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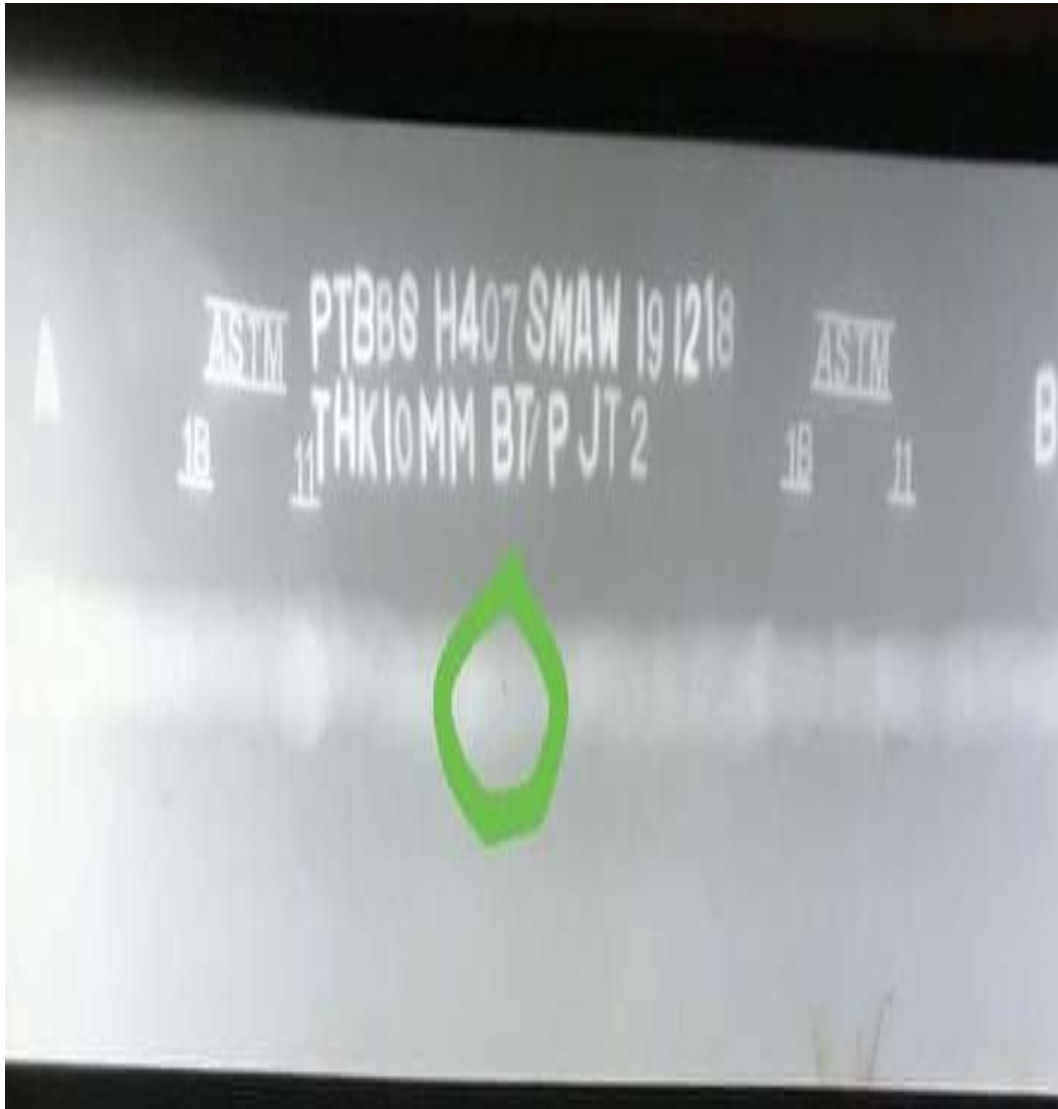
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LAMPIRAN

