13	2	0.07	3.94
JUMLAH			28.864	1.459				1.013		0.882	



PERHITUNGAN DURASI FABRIKASI <i>BLOCK 2</i>											
NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN AN TENAGA KERJA	DURASI		
		PANJANG	BERAT	CUTTING	LIFTING	WELDING			FITTING	JAM	MENIT
		(m)	(ton)	JO/unit	JO/unit				JO/unit		
		2.00			3.00		4=2*3	5	6=4/5	7=6*60	
	Sub-Block Pillar			Cutting	Lifting	Welding	Fitting				
1	Lifting pipa HS2.141.3.1		0.134		0.180			2	0.01	0.72	
2	Cutting pipa HS2.141.3.1	0.887		0.025				1	0.02	1.33	
3	Lifting pipa HS2.141.3.1		0.134		0.180			2	0.01	0.72	
4	Lifting pipa HS2.141.3.2		0.134		0.180			2	0.01	0.72	
5	Cutting pipa HS2.141.3.2	0.887		0.025				1	0.02	1.33	
6	Lifting pipa HS2.141.3.2		0.134		0.180			2	0.01	0.72	
	JUMLAH	1.775	0.534				0.141		0.092		

Lampiran 8.8. Tabel Perhitungan Durasi Bending HS2

No.	Nama Kegiatan	Beban Pekerjaan		Tebal (mm)	Formula JO		JO	P. Tenaga Kerja	Durasi	
		Panjang Bending (m)	Berat Komponen (ton)		Bending	Lifitng			Jam	Menit
		1	2	3	4	5=2*4	6	7=5/6	8=7*60	
	2.Keel Plate		0.848	12		0.54	0.46	2	0.228	13.7
	2.Keel Plate	6.00		12	0.20		1.20	2	0.600	36.0
	2.Keel Plate		0.848	12		0.54	0.46	2	0.228	13.7

178



4	Lifting	2.8.Bilga Plate		0.565	8		0.54	0.30	2	0.152	9.1
5	Bending	2.8.Bilga Plate	6.00		8	0.13		0.80	2	0.400	24.0
6	Lifting	2.8.Bilga Plate		0.565	8		0.54	0.30	2	0.152	9.1
Jumlah			12.00	2.83				3.52		1.759	105.5
1	Lifting	3.9.Main Frame 9.SB		0.032	9		0.54	0.02	2	0.009	0.5
2	Bending	3.9.Main Frame 9.SB	2.51		9	0.15		0.38	2	0.188	11.3
3	Lifting	3.9.Main Frame 9.SB		0.032	9		0.54	0.02	2	0.009	0.5
4	Lifting	4.9.Main Frame 10.SB		0.032	9		0.54	0.02	2	0.009	0.5
5	Bending	4.9.Main Frame 10.SB	2.50		9	0.15		0.38	2	0.188	11.3
6	Lifting	4.9.Main Frame 10.SB		0.032	9		0.54	0.02	2	0.009	0.5
7	Lifting	5.9.Main Frame 12.SB		0.031	9		0.54	0.02	2	0.008	0.5
8	Bending	5.9.Main Frame 12.SB	2.45		9	0.15		0.37	2	0.184	11.0
9	Lifting	5.9.Main Frame 12.SB		0.031	9		0.54	0.02	2	0.008	0.5
10	Lifting	6.9.Main Frame 13.SB		0.031	9		0.54	0.02	2	0.008	0.5
11	Bending	6.9.Main Frame 13.SB	2.45		9	0.15		0.37	2	0.184	11.0
12	Lifting	6.9.Main Frame 13.SB		0.031	9		0.54	0.02	2	0.008	0.5
13	Lifting	7.9.Main Frame 14.SB		0.031	9		0.54	0.02	2	0.008	0.5
14	Bending	7.9.Main Frame 14.SB	2.45		9	0.15		0.37	2	0.184	11.0
15	Lifting	7.9.Main Frame 14.SB		0.031	9		0.54	0.02	2	0.008	0.5
16	Lifting	8.9.Main Frame 16.SB		0.031	9		0.54	0.02	2	0.008	0.5
17	Bending	8.9.Main Frame 16.SB	2.45		9	0.15		0.37	2	0.184	11.0
		Main Frame 16.SB		0.031	9		0.54	0.02	2	0.008	0.5
		Main Frame 17.SB		0.031	9		0.54	0.02	2	0.008	0.5
		Main Frame 17.SB	2.45		9	0.15		0.37	2	0.184	11.0
		Main Frame 17.SB		0.031	9		0.54	0.02	2	0.008	0.5



22	Lifting	10.9.Main Frame 18.SB		0.031	9		0.54	0.02	2	0.008	0.5
23	Bending	10.9.Main Frame 18.SB	2.45		9	0.15		0.37	2	0.184	11.0
24	Lifting	10.9.Main Frame 18.SB		0.031	9		0.54	0.02	2	0.008	0.5
25	Lifting	11.9.Main Frame 9.PS		0.032	9		0.54	0.02	2	0.009	0.5
26	Bending	11.9.Main Frame 9.PS	2.51		9	0.15		0.38	2	0.188	11.3
27	Lifting	11.9.Main Frame 9.PS		0.032	9		0.54	0.02	2	0.009	0.5
28	Lifting	12.9.Main Frame 10.PS		0.032	9		0.54	0.02	2	0.009	0.5
29	Bending	12.9.Main Frame 10.PS	2.50		9	0.15		0.38	2	0.188	11.3
30	Lifting	12.9.Main Frame 10.PS		0.032	9		0.54	0.02	2	0.009	0.5
31	Lifting	13.9.Main Frame 12.PS		0.031	9		0.54	0.02	2	0.008	0.5
32	Bending	13.9.Main Frame 12.PS	2.45		9	0.15		0.37	2	0.184	11.0
33	Lifting	13.9.Main Frame 12.PS		0.031	9		0.54	0.02	2	0.008	0.5
34	Lifting	14.9.Main Frame 13.PS		0.031	9		0.54	0.02	2	0.008	0.5
35	Bending	14.9.Main Frame 13.PS	2.45		9	0.15		0.37	2	0.184	11.0
36	Lifting	14.9.Main Frame 13.PS		0.031	9		0.54	0.02	2	0.008	0.5
37	Lifting	15.9.Main Frame 14.PS		0.031	9		0.54	0.02	2	0.008	0.5
38	Bending	15.9.Main Frame 14.PS	2.45		9	0.15		0.37	2	0.184	11.0
39	Lifting	15.9.Main Frame 14.PS		0.031	9		0.54	0.02	2	0.008	0.5
40	Lifting	16.9.Main Frame 16.PS		0.031	9		0.54	0.02	2	0.008	0.5
41	Bending	16.9.Main Frame 16.PS	2.45		9	0.15		0.37	2	0.184	11.0
42	Lifting	16.9.Main Frame 16.PS		0.031	9		0.54	0.02	2	0.008	0.5
		17.9.Main Frame 17.PS		0.031	9		0.54	0.02	2	0.008	0.5
		17.9.Main Frame 17.PS	2.45		9	0.15		0.37	2	0.184	11.0
		17.9.Main Frame 17.PS		0.031	9		0.54	0.02	2	0.008	0.5
		18.9.Main Frame 18.PS		0.031	9		0.54	0.02	2	0.008	0.5



47	Bending	18.9.Main Frame 18.PS	2.45		9	0.15		0.37	2	0.184	11.0
48	Lifting	18.9.Main Frame 18.PS		0.031	9		0.54	0.02	2	0.008	0.5
	Jumlah		39.42	1.00				6.45		3.225	193.5
49	Lifting	19.10.Face Web Frame 8.SB		0.038	10		0.54	0.02	2	0.010	0.6
50	Bending	19.10.Face Web Frame 8.SB	3.26		10	0.17		0.54	2	0.272	16.3
51	Lifting	19.10.Face Web Frame 8.SB		0.038	10		0.54	0.02	2	0.010	0.6
52	Lifting	20.10.Face Web Frame 15.SB		0.031	10		0.54	0.02	2	0.008	0.5
53	Bending	20.10.Face Web Frame 15.SB	2.61		10	0.17		0.44	2	0.218	13.1
54	Lifting	20.10.Face Web Frame 15.SB		0.031	10		0.54	0.02	2	0.008	0.5
55	Lifting	21.10.Face Web Frame 19.SB		0.026	10		0.54	0.01	2	0.007	0.4
56	Bending	21.10.Face Web Frame 19.SB	2.23		10	0.17		0.37	2	0.186	11.2
57	Lifting	21.10.Face Web Frame 19.SB		0.026	10		0.54	0.01	2	0.007	0.4
58	Lifting	22.10.Face Web Frame 8.PS		0.038	10		0.54	0.02	2	0.010	0.6
59	Bending	22.10.Face Web Frame 8.PS	3.26		10	0.17		0.54	2	0.272	16.3
60	Lifting	22.10.Face Web Frame 8.PS		0.038	10		0.54	0.02	2	0.010	0.6
61	Lifting	23.10.Face Web Frame 15.PS		0.031	10		0.54	0.02	2	0.008	0.5
62	Bending	23.10.Face Web Frame 15.PS	2.61		10	0.17		0.44	2	0.218	13.1
63	Lifting	23.10.Face Web Frame 15.PS		0.031	10		0.54	0.02	2	0.008	0.5
64	Lifting	24.10.Face Web Frame 19.PS		0.026	10		0.54	0.01	2	0.007	0.4
65	Bending	24.10.Face Web Frame 19.PS	2.23		10	0.17		0.37	2	0.186	11.2
66	Lifting	24.10.Face Web Frame 19.PS		0.026	10		0.54	0.01	2	0.007	0.4
			16.200	0.382				2.905		1.452	87.1



Lampiran 8.9. Tabel Perhitungan Durasi Pemasangan Face Plate Komponen

PERHITUNGAN DURASI FABRIKASI <i>BLOCK 2</i>										
NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		PANJANG (m)	BERAT (ton)	CUTTING JO/unit	LIFTING JO/unit	WELDING JO/unit			FITTING JO/unit	JAM
		2.00		3.00			4=2*3	5	6=4/5	7=6*60
Sub-Block Bottom				Cutting	Lifting	Welding	Fitting			
1	Fitting Face Plate ke Pondasi Mesin	20.524					0.067	1.38	6	0.23 13.75
2	Welding Face Plate ke Pondasi Mesin	41.048				0.620		25.45	6	4.24 254.50
3	Fitting Face Plate ke Center Girder	4.392					0.067	0.29	6	0.05 2.94
4	Welding Face Plate ke Center Girder	8.784				0.620		5.45	6	0.91 54.46
5	Fitting Face Plate ke Side Girder	12.640					0.067	0.85	6	0.14 8.47
6	Welding Face Plate ke Side Girder	25.280				0.620		15.67	6	2.61 156.74
7	Fitting Face Plate ke Floor	50.467					0.067	3.38	6	0.56 33.81
8	Welding Face Plate ke	100.933				0.620		62.58	6	10.43 625.79
		264.068						115.046		19.174 1150.457
				Cutting	Lifting	Welding	Fitting			



1	Fitting Face Plate ke Web Frame	8.101			0.067	0.54	3	0.18	10.86
2	Welding Face Plate ke Web Frame	16.202			0.620	10.05	3	3.35	200.90
	JUMLAH	24.303				10.588		3.529	211.760
	Sub-Block Starboard		Cutting	Lifting	Welding	Fitting			
1	Fitting Face Plate ke Web Frame	8.101			0.067	0.54	3	0.18	10.86
2	Welding Face Plate ke Web Frame	16.202			0.620	10.05	3	3.35	200.90
	JUMLAH	24.303				10.588		3.529	211.760
	Sub-Block Bulkhead		Cutting	Lifting	Welding	Fitting			
1	Fitting Face Plate ke Web Stiffener	21.879			0.067	1.47	3	0.49	29.32
2	Welding Face Plate ke Web Stiffener	43.758			0.620	27.13	3	9.04	542.60
3	Fitting Face Plate ke Web Stiffener (Long Bulkhead)	2.692			0.067	0.18	3	0.06	3.61
4	Welding Face Plate ke Web Stiffener (Long Bulkhead)	5.384			0.620	3.34	3	1.11	66.76
5	Fitting Cantilever ke Web Stiffener	6.720			0.067	0.45	3	0.15	9.00
6	Welding Cantilever ke Web Stiffener	13.44			0.620	8.33	3	2.78	166.66
	JUMLAH	93.873				40.897		13.632	817.947



Sub-Block Panel Deck		Cutting	Lifting	Welding	Fitting			
1	Fitting Face Plate ke Trans. Deck Girder	36.274			0.067	2.43	3	0.81 48.61
2	Welding Face Plate ke Trans. Deck Girder	72.548		0.620		44.98	3	14.99 899.60
3	Fitting Face Plate ke Long. Deck Girder	42.000			0.067	2.81	3	0.94 56.28
4	Welding Face Plate ke Long. Deck Girder	84.000		0.620		52.08	3	17.36 1041.60
5	Fitting Face Plate ke Cantilever	3.900			0.067	0.26	3	0.09 5.23
6	Welding Face Plate ke Cantilever	7.800		0.620		4.84	3	1.61 96.72
7	Fitting Cantilever Ke Trans. Deck Girder	2.400			0.067	0.16	3	0.05 3.22
8	Welding Cantilever Ke Trans. Deck Girder	4.800		0.620		2.98	3	0.99 59.52
JUMLAH		253.722				110.538		36.846 2210.764