LAMPIRAN 11.1 Contoh Film X-ray Dan Cacat Las *Porosity*

LAMPIRAN 2

2.1 Sampel Hasil X-ray Dari 6 Kapal.

1. Kapal XVII

Dist. From SSOF : _____		Source Size : <u>3x3</u>	Unsharp. Geo. : <u>0,02</u>										
SOD : <u>12.</u>		Image Quality Indic. : <u>ASTM 1B</u>	Procedure No. : _____										
Exposure Time : <u>2.30</u> sec		Applicable Code : <u>CLASS BK1</u>											
Identification	Joint No.	Film Location	Crack	Incomplete Pen	Incomplete Fusion	Porosity	Slag Inclusion	Undercut	Others	Sensitivity	Range Density	Judgement	Remark
	16	A-B				✓				2% 2-4	Acc	Cluster ^{100%} 2 LMM	rej. 1
	17	A-B								2% 2-4	Acc	ok.	
	18	A-B								2% 2-4	Acc	ok.	
	19	A-B				✓	✓			2% 2-4	R	rej	
	20	A-B								2% 2-4	Acc	ok.	
	21	A-B								2% 2-4	Acc	ok.	
	22	A-B				✓				2% 2-4	Acc	1MM ok.	
	23	A-B				✓				2% 2-4	R	> 2MM F.	
	24	A-B				✓				2% 2-4	R	> 2MM F.	
	25	A-B				✓				2% 2-4	R	> 2MM F.	
	26	A-B				✓	✓			2% 2-4	R	> 2MM F.	
	27	A-B				✓				2% 2-4	R	> 2MM F.	
	31	A-B				✓				2% 2-4	R	> 2MM F.	
	32	A-B				✓				2% 2-4	Acc	1MM ok.	
	33	A-B				✓				2% 2-4	R	> 2MM F.	
	34	A-B								2% 2-4	Acc	ok.	
	35	A-B				✓				2% 2-4	Acc	1MM ok.	
	36	A-B								2% 2-4	Acc	ok.	
	37	A-B								2% 2-4	Acc	ok.	
	38	A-B								2% 2-4	Acc	ok.	

Film Type : AGFA Number of film in each film holder : _____ Sheet

Total Film : _____ Notes : SSOF : _____ Source side of Object to the Film

Exposure Time : <u>2.70</u> sec		Applicable Code : <u>CLASS BK1</u>											
Identification	Joint No.	Film Location							Others	Sensitivity	Range Density	Judgement	Remark
			Crack	Incomplete Pen	Incomplete Fusion	Porosity	Slag Inclusion	Undercut					
	39	A-B			✓				2' / 2-4 Ac	1 mm G.			
	40	A-B							2' / 2-4 Ac	G.			
Film Type = <u>AGF</u>		Number of film in each film holder : ___ Sheet											
Total Film :		Notes : SSOF : — Source side of Object to the Film											
4" x 10" = ___ Sheet		SOD : — Source to Object Distance											
4" x 15" = <u>2</u> Sheet													
Examined By	Reviewed / witnessed By	Reviewed / witnessed By	Authorized Inspector										

Exposure Time : <u>2.30</u> sec		Applicable Code : <u>VT-22 V-1</u>											
Identification	Joint No.	Film Location	Crack	Incomplete Pen	Incomplete Fusion	Porosity	Slag Inclusion	Undercut	Others	Sensitivity	Range Density	Judgement	Remark
	1	A-B								2%	2-4	Acc	ok.
	2	A-B								2%	2-4	Acc	ok.
	3	A-B								2%	2-4	Acc	ok.
	4	A-B				✓				2%	2-4	Acc	1mm ok.
	5	A-B								2%	2-4	Acc	ok.
	7	A-B								2%	2-4	Acc	ok.
	8	A-B				✓				2%	2-4	Acc	1mm ok.
	9	A-B								2%	2-4	Acc	ok.
	11	A-B				✓				2%	2-4	Acc	1mm ok.
	10	A-B				✓				2%	2-4	Acc	2mm ok.
	12	A-B				✓				2%	2-4	Acc	1mm ok.
	13	A-B				✓				2%	2-4	Acc	2mm ok.
	14	A-B								2%	2-4	Acc	ok.
	15	A-B				✓				2%	2-4	Acc	1mm ok.
	41	A-B		✓						2%	2-4	R	R.
	42	A-B								2%	2-4	Acc	ok.
	43	A-B								2%	2-4	Acc	ok.
	44	A-B				✓				2%	2-4	Acc	1mm ok.
	45	A-B								2%	2-4	Acc	ok.
	46	A-B								2%	2-4	Acc	ok.