Sub-Block Panel Pillar		Cutting	Lifting	Welding	Fitting			
1	Fitting Bracket Pillar ke Pipa Pillar	8			0.067	0.54	3	0.18 10.72
2	et lar	21.76		0.620		13.49	3	4.50 269.82
		29.760				14.027		4.676 280.544



Lampiran 8.10. Tabel Perhitungan Durasi Perakitan Sub Blok HS2

PERHITUNGAN DURASI PERAKITAN <i>BLOCK 2</i>										
NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		PANJANG	BERAT	WELDING	FITTING	LIFTING			JAM	MENTIT
		(m)	(ton)	JO/unit	JO/unit	JO/unit			6=4/5	7=6*60
		2			3		4=2*3	5	6=4/5	7=6*60
Sub-Block 1 (Bottom 11-19)										
	Lifting Center Girder		0.458			0.180	0.082	2	0.041	2.472
	Lifting Inner Bottom ke Center Girder		0.200			0.180	0.036	2	0.018	1.081
	Fitting Inner Bottom ke Center Girder	1.125			0.067		0.075	3	0.025	1.508
	Welding Inner Bottom ke Center Girder	2.250		0.620			1.395	3	0.465	27.900
	Lifting Wrang 1 PS&SB ke Bottom Panel		2.171			0.180	0.391	2	0.195	11.724
	Fitting Wrang 1 PS&SB ke Bottom Panel	25.962			0.067		1.739	3	0.580	34.789
	Welding Wrang 1 PS&SB ke Bottom Panel	51.924		0.620			32.193	3	10.731	643.858
	Lifting Pelat Sisi Tangki PS&SB ke Bottom Panel		0.113			0.180	0.020	2	0.010	0.609
	Fitting Pelat Sisi Tangki PS&SB ke Bottom Panel	5.434			0.067		0.364	3	0.121	7.282
	Welding Pelat Sisi Tangki PS&SB ke Bottom Panel	10.868		0.620			6.738	3	2.246	134.763
	Lifting Wrang 2 PS&SB ke Bottom Panel		0.095			0.180	0.017	2	0.009	0.513
	Fitting Wrang 2 PS&SB ke Bottom Panel	2.148			0.067		0.144	3	0.048	2.878
	Welding Wrang 2 PS&SB ke Bottom Panel	4.296		0.620			2.664	3	0.888	53.270
	1 PS&SB ke Bottom Panel		1.183			0.180	0.213	2	0.106	6.387
	1 PS&SB ke Bottom Panel	19.874			0.067		1.332	3	0.444	26.631
	n 1 PS&SB ke Bottom Panel	39.748		0.620			24.644	3	8.215	492.875
	B ke Bottom Panel		0.503			0.180	0.090	2	0.045	2.715



Fitting Wrang 3 PS&SB ke Bottom Panel	12.198		0.067	0.817	3	0.272	16.345
Welding Wrang 3 PS&SB ke Bottom Panel	24.396	0.620		15.126	3	5.042	302.510
Lifting Pondasi Mesin 2 PS&SB ke Bottom Panel		1.183		0.180	2	0.106	6.387
Fitting Pondasi Mesin 2 PS&SB ke Bottom Panel	10.320		0.067	0.691	3	0.230	13.829
Welding Pondasi Mesin 2 PS&SB ke Bottom Panel	20.640	0.620		12.797	3	4.266	255.936
Lifting Wrang 4 PS&SB ke Bottom Panel		0.818		0.180	2	0.074	4.415
Fitting Wrang 4 PS&SB ke Bottom Panel	17.766		0.067	1.190	3	0.397	23.806
Welding Wrang 4 PS&SB ke Bottom Panel	35.532	0.620		22.030	3	7.343	440.597
Lifting Side Girder 1 PS&SB ke Bottom Panel		0.455		0.180	2	0.041	2.455
Fitting Side Girder 1 PS&SB ke Bottom Panel	8.250		0.067	0.553	3	0.184	11.055
Welding Side Girder 1 PS&SB ke Bottom Panel	16.500	0.620		10.230	3	3.410	204.600
Lifting Wrang 5 PS&SB ke Bottom Panel		0.641		0.180	2	0.058	3.463
Fitting Wrang 5 PS&SB ke Bottom Panel	8.250		0.067	0.553	3	0.184	11.055
Welding Wrang 5 PS&SB ke Bottom Panel	16.500	0.620		10.230	3	3.410	204.600
Lifting Side Girder 2 PS&SB ke Bottom Panel		0.295		0.180	2	0.027	1.593
Fitting Side Girder 2 PS&SB ke Bottom Panel	3.326		0.067	0.223	3	0.074	4.457
Welding Side Girder 2 PS&SB ke Bottom Panel	6.652	0.620		4.124	3	1.375	82.485
Lifting Wrang 6 PS&SB ke Bottom Panel		0.123		0.180	2	0.011	0.663
Fitting Wrang 6 PS&SB ke Bottom Panel	3.326		0.067	0.223	3	0.074	4.457
Welding Wrang 6 PS&SB ke Bottom Panel	6.652	0.620		4.124	3	1.375	82.485
Lifting Keel Plate ke Bottom Panel		0.848		0.180	2	0.076	4.578
Bottom Panel	16.385		0.067	1.098	3	0.366	21.956
Bottom Panel	32.770	0.620		20.317	3	6.772	406.348
PS&SB ke Bottom Panel		0.844		0.180	2	0.076	4.558
PS&SB ke Bottom Panel	29.920		0.067	2.005	3	0.668	40.093



Welding Bottom Plate A PS&SB ke Bottom Panel	59.840		0.620		37.101	3	12.367	742.016
Lifting Bottom Plate B PS&SB ke Bottom Panel		0.844		0.180	0.152	2	0.076	4.558
Fitting Bottom Plate B PS&SB ke Bottom Panel	47.504			0.067	3.183	3	1.061	63.655
Welding Bottom Plate B PS&SB ke Bottom Panel	95.008		0.620		58.905	3	19.635	1178.099
Lifting Bottom Plate C PS&SB ke Bottom Panel		1.055		0.180	0.190	2	0.095	5.697
Fitting Bottom Plate C PS&SB ke Bottom Panel	43.222			0.067	2.896	3	0.965	57.917
Welding Bottom Plate C PS&SB ke Bottom Panel	86.444		0.620		53.595	3	17.865	1071.906
Lifting Bottom Plate D PS&SB ke Bottom Panel		0.603		0.180	0.109	2	0.054	3.256
Fitting Bottom Plate D PS&SB ke Bottom Panel	26.448			0.067	1.772	3	0.591	35.440
Welding Bottom Plate D PS&SB ke Bottom Panel	52.896		0.620		32.796	3	10.932	655.910
Lifting Bilga Sheel PS&SB ke Bottom Panel		1.130		0.180	0.203	2	0.102	6.104
Fitting Bilga Sheel PS&SB ke Bottom Panel	22.584			0.067	1.513	3	0.504	30.263
Welding Bilga Sheel PS&SB ke Bottom Panel	45.168		0.620		28.004	3	9.335	560.083
	912.126	13.560			399.824		133.681	8020.885
Sub-Block 2 (Bottom 8-11)								
Lifting Center Girder/Long Bulkhead Plate 8-11		0.131		0.180	0.024	2	0.012	0.707
Lifting Wrang 8-11 PS&SB ke Bottom Panel 8-11		1.000		0.180	0.180	2	0.090	5.400
Fitting Wrang 8-11 PS&SB ke Bottom Panel 8-11	4.856			0.067	0.325	3	0.108	6.507
Welding Wrang 8-11 PS&SB ke Bottom Panel 8-11	9.712		0.620		6.021	3	2.007	120.429
JUMLAH	14.568	1.131			6.550		2.217	133.043
Sub-Block 3 (Portside)								
1		0.445		0.180	0.080	2	0.040	2.405
2		0.500		0.180	0.090	2	0.045	2.699
3	at B	6.000		0.067	0.402	3	0.134	8.040
4	dan pelat B	12.000	0.620		7.440	3	2.480	148.800



5		0.090		0.016		0.008	0.483
6		0.032		0.006		0.003	0.172
7		0.032		0.006		0.003	0.172
8		0.031		0.006		0.003	0.168
9		0.031		0.006		0.003	0.168
10	Lifting Frame ke Side Plate	0.031	0.180	0.006	2	0.003	0.168
11		0.072		0.013		0.006	0.388
12		0.031		0.006		0.003	0.168
13		0.031		0.006		0.003	0.168
14		0.031		0.005		0.003	0.165
15		0.061		0.011		0.006	0.331
16		3.258		0.218		0.073	4.366
17		2.511		0.168		0.056	3.365
18		2.501		0.168		0.056	3.351
19		2.451		0.164		0.055	3.284
20		2.451		0.164		0.055	3.284
21	Fitting Frame ke Side Plate	2.451	0.067	0.164	3	0.055	3.284
22		2.615		0.175		0.058	3.504
23		2.450		0.164		0.055	3.284
24		2.450		0.164		0.055	3.283
25		2.400		0.161		0.054	3.217
26		2.228		0.149		0.050	2.986
27		6.516		4.040		1.347	80.798
28	e Plate	2.511	0.620	1.557	3	0.519	31.135
29		2.501		1.551		0.517	31.011



30		2.451				1.520		0.507	30.391	
31		2.451				1.519		0.506	30.389	
32		2.451				1.519		0.506	30.390	
33		5.230				3.243		1.081	64.852	
34		2.450				1.519		0.506	30.386	
35		2.450				1.519		0.506	30.383	
36		2.400				1.488		0.496	29.765	
37		4.456				2.763		0.921	55.254	
38	Lifting Bracket of Main Frame ke Main Frame		0.097			0.180	0.018	2	0.009	0.525
39	Fitting Bracket of Main Frame ke Main Frame	7.774			0.067		0.521	3	0.174	10.418
40	Welding Bracket of Main Frame ke Main Frame (atas)	2.612		0.620			1.619	3	0.540	32.386
41	Welding Bracket of Main Frame ke Main Frame (Bawah)	5.163		0.620			3.201	3	1.067	64.016
JUMLAH		97.182	1.515				37.554		12.563	753.804
Sub-Block 4 (Starboard Side)										
1	Lifting Pelat A		0.445			0.180	0.080	2	0.040	2.405
2	Lifting Pelat B		0.500			0.180	0.090	2	0.045	2.699
3	Fitting Pelat A dan pelat B	6.000			0.067		0.402	3	0.134	8.040
4	Welding Joint pelat A dan pelat B	12.000		0.620			7.440	3	2.480	148.800
5			0.090				0.016		0.008	0.483
6			0.032				0.006		0.003	0.172
7			0.032				0.006		0.003	0.172
	Plate		0.031			0.180	0.006	2	0.003	0.168
			0.031				0.006		0.003	0.168
1			0.031				0.006		0.003	0.168
1			0.072				0.013		0.006	0.388



12		0.031		0.006		0.003	0.168
13		0.031		0.006		0.003	0.168
14		0.031		0.005		0.003	0.165
15		0.061		0.011		0.006	0.331
16		3.258		0.218		0.073	4.366
17		2.511		0.168		0.056	3.365
18		2.501		0.168		0.056	3.351
19		2.451		0.164		0.055	3.284
20		2.451		0.164		0.055	3.284
21	Fitting Frame ke Side Plate	2.451	0.067	0.164	3	0.055	3.284
22		2.615		0.175		0.058	3.504
23		2.450		0.164		0.055	3.284
24		2.450		0.164		0.055	3.283
25		2.400		0.161		0.054	3.217
26		2.228		0.149		0.050	2.986
27		6.516		4.040		1.347	80.798
28		2.511		1.557		0.519	31.135
29		2.501		1.551		0.517	31.011
30		2.451		1.520		0.507	30.391
31	Welding Frame ke Side Plate	2.451	0.620	1.519	3	0.506	30.389
32		2.451		1.519		0.506	30.390
33		5.230		3.243		1.081	64.852
34		2.450		1.519		0.506	30.386
35		2.450		1.519		0.506	30.383
36		2.400		1.488		0.496	29.765



37		4.456			2.763		0.921	55.254	
38	Lifting Bracket of Main Frame ke Main Frame		0.097		0.180	0.018	2	0.009	0.525
39	Fitting Bracket of Main Frame ke Main Frame	7.774		0.067		0.521	3	0.174	10.418
40	Welding Bracket of Main Frame ke Main Frame (atas)	2.612	0.620			1.619	3	0.540	32.386
41	Welding Bracket of Main Frame ke Main Frame (Bawah)	5.163	0.620			3.201	3	1.067	64.016
JUMLAH		97.182	1.515			37.554		12.563	753.804

Sub-Block 5 (Deck)