Film Type = <u>AGFA</u>	Number of film in each film holder : <u> </u> Sheet
Total Film : <u> </u>	Notes : SSOF : <u> </u> Source side of Object to the Film
4" x 10" = <u> </u> Sheet	SOD : <u> </u> Source to Object Distance
4" x 5" = <u>20</u> Sheet	

Examined By : <u>[Signature]</u>	Reviewed / witnessed By : <u> </u>	Reviewed / witnessed By : <u> </u>	Authorized Inspector : <u> </u>
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Dist. From SSOF	:	_____	Source Size	:	_____	Unsharp. Geo.	:	_____
SOD	:	12	Image Quality Indic.	:	ASTM 1B	Procedure No.	:	_____
Exposure Time	:	2.30 sec				Applicable Code	:	CLASS BK1

Identification	Joint No.	Film Location	Crack	Incomplete Pen	Incomplete Fusion	Porosity	Slag Inclusion	Undercut	Others	Sensitivity	Range Density	Judgment	Remark
	28	A-B								2%	2-4	Acc	ok.
	29	A-B								4	4	Acc	ok.
	30	A-B								4	4	Acc	ok.
	51	A-B								4	4	Acc	ok.
	52	A-B								4	4	Acc	ok.
	53	A-B								4	4	Acc	ok.
	54	A-B								4	4	Acc	ok.
	58	A-B					✓			4	4	R	7MM R.
	59	A-B				✓				4	4	Acc	1MM ok.
	55	A-B								4	4	Acc	ok.
	56	A-B								4	4	Acc	ok.
	57	A-B								4	4	Acc	ok.
	61	A-B								4	4	Acc	ok.
	64	A-B				✓				4	4	Acc	1MM ok.
	62	A-B				✓				4	4	R	>2MM R.
	63	A-B				✓				2%	2-4	R	>2MM R.