1	Lifting deck Plate A		0.836			0.151		0.038	2.259
2	Lifting deck Plate B		0.707			0.127		0.032	1.908
3	Lifting Deck Plate C		0.707			0.127		0.032	1.908
4	Lifting Deck Plate D		0.707			0.127		0.032	1.908
5	Lifting deck Plate E		0.707		0.180	0.127	4	0.032	1.908
6	Lifting deck Plate F		0.707			0.127		0.032	1.908
7	Lifting Deck Plate G		0.707			0.127		0.032	1.908
8	Lifting Deck Plate H		0.707			0.127		0.032	1.908
9	Lifting Deck Plate I		0.836			0.151		0.038	2.259
10	Fitting Deck Plate A Ke Deck Plate B	6.000				0.402		0.067	4.020
11	Fitting Deck Plate B Ke Deck Plate C	6.000				0.402		0.067	4.020
12	Fitting Deck Plate C Ke Deck Plate D	6.000				0.402		0.067	4.020
13	Fitting Deck Plate D Ke Deck Plate E	6.000		0.067		0.402	6	0.067	4.020
14	Fitting Deck Plate E Ke Deck Plate F	6.000				0.402		0.067	4.020
15	Fitting Deck Plate F Ke Deck Plate G	6.000				0.402		0.067	4.020
16	Fitting Deck Plate G Ke Deck Plate H	6.000				0.402		0.067	4.020
17	Fitting Deck Plate H Ke Deck Plate I	6.000				0.402		0.067	4.020
18	Fitting Deck Plate I Ke Deck Plate B	12.000	0.620			7.440	6	1.240	74.400



19	Welding Deck Plate B Ke Deck Plate C	12.000			7.440		1.240	74.400
20	Welding Deck Plate C Ke Deck Plate D	12.000			7.440		1.240	74.400
21	Welding Deck Plate D Ke Deck Plate E	12.000			7.440		1.240	74.400
22	Welding Deck Plate E Ke Deck Plate F	12.000			7.440		1.240	74.400
23	Welding Deck Plate F Ke Deck Plate G	12.000			7.440		1.240	74.400
24	Welding Deck Plate G Ke Deck Plate H	12.000			7.440		1.240	74.400
25	Welding Deck Plate H Ke Deck Plate I	12.000			7.440		1.240	74.400
59	Lifting Longitudinal Deck Beam ke Deck Plate		1.154		0.180	0.208	4	0.052 3.116
60	Fittng Longitudinal Deck Beam ke Deck Plate	42.000		0.067		2.814	6	0.469 28.140
61	Welding Longitudinal Deck Beam ke Deck Plate	84.000	0.620			52.080	6	8.680 520.800
26			0.375			0.067		0.017 1.012
27			0.168			0.030		0.008 0.455
28			0.170			0.031		0.008 0.459
29			0.174			0.031		0.008 0.469
30			0.174			0.031		0.008 0.469
31	Lifting Girder & Transverse deck Beam Ke Deck Plate		0.174		0.180	0.031	4	0.008 0.471
32			0.396			0.071		0.018 1.068
33			0.176			0.032		0.008 0.474
34			0.176			0.032		0.008 0.474
35			0.176			0.032		0.008 0.474
36			0.397			0.072		0.018 1.073
37		7.000				0.469		0.078 4.690
38	Transverse deck Beam Ke Deck Plate	6.600		0.067		0.442	6	0.074 4.422
39		6.700				0.449		0.075 4.489
40		6.801				0.456		0.076 4.556



41		6.851			0.459		0.076	4.590	
42		6.851			0.459		0.076	4.590	
43		7.000			0.469		0.078	4.690	
44		6.900			0.462		0.077	4.623	
45		6.901			0.462		0.077	4.623	
46		6.901			0.462		0.077	4.623	
47		7.000			0.469		0.078	4.690	
48		37.812			25.334		4.222	253.340	
49		13.220			8.857		1.476	88.574	
50		13.400			8.978		1.496	89.780	
51		13.600			9.112		1.519	91.120	
52		13.700			9.179		1.530	91.790	
53	Welding Girder & Transverse deck Beam Ke Deck Plate	13.700	0.670		9.179	6	1.530	91.790	
54		39.128			26.216		4.369	262.158	
55		13.800			9.246		1.541	92.460	
56		13.800			9.246		1.541	92.460	
57		13.800			9.246		1.541	92.460	
58		39.200			26.264		4.377	262.640	
62	Lifting Bracket ke Deck Beam		0.303		0.180	0.055	4	0.014	0.818
63	Fitting Bracket ke Deck Beam	38.080		0.067		2.551	6	0.425	25.514
64	Welding Bracket ke Deck Beam	38.080	0.620			23.610	6	3.935	236.096
	JMLAH	646.824	10.630			301.620		50.430	3025.770
	5 (Transvers Bulkhead)								
			2.431		0.180	0.438	2	0.219	13.127
		31.984		0.067		2.143	3	0.714	42.859



Welding Bulkhead Plate	63.968		0.620		39.660	3	13.220	793.203
Lifting Stiffener of Bulkhead		1.045		0.180	0.188	2	0.094	5.641
Fitting Stiffener ke Bulkhead Panel	97.564			0.067	6.537	3	2.179	130.736
Welding Stiffener ke Bulkhead Panel	97.564		0.620		60.490	3	20.163	1209.794
Lifting Bracket of Stiffener		0.108		0.180	0.019	2	0.010	0.584
Fitting Bracket ke Stiffener	6.800			0.067	0.456	3	0.152	9.112
Welding Bracket ke Stiffener	6.800		0.620		4.216	3	1.405	84.320
JUMLAH	304.680	3.584			114.146		38.156	2289.376
Sub-Block 7 (Longitudinal Bulkhead)								
Lifting Long Bulkhead Plate		0.224		0.180	0.040	2	0.020	1.207
Fitting Long Bulkhead Plate	3.300			0.067	0.221	3	0.074	4.422
Welding Long Bulkhead Plate	6.600		0.620		4.092	3	1.364	81.840
Lifting Stiffener of Bulkhead		0.122		0.180	0.022	2	0.011	0.661
Fitting Stiffener ke Bulkhead Panel	11.255			0.067	0.754	3	0.251	15.082
Welding Stiffener ke Bulkhead Panel	11.255		0.620		6.978	3	2.326	139.562
Lifting Bracket of Stiffener		0.005		0.180	0.001	2	0.000	0.029
Fitting Bracket ke Stiffener	0.748			0.067	0.050	3	0.017	1.002
Welding Bracket ke Stiffener	0.748		0.620		0.464	3	0.155	9.275
JUMLAH	33.906	0.351			12.622		4.218	253.080



Lampiran 8.11. Tabel Perhitungan Durasi Durasi Perakitan Blok HS2

PERAKITAN HULL STRUCTURE 02

NO	NAMA KEGIATAN	PEKERJAAN		FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		PANJANG	BERAT	WELDING	FITTING	LIFTING			JAM	MENIT
		(m)	(ton)	JO/unit	JO/unit	JO/unit				
1	Lifting & Flip Sub Blok 1 Bottom 11-19		13.422			0.180	2.416	4	0.60	36.24
	JUMLAH	0.000	13.422				2.416		0.604	36.240
2	Lifting Sub-blok 6 (Transvers Bulkhead)		3.584			0.180	0.645	4	0.16	9.68
3	Fitting SB6 ke SB1	37.902			0.067		2.539	6	0.42	25.39
4	Welding SB6 ke SB1	75.804		0.620			46.998	6	7.83	469.98
	JUMLAH	113.706	3.584				50.183		8.418	505.055
5	Lifting Sub Blok 2 Bottom 8-11		1.131			0.180	0.204	4	0.05	3.05
6	Fitting SB2 ke SB1+SB6	56.628			0.067		3.794	6	0.63	37.94
7	Welding SB2 ke SB1+SB6	113.256		0.620			70.219	6	11.70	702.19
	JUMLAH	169.884	1.131				74.216		12.386	743.182
8	Lifting Sub-blok 7 (Long Bulkhead)		0.351			0.180	0.063	4	0.02	0.95
9	Fitting SB7 ke SB1+SB2+SB6	13.760			0.067		0.922	6	0.15	9.22
10	Welding SB7 ke SB1+SB2+SB6	27.520		0.620			17.062	6	2.84	170.62
	JUMLAH	41.280	0.351				18.048		3.013	180.792
1	Portside)		1.515			0.180	0.273	4	0.07	4.09
1	SB2+SB6+SB7	15.217			0.067		1.020	6	0.17	10.20
1	1+SB2+SB6+SB7	30.433		0.620			18.868	6	3.14	188.68
	JUMLAH	45.650	1.515				20.161		3.383	202.971



14	Lifting Sub-Block 4 (Startboard)		1.515		0.180	0.273	4	0.07	4.09
15	Fitting SB4 ke SB1+SB2+SB3+SB6+SB7	15.217			0.067	1.020	6	0.17	10.20
16	Welding SB4 ke SB1+SB2+SB3+SB6+SB7	30.433		0.620		18.868	6	3.14	188.68
	JUMLAH	45.650	1.515			20.161		3.383	202.971
17	Lifting Pillar		0.323		0.180	0.058	4	0.01	0.87
18	Fitting Pillar ke SB1+SB2+SB3+SB4+SB6+SB7	3.520			0.067	0.236	6	0.04	2.36
19	Welding Pillar ke SB1+SB2+SB3+SB4+SB6+SB7	7.040		0.133		0.936	6	0.16	9.36
	JUMLAH	10.560	0.323			1.230		0.210	12.594
20	Lifting Sub-blok 5 (Deck)		10.748		0.180	1.935	4	0.48	29.02
21	Fitting SB5 ke SB1+SB2+SB3+SB4+SB6+SB7+Pillar	42.605			0.067	2.855	6	0.48	28.55
22	Welding SB5 ke SB1+SB2+SB3+SB4+SB6+SB7+Pillar	85.210		0.620		52.830	6	8.81	528.30
	JUMLAH	127.815	10.748			57.619		9.764	585.868



Lampiran 8.12. Tabel Perhitungan Durasi Perakitan Sistem Perpipaan HS2

SISTEM PERPIPAAN UDARA
W.B.T PORT SIDE

NO	NAMA KEGIATAN	BEBAN PEKERJAAN			FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		Fitting (m)	Lifting (ton)	Welding (m)	FITTING	LIFTING	WELDING			JAM	MINIT
	1		2		3		4=2*3	5	6=4/5	7=6*60	
Panel Pipa On Unit											
1	Lifting Pipa 40A dan Flange		0.0017			0.54	0.0009	2	0.000	0.03	
2	Fitting Pipa 40A ke Flange	0.076			0.07		0.0051	2	0.003	0.15	
3	Welding Pipa 40A ke Flange			0.152			0.1016	1	0.102	6.10	
									0.10		
Assembly On Unit											
4	Lifting Panel Pipa on Unit		0.0017			0.54	0.0009	2	0.000	0.03	
5	Fitting Pipa 40A ke Unit	0.309			0.07		0.0207	2	0.010	0.62	
6	Welding Pipa 40A ke Unit			0.617			0.4136	1	0.414	24.82	
									0.42	25.46	
Panel Pipa On Block											
7	Lifting Pipa 40A dan Flange		0.0025			0.54	0.0013	2	0.001	0.04	
8	Fitting Pipa 40 A ke Flange	0.076			0.07		0.0051	2	0.003	0.15	
9	Welding Pipa 40 A ke Flange			0.152			0.1016	1	0.102	6.10	
10	Lifting Pipa U		0.0007			0.54	0.0004	2	0.000	0.01	
11	Fitting Pipa 40A ke Pipa U	0.076			0.07		0.0051	2	0.003	0.15	
12	Welding Pipa 40A ke Pipa U			0.152			0.1016	1	0.102	6.10	
									0.21	12.55	
Assembly On Block											
13	Lifting Pipa on Block		0.0032			0.54	0.0017	2	0.001	0.05	
14	Fitting Pipa on Block ke Flange	0.076			0.07		0.0051	2	0.003	0.15	
15	Welding Pipa on Block ke Flange			0.152			0.1016	1	0.102	6.10	



0.105 6.30

**SISTEM PERPIPAAN UDARA W.B.T
STARTBOARD**

NO	NAMA KEGIATAN	BEBAN PEKERJAAN			FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		Fitting (m)	Lifting (ton)	Welding (m)	FITTING	LIFTING	WELDING			JAM	MENIT
	1	2			3			4=2*3	5	6=4/5	7=6*60
Panel Pipa On Unit											
1	Lifting Pipa 40A dan Flange		0.0017			0.54		0.0009	2	0.000	0.03
2	Fitting Pipa 40A ke Flange	0.076			0.07			0.0051	2	0.003	0.15
3	Welding Pipa 40A ke Flange			0.152				0.1016	1	0.102	6.10
Assembly On Unit											
4	Lifting Panel Pipa on Unit		0.0017			0.54		0.0009	2	0.000	0.03
5	Fitting Pipa 40A ke Unit	0.309			0.07			0.0207	2	0.010	0.62
6	Welding Pipa 40A ke Unit			0.617				0.4136	1	0.414	24.82
Panel Pipa On Block											
7	Lifting Pipa 40A dan Flange		0.0025			0.54		0.0013	2	0.001	0.04
8	Fitting Pipa 40 A ke Flange	0.076			0.07			0.0051	2	0.003	0.15
9	Welding Pipa 40 A ke Flange			0.152				0.1016	1	0.102	6.10
10	Lifting Pipa U		0.0007			0.54		0.0004	2	0.000	0.01
11	Fitting Pipa 40A ke Pipa U	0.076			0.07			0.0051	2	0.003	0.15
12	Welding Pipa 40A ke Pipa U			0.152				0.1016	1	0.102	6.10
Assembly On Block											
	Pipa on Block		0.0032			0.54		0.0017	2	0.001	0.05
	ke Flange	0.076			0.07			0.0051	2	0.003	0.15
	Flange			0.152				0.1016	1	0.102	6.10