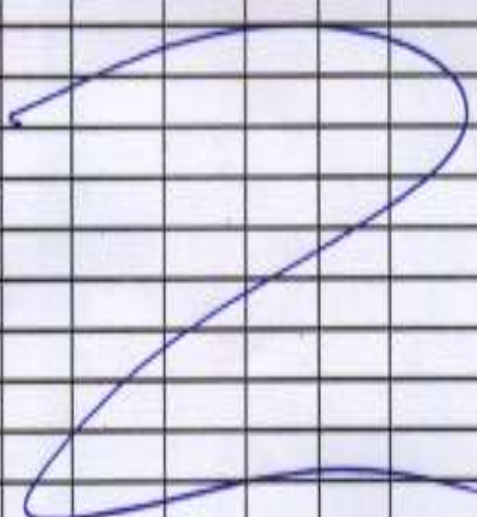
2. Kapal B.157

Welding Process	Welding Source	Film Type	Film Size	Screen Type	Strength	SED	Technique	IQI	VW		
	33 FCAW 14.192		3X3 mm			AGFA	4X15"	LEAD	12"	SUSI	1B
Film Identification	Joint No.	Welding Process	Thickness (mm)	Welder ID	Position	SOD	Density	Sensitivity	Interpretation	Result	
PLATE 18-20	03	FCAW	10 mm		A-B	12"	2-4	2 B		A	
-||-	04	FCAW			A-B				Slag 4m	A	
-||-	05	FCAW			A-B					A	
PLATE 30-31	06	FCAW	!		A-B	!	!	!		A	
-||-	07	FCAW	!		A-B	!	!	!		A	
-||-	08	FCAW	!		A-B	!	!	!	Slag 4m	A	
PLATE 40-41	09	FCAW	!		A-B	!	!	!	Slag 2mm	A	
-||-	10	FCAW	!		A-B	!	!	!	Slag 4m	A	
PLATE 19-20	15	FCAW	!		A-B	!	!	!		A	
-||-	16	FCAW	!		A-B	!	!	!	Slag 2mm	A	
-||-	17	FCAW	!		A-B	!	!	!	Slag 1m	A	
PLATE 30-31	18	FCAW	!		A-B	!	!	!	Slag 1m	A	
-||-	19	FCAW	!		A-B	!	!	!		A	
-||-	20	FCAW	!		A-B	!	!	!		A	
PLATE 40-41	21	FCAW	!		A-B	!	!	!	Slag 1m	A	
-||-	22	FCAW	!		A-B	!	!	!	Slag 2m	A	
-||-	26	FCAW	8 mm		A-B	!	!	!		A	
-||-	27	FCAW	8 mm		A-B	!	!	!		A	
PLATE 11	28	FCAW	8 mm		A-B	!	!	!		A	
PLATE 39	29	FCAW	8 mm		A-B	!	!	!		A	

Welding Process		Film Type		SFD						
FCAW		AGPA		12"						
1A 192		4x15"		DWS1						
3x3 mm		LEAD		1B						
Film Identification	Joint No.	Welding Process	Thickness (mm)	Welder ID	Position	SOD	Density	Sensitivity	Interpretation	Result
PLATE 11-12	01	FCAW	10 mm	SS	A-B	12"	2-4	2%	slag 3mm	A
11-	02	FCAW	/	SS	A-B	/	/	/	por 0.5 mm	A
PLATE 50-51	11	FCAW	/	SS	A-B	/	/	/	slag 3mm	A
11-	12	FCAW	/	SS	A-B	/	/	/		A
11-	13	FCAW	/	SS	A-B	/	/	/		A
11-	14	FCAW	/	SS	A-B	/	/	/		A
11-	23	FCAW	/	SS	A-B	/	/	/		A
11-	24	FCAW	/	SS	A-B	/	/	/	slag 3mm	A
PLATE 10-11	25	FCAW	8 mm	SP	A-B	/	/	/		A
										
Note:										
PT. SURVINDO BERLIAN SUKAJAYA INDONESIA		QA/QC		CLIENT QA/QC		THIRD PARTY				

3. Kapal 3213

Material	S/S	Film Type	AGFA	SFD	12"					
Welding Process	FCAW	Film Size	4x15	Technique	SUSI					
Type of Source	IN-192	Screen Type	LEAD	IQI	1B					
Sources Size	3x3 mm	Strength		VW						
Film Identification	Joint No.	Welding Process	Thickness (mm)	Welder ID	Position	SOD	Density	Sensitivity	Interpretation	Result
FRAME 19-20	03	FCAW	10 mm	AS	A-B	12°	2-4	2 ⁸	Slag 3mm	A ₁
FRAME 19-20	04	FCAW		AS	A-B				Slag 4mm	A ₁
FRAME 19-20	05	FCAW		AS	A-B					A ₁
FRAME 30-31	06	FCAW		MF	A-B					A ₁
- " -	07	FCAW		MF	A-B					A ₁
- " -	08	FCAW		MF	A-B					A ₁
FRAME 40-41	09	FCAW		DC	A-B					A ₁
- " -	10	FCAW		DC	A-B				Por-1mm	A ₁
FRAME 19-20	15	FCAW		AS	A-B				Slag 1mm	A ₁
- " -	16	FCAW		AS	A-B					A ₁
- " -	17	FCAW		AS	A-B				Slag 1mm	A ₁
FRAME 30-31	18	FCAW		MF	A-B				Slag 3mm	A ₁
- " -	19	FCAW		MF	A-B					A ₁
- " -	20	FCAW		MF	A-B					A ₁
FRAME 40-41	21	FCAW		DC	A-B					A ₁
- " -	22	FCAW		DC	A-B					A ₁
- " -	26	FCAW	8 mm	DC	A-B				Por-0.5 mm	A ₁
- " -	27	FCAW	8 mm	DC	A-B					A ₁
FRAME 11	28	FCAW	8 mm	MF	A-B					A ₁
FRAME 39	29	FCAW	8 mm	AS	A-B					A ₁
Note:										
PT. SURVINDO BERLIAN SAMUDERA INDONESIA		QA/QC		CLIENT QA/QC		THIRD PARTY				

Material	CS	Film Type	AGFA	SFD	12°					
Welding Process	FEAW	Film Size	4x15"	Technique	SWSI					
Type of Source	17-192	Screen Type	LEAD	IQI	1B					
Source Size	2x3 mm.	Strength		VW						
Film Identification	Joint No.	Welding Process	Thickness (mm)	Welder ID	Position	SOD	Density	Sensitivity	Interpretation	Result
FRAME 11-12	01	FEAW	10mm	SP	A-B	12°	2-4	2 %		A ₁
-1-	02	FEAW	/	SP	A-B	/	/	/		A ₁
FRAME 50-51	11	FEAW	/	SS	A-B	/	/	/	slag 2mm	A ₁
-11-	12	FEAW	/	SS	A-B	/	/	/	slag 3mm	A ₁
FRAME 11-12	13	FEAW	/	SP	A-B	/	/	/		A ₁
-11-	14	FEAW	/	SP	A-B	/	/	/		A ₁
FRAME 50-51	23	FEAW	/	SP	A-B	/	/	/		A ₁
-11-	24	FEAW	/	SP	A-B	/	/	/	slag 4mm	A ₁
FRAME 10-11	25	FEAW	8 mm	SS	A+B	/	/	/		A ₁
										
Note:										
PT. SURVINDO BERLIAN SAMUDERA INDONESIA		QA/QC		CLIENT QA/QC			THIRD PARTY			

4. Kapal Perintis 1200 GT



Weld Thk : <input type="checkbox"/> mm <input type="checkbox"/> Reinfrc. Thk : <input type="checkbox"/> mm <input type="checkbox"/> Backing Ring : Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	TYPE FILM Manufacture's : AGFA Type Of Film : D7 Dimension : 4 X 15 In	TYPE SCREEN Lead : Front <input checked="" type="checkbox"/> Back <input checked="" type="checkbox"/> Thickness : <input type="checkbox"/> mm <input checked="" type="checkbox"/>	SENSITIVITY : 2 % Density : 3.0 - 4.0	TECHNIQUE Exposure : Single Wall <input checked="" type="checkbox"/> Double Wall <input type="checkbox"/> Viewing : Single Wall <input checked="" type="checkbox"/> Double Wall <input type="checkbox"/> Exposure Time : 90 Detik Min. SOD* : 300 Mm Min. DSSOF** : 10 Mm No. Of Film In Holder : Single <input checked="" type="checkbox"/> Multiple <input type="checkbox"/> IMAGE QUALITY INDICATOR (IQI) Wire No. : ASTM 1B 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> Hole No. : - 1T <input type="checkbox"/> 2T <input type="checkbox"/> 4T <input type="checkbox"/> Placement : Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/> Block Thickness : Mm						
MARKER PLACEMENT Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>				Notes For Sketch : * SWSV : Single Wall Single Viewing * DWSV : Double Wall Single Viewing * DWDV : Double Wall Double Viewing * Other / Other than listed (Please Sketch) * Process Irradiation Photography Test						
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
1.	Fr.87-88 KA J.1 Ps	A-B	12	-	-	-	-	√	-	
2.	Fr.19-20 KA J.2 Sb	A-B	12	-	-	P	1	√	-	
3.	Fr.87-88 BC J.3 Ps	A-B	10	-	-	-	-	√	-	
4.	Fr.87-88 KA J.4 Sb	A-B	12	-	-	SI	2	√	-	
5.	Fr.86-87 SS J.5 Sb	A-B	10	-	-	IF	-	-	√	R1 = Acc
6.	Fr.87-88 DE J.6 Sb	A-B	10	-	-	-	-	√	-	
7.	Fr.78-79 KA J.7 Ps	A-B	12	-	-	-	-	√	-	
8.	Fr.87-88 MD J.8 Ps	A-B	10	-	-	-	-	√	-	
9.	Fr.78-79 CD J.9 Ps	A-B	10	-	-	-	-	√	-	