**SISTEM PERPIPAAN UDARA
LOT & FOT**

NO	NAMA KEGIATAN	BEBAN PEKERJAAN			FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		Fitting (m)	Lifting (ton)	Welding (m)	FITTING	LIFTING JO/unit	WELDING			JAM	MENIT
	1	2			3			4=2*3	5	6=4/5	7=6*60
Panel Pipa On Unit											
1	Lifting Pipa 40A dan Elbow		0.0236			0.54		0.0127	2	0.006	0.38
2	Fitting Pipa 40A ke Elbow	0.303			0.07			0.0203	2	0.010	0.61
3	Welding Pipa 40A ke Elbow			0.607				0.4065	1	0.406	24.39
4	Lifting Flange		0.0040			0.54		0.0021	2	0.001	0.06
5	Fitting Pipa 40A ke Flange	0.227			0.07			0.0152	2	0.008	0.46
6	Welding Pipa 40A ke Flange			0.455				0.3048	1	0.305	18.29
7	Lifting Tee		0.0009			0.54		0.0005	2	0.000	0.01
8	Fitting Pipa 40A ke Tee	0.227			0.07			0.0152	2	0.008	0.46
9	Welding Pipa 40A ke Tee			0.455				0.3048	1	0.305	18.29
Assembly On Unit										1.05	62.95
10	Lifting Panel Pipa 40A On Unit		0.0284			0.54		0.0153	2	0.008	0.46
11	Fitting Pipa 40A ke Unit	0.309			0.07			0.0207	2	0.010	0.62
12	Welding Pipa 40A ke Unit			0.617				0.4136	1	0.414	24.82
13	Fitting Pipa 40A ke Support	0.100			0.07			0.0067	2	0.003	0.20
	40A ke Support			0.200				0.1340	1	0.134	8.04
Pipa On Block										0.57	34.14
	40A dan Flange		0.0025			0.54		0.0013	2	0.001	0.04
	40A ke Flange	0.076			0.07			0.0051	2	0.003	0.15



17	Welding Pipa 40 A ke Flange		0.152		0.67	0.1016	1	0.102	6.10
18	Lifting Air Vent	0.0032			0.54	0.0017	2	0.001	0.05
19	Fitting Pipa 40A ke Air Vent	0.076		0.07		0.0051	2	0.003	0.15
20	Welding Pipa 40A ke Air Vent		0.152		0.67	0.1016	1	0.102	6.10
Assembly On Block								0.21	12.59
21	Lifting Panel Pipa 40A On Block	0.0057			0.54	0.0030	2	0.002	0.09
22	Fitting Flange ke Flange	0.076		0.07		0.0051	2	0.003	0.15
23	Joint Flange ke Flange		0.152		0.67	0.1016	1	0.102	6.10
								0.106	6.34

SISTEM PERPIPAAN UDARA FOT

NO	NAMA KEGIATAN	BEBAN PEKERJAAN			FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		Fitting (m)	Lifting (ton)	Welding (m)	FITTING	LIFTING	WELDING			JAM	MENTIT
	1	2		3			4=2*3	5	6=4/5	7=6*60	
Panel Pipa On Unit											
1	Lifting Pipa 40A dan Elbow		0.0284			0.54	0.0152	2	0.008	0.46	
2	Fitting Pipa 40A ke Elbow	0.303			0.07		0.0203	2	0.010	0.61	
3	Welding Pipa 40A ke Elbow			0.607			0.67	0.4065	1	0.406	
4	Lifting Flange		0.0053			0.54	0.0028	2	0.001	0.09	
5	Fitting Pipa 40A ke Flange	0.303			0.07		0.0203	2	0.010	0.61	
6	Welding Pipa 40A ke Flange			0.607			0.67	0.4065	1	0.406	
7	Lifting Tee		0.0018			0.54	0.0010	2	0.000	0.03	
	A ke Tee	0.455			0.07		0.0305	2	0.015	0.91	
	0A ke Tee			0.910			0.67	0.6097	1	0.610	
ly On Unit								1.47	88.06		
	pa 40A On Unit		0.0355			0.54	0.0191	2	0.010	0.57	



11	Fitting Pipa 40A ke Unit	0.309		0.07		0.0207	2	0.010	0.62	
12	Welding Pipa 40A ke Unit		0.617			0.67	0.4136	1	0.414	24.82
13	Fitting Pipa 40A ke Support	0.100		0.07			0.0067	2	0.003	0.20
14	Welding Pipa 40A ke Support		0.200			0.67	0.1340	1	0.134	8.04
Panel Pipa On Block								0.57	34.25	
15	Lifting Pipa 40A dan Flange	0.0025			0.54		0.0013	2	0.001	0.04
16	Fitting Pipa 40 A ke Flange	0.076		0.07			0.0051	2	0.003	0.15
17	Welding Pipa 40 A ke Flange		0.152			0.67	0.1016	1	0.102	6.10
18	Lifting Air Vent	0.0032			0.54		0.0017	2	0.001	0.05
19	Fitting Pipa 40A ke Air Vent	0.076		0.07			0.0051	2	0.003	0.15
20	Welding Pipa 40A ke Air Vent		0.152			0.67	0.1016	1	0.102	6.10
Assembly On Block								0.21	12.59	
21	Lifting Panel Pipa 40A On Block	0.0057			0.54		0.0030	2	0.002	0.09
22	Fitting Flange ke Flange	0.076		0.07			0.0051	2	0.003	0.15
23	Joint Flange ke Flange		0.152			0.67	0.1016	1	0.102	6.10
								0.106	6.34	

SISTEM PERPIPAAN UDARA TEKAN

NO	NAMA KEGIATAN	BEBAN PEKERJAAN			FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		Fitting (m)	Lifting (ton)	Welding (m)	FITTING	LIFTING JO/unit	WELDING			JAM	MINIT
	1	2			3		4=2*3	5	6=4/5	7=6*60	
On Unit Deck											
	A dan Elbow		0.0371		0.54		0.0199	2	0.010	0.60	
	A ke Elbow	0.502			0.07		0.0336	2	0.017	1.01	
	5A ke Elbow			1.003			0.67	0.6722	1	0.672	40.33



4	Lifting Flange	0.0043		0.54	0.0023	2	0.001	0.07	
5	Fitting Pipa 15A ke Flange	0.234		0.07	0.0157	2	0.008	0.47	
6	Welding Pipa 15A ke Flange		0.468		0.67	0.3137	1	0.314	18.82
7	Lifting Tee	0.0004		0.54	0.0002	2	0.000	0.01	
8	Fitting Pipa 15A ke Tee	0.268		0.07	0.0179	2	0.009	0.54	
9	Welding Pipa 15A ke Tee		0.535		0.67	0.3585	1	0.358	21.51
10	Fitting Flange ke Elbow	0.100		0.07	0.0067	2	0.003	0.20	
11	Welding Flange ke Elbow		0.201		0.67	0.1344	1	0.134	8.07
12	Fitting Flange ke Tee	0.033		0.07	0.0022	2	0.001	0.07	
13	Welding Flange ke Tee		0.067		0.67	0.0448	1	0.045	2.69
14	Lifting SGV	0.0080		0.54	0.0043	2	0.002	0.13	
15	Fitting Flange ke SGV	0.268		0.07	0.0179	2	0.009	0.54	
16	Joint Flange ke SGV		0.535		0.67	0.3585	1	0.358	21.51
17	Lifting Reducer	0.0010		0.54	0.0005	2	0.000	0.02	
18	Fitting Flange ke Reducer	0.067		0.07	0.0045	2	0.002	0.13	
19	Joint Flange ke Reducer		0.134		0.67	0.0896	1	0.090	5.38
Assembly On Unit								2.03	122.08
20	Lifting Panel Pipa 15A On Unit	0.0508		0.54	0.0273	2	0.014	0.82	
21	Fitting Pipe ke Support	0.350		0.07	0.0235	2	0.012	0.70	
22	Welding Pipe ke Support		0.700		0.67	0.4690	1	0.469	28.14
Panel Pipa On Block ME PS								0.49	29.66
23	Lifting Pipa 15A dan Flange	0.0028		0.54	0.0015	2	0.001	0.05	
	ke Flange	0.067		0.07	0.0045	2	0.002	0.13	
	ke Flange		0.134		0.67	0.0896	1	0.090	5.38
		0.0020		0.54	0.0011	2	0.001	0.03	
	ke SGV	0.033		0.07	0.0022	2	0.001	0.07	



28	Joint Flange ke SGV		0.067			0.67	0.0448	1	0.045	2.69
Panel Pipa On Block ME SB									0.14	8.35
29	Lifting Pipa 15A dan Flange		0.0028			0.54	0.0015	2	0.001	0.05
30	Fitting Pipa 15A ke Flange	0.067			0.07		0.0045	2	0.002	0.13
31	Welding Pipa 15A ke Flange			0.134			0.67	1	0.090	5.38
32	Lifting SGV		0.0020			0.54	0.0011	2	0.001	0.03
33	Fitting Flange ke SGV	0.033			0.07		0.0022	2	0.001	0.07
34	Joint Flange ke SGV		0.067				0.67	1	0.045	2.69
Assembly On Block									0.14	8.35
35	Lifting Panel Pipa 15A On Block		0.0097			0.54	0.0052	2	0.003	0.16
36	Fitting Flange ke Flange	0.067			0.07		0.0045	2	0.002	0.13
37	Joint Flange ke Flange			0.134			0.67	1	0.090	5.38
									0.094	5.67

SISTEM PERPIPAAN DUGA WBT PORTSIDE

NO	NAMA KEGIATAN	BEBAN PEKERJAAN			FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		Fitting (m)	Lifting (ton)	Welding (m)	FITTING	LIFTING	WELDING			JAM	MENIT
	1		2			3	4=2*3	5	6=4/5	7=6*60	
Assembly On Block											
1	Lifting Pipa 50A		0.0147			0.54	0.0079	2	0.004	0.24	
2	Fitting Pipa 50A ke Support	0.100			0.07		0.0067	2	0.003	0.20	
	50A ke Support			0.200			0.67	1	0.134	8.04	
	50A ke Deck Plate	0.346			0.07		0.0232	2	0.012	0.70	
	50A ke Deck Plate			0.693			0.67	1	0.464	27.85	
									0.617	37.02	



**SISTEM PERPIPAAN DUGA WBT
STARTBOARD**

NO	NAMA KEGIATAN	BEBAN PEKERJAAN			FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		Fitting	Lifting	Welding	FITTING	LIFTING	WELDING			JAM	MENIT
		(m)	(ton)	(m)	JO/unit						
1	2	3	4=2*3	5	6=4/5	7=6*60					
Assembly On Block											
1	Lifting Pipa 50A		0.0147			0.54		0.0079	2	0.004	0.24
2	Fitting Pipa 50A ke Support	0.100			0.07			0.0067	2	0.003	0.20
3	Welding Pipa 50A ke Support			0.200				0.1340	1	0.134	8.04
4	Fitting Pipa 50A ke Deck Plate	0.346			0.07			0.0232	2	0.012	0.70
5	Welding Pipa 50A ke Deck Plate			0.693				0.4641	1	0.464	27.85
										0.617	37.02

**SISTEM PERPIPAAN GAS BUANG
GENT. PORT**

NO	NAMA KEGIATAN	BEBAN PEKERJAAN			FORMULA JO			JO	PERKIRAAN TENAGA KERJA	DURASI	
		Fitting	Lifting	Welding	FITTING	LIFTING	WELDING			JAM	MENIT
		(m)	(ton)	(m)	JO/unit						
1	2	3	4=2*3	5	6=4/5	7=6*60					
Panel Pipa On Unit											
1	Lifting Pipa 65A dan Elbow		0.0164			0.54		0.0088	2	0.004	0.26
2	Fitting Pipa 65A ke Elbow	0.115			0.07			0.0077	2	0.004	0.23
3	Welding Pipa 65A ke Elbow			0.229				0.1536	1	0.154	9.21
4	Fitting Pipa 65A ke Elbow		0.0066			0.54		0.0035	2	0.002	0.11
5	Welding Pipa 65A ke Elbow			0.229				0.1536	1	0.154	9.21
6	Fitting Pipa 65A ke Flange	0.115			0.07			0.0077	2	0.004	0.23



6	Welding Pipa 65A ke Flange		0.229		0.67	0.1536	1	0.154	9.21
Assembly On Unit								0.48	28.71
10	Lifting Panel Pipa 65A On Unit		0.0230		0.54	0.0123	2	0.006	0.37
13	Fitting Pipa 65A ke Support	0.150		0.07		0.0101	2	0.005	0.30
14	Welding Pipa 65A ke Support		0.300		0.67	0.2010	1	0.201	12.06
Panel Pipa On Block								0.21	12.73
15	Lifting Pipa 65A dan Flange		0.0184		0.54	0.0099	2	0.005	0.30
16	Fitting Pipa 65A ke Flange	0.458		0.07		0.0307	2	0.015	0.92
17	Welding Pipa 65A ke Flange		0.917		0.67	0.6143	1	0.614	36.86
Assembly On Block								0.63	38.08
21	Lifting Panel Pipa 65A On Block		0.0184		0.54	0.0099	2	0.005	0.30
22	Fitting Flange ke Flange	0.115		0.07		0.0077	2	0.004	0.23
23	Joint Flange ke Flange		0.229		0.67	0.1536	1	0.154	9.21
								0.162	9.74