10.	Fr.78-79 AB J.10 Sb	A-B	10	-	-	-	-	√	-	
11.	Fr.78-79 CD J.11 Sb	A-B	10	-	-	-	-	√	-	
12.	Fr.78-79 DE J.12 Sb	A-B	10	-	-	IF	-	-	√	R1 = Acc
13.	Fr.68-69 KA J.13 Ps	A-B	12	-	-	-	-	√	-	
14.	Fr.68-69 BC J.14 Ps	A-B	10	-	-	-	-	√	-	
15.	Fr.68-69 CD J.15 Ps	A-B	10	-	-	SI	-	-	√	R1 = Acc
16.	Fr.69-70 DE J.16 Ps	A-B	10	-	-	-	-	√	-	
17.	Fr.69-70 AB J.17 Sb	A-B	10	-	-	-	-	√	-	
* Kind of Defect *						* DESCRIPTION *				
SL : Slag In Line		P : Porosity								

Manufacture : AMFA Type Of Film : D7 Dimension : 4 X 15 In		No. Of Film In Holder : Single <input checked="" type="checkbox"/> Multiple <input type="checkbox"/>		IMAGE QUALITY INDICATOR (IQI)		<input type="checkbox"/> DWSV <input type="checkbox"/> Other				
TYPE SCREEN Lead : Front <input checked="" type="checkbox"/> Back <input type="checkbox"/> Thickness : In <input type="checkbox"/> mm <input checked="" type="checkbox"/>		Wire No. : ASTM 1B 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> Hole No. : 1 <input type="checkbox"/> 2 <input type="checkbox"/> 4 <input type="checkbox"/> Placement : Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/> Block Thickness : Mm		Marker Placement Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>		Notes For Sketch : • DWV : Single Wall Single Viewing • DWSV : Double Wall Single Viewing • DWDV : Double Wall Double Viewing • Other : Other than listed (Please Sketch) • Process Prediction Radiography Tool				
Sensitivity : 2 % Density : 3.0 - 4.0										
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
18	Fr.69-70 CD J.18 Sb	A-B	10	-	-	-	-	√	-	
19	Fr.69-70 DE J.19 Sb	A-B	10	-	-	SL	-	-	√	R1 = Acc
20	Fr.58-59 AB J.20 Ps	A-B	10	-	-	-	-	√	-	
21	Fr.58-59 CD J.21 Ps	A-B	10	-	-	-	-	√	-	
22	Fr.58-59 DE J.22 Ps	A-B	10	-	-	CP,IP	-	-	√	R1 = Acc
23	Fr.58-59 KA J.23 Sb	A-B	12	-	-	-	-	√	-	
24	Fr.58-59 BC J.24 Sb	A-B	10	-	-	-	-	√	-	
25	Fr.58-59 DE J.25 Sb	A-B	10	-	-	SL	-	-	√	R1 = Acc
26	Fr.48-49 KA J.26 Ps	A-B	12	-	-	-	-	√	-	
27	Fr.48-49 BC J.27 Ps	A-B	10	-	-	-	-	√	-	
28	Fr.48-49 DE J.28 Ps	A-B	10	-	-	-	-	√	-	
29	Fr.48-49 AB J.29 Sb	A-B	10	-	-	-	-	√	-	
30	Fr.48-49 CD J.30 Sb	A-B	10	-	-	-	-	√	-	
31	Fr.48-49 DE J.31 Sb	A-B	10	-	-	-	-	√	-	
32	Fr.38-39 AB J.32 Ps	A-B	10	-	-	-	-	√	-	
33	Fr.38-39 CD J.33 Ps	A-B	10	-	-	-	-	√	-	
34	Fr.38-39 DE J.34 Ps	A-B	10	-	-	CP	-	-	√	R1 = Acc
* Kind of Defect *						* DESCRIPTION *				
SL : Slag in Line RC : Root Concavity RUC : Root Under Cut CR : Crack UC : Under Cut		P : Porosity CP : Clustered Porosity IP : Incomplete Penetration LOF : Lack of Fusion SI : Slag Inclusion		IF : Incomplete Fusion BT : Burn Through WH : Worm Hole IC : Incomplete Concavtive		Film : 4" X 15" TOTAL FILM 21 Sheets				
Radiographer by : PT. Dalut (Signature)										


Thickness : <input type="checkbox"/> mm <input checked="" type="checkbox"/> In		Placement : Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>		Block Thickness : Mm		Notes For Sketch : * DWV / Single Wall Single Viewing * DWV / Double Wall Single Viewing * DWV / Double Wall Double Viewing * Other : Other than listed / Please Sketch * Process Includes Radiography Test				
Sensitivity : 2 %		MARKER PLACEMENT								
Density : 3.0 - 4.0		Source Side <input checked="" type="checkbox"/>		Film Side <input type="checkbox"/>						
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
35	Fr.38-39 KA J.35 Sb	A-B	12	-	-	-	-	√	-	
36	Fr.38-39 BC J.36 Sb	A-B	10	-	-	-	-	√	-	
37	Fr.38-39 DE J.37 Sb	A-B	10	-	-	-	-	√	-	
38	Fr.29-30 KA J.38 Ps	A-B	12	-	-	-	-	√	-	
39	Fr.29-30 BC J.39 Ps	A-B	10	-	-	-	-	√	-	
40	Fr.29-30 CD J.40 Ps	A-B	10	-	-	-	-	√	-	
41	Fr.29-30 KA J.41 Sb	A-B	12	-	-	-	-	√	-	
42	Fr.29-30 CD J.42 Sb	A-B	10	-	-	-	-	√	-	
43	Fr.29-30 DE J.43 Sb	A-B	10	-	-	-	-	√	-	
44	Fr.19-20 AB J.44 Ps	A-B	10	-	-	-	-	√	-	
45	Fr.19-20 CD J.45 Ps	A-B	12	-	-	P	I	√	-	
46	Fr.19-20 DE J.46 Ps	A-B	10	-	-	-	-	√	-	
47	Fr.19-20 KA J.47 Sb	A-B	12	-	-	-	-	√	-	
48	Fr.19-20 BC J.48 Ps	A-B	10	-	-	-	-	√	-	
49	Fr.19-20 DE J.49 Sb	A-B	10	-	-	-	-	√	-	
50	Fr.11-12 KA J.50 Ps	A-B	12	-	-	-	-	√	-	
51	Fr.11-12 DE J.51 Ps	A-B	10	-	-	-	-	√	-	
* Kind of Defect *						* DESCRIPTION *				
SL : Slag in Line RC : Root Concavity RUC : Root Under Cut CR : Crack UC : Under Cut		P : Porosity CP : Clustered Porosity IP : Incomplete Penetration LOF : Lack of Fusion SI : Slag Inclusion		IF : Incomplete Fusion BT : Burn Through WH : Worm Hole IC : Incomplete Concavitive		Film : 4" X 15" TOTAL FILM 17 Sheets				
Radiographer by : PT. Dalut Nusantara Baru		QC by : PT. Prakriti Hasta Darma		Witnessed by : Bire Klasifikasi Indonesia		Acknowledge by :				

NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
52.	Fr.11-12 DE J.52 Ps	A-B	10	.	.	.	.	√	.
53.	Fr.11-12 AB J.53 Sb	A-B	10	.	.	.	.	√	.
54.	Fr.11-12 BC J.54 Sb	A-B	10	.	.	.	.	√	.
55.	Fr.11-12 DE J.55 Sb	A-B	10	.	.	.	.	√	.
56.	Fr.3-4 KA J.56 Ps	A-B	12	.	.	.	.	√	.
57.	Fr.3-4 BC J.57 Ps	A-B	10	.	.	.	.	√	.
58.	Fr.3-4 DE J.58 Ps	A-B	10	.	.	.	.	√	.
59.	Fr.3-4 KA J.59 Sb	A-B	12	.	.	.	.	√	.
60.	Fr.3-4 AB J.60 Sb	A-B	10	.	.	.	.	√	.
61.	Fr.3-4 DE J.61 Sb	A-B	10	.	.	.	.	√	.
62.	Fr.87-88 MD J.62 Ps	A-B	10	.	.	.	.	√	.
63.	Fr.87-88 MD J.63 Ps	A-B	10	.	.	.	.	√	.
64.	Fr.87-88 MD J.64 Sb	A-B	10	.	.	.	.	√	.
65.	Fr.87-88 MD J.65 Sb	A-B	10	.	.	.	.	√	.
66.	Fr.178-79 MD J.66 Ps	A-B	10	.	.	.	.	√	.
67.	Fr.75-76 MD J.67 Ps	A-B	10	.	.	.	.	√	.
68.	Fr.3-4 MD J.68 Ps	A-B	10	.	.	.	.	√	.
* Kind of Defect *						* DESCRIPTION *				
SL : Slag in Line RC : Root Concavity RUC : Root Under Cut CR : Crack UC : Under Cut		P : Porosity CP : Clustered Porosity IP : Incomplete Penetration LOF : Lack of Fusion SI : Slag Inclusion		IF : Incomplete Fusion BT : Burn Through WH : Worm Hole IC : Incomplete Concavitive		Film : 4" X 15" TOTAL FILM 17 Sheets				
Radiographer by : PT.Dalut Nusanantara Baru		QC by : PT.Prakriti Hasta Darma		Whitessed by : Biro Klasifikasi Indonesia		Acknowledge by :				

Manufacturer's : AGFA Type Of Film : D7 Dimension : 4 X 15 in		Min. 500' ; Min Min. D550F'' ; Min No. Of Film In Holder : Single <input checked="" type="checkbox"/> Multiple <input type="checkbox"/>								
TYPE SCREEN Lead : Front <input checked="" type="checkbox"/> Back <input checked="" type="checkbox"/> Thickness : in <input type="checkbox"/> mm <input checked="" type="checkbox"/>		IMAGE QUALITY INDICATOR (IQI) Wire <input checked="" type="checkbox"/> No. : ASTM 18 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> Hole <input type="checkbox"/> No. : 17 <input type="checkbox"/> 2T <input type="checkbox"/> 4T <input type="checkbox"/> Placement : Source Side <input type="checkbox"/> Film Side <input type="checkbox"/> Block Thickness : mm		<input type="checkbox"/> DWSV <input type="checkbox"/> Other <input type="checkbox"/>						
Sensitivity : % Density : 1		MARKER PLACEMENT Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>		Notes For Search - 18K : Single and Single Cloning - 18M : Single and Single Cloning - 22K : Single and Single Cloning - Other : Other than Head / Pass Mark - Positive Indicator Radiography Test						
NO.	Part Or Weld Identification	Location	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size (mm)	Accepted	Rejected	
18	Fr.33-34 BT 9 S	A-B	10	-	HULL 49	-	-	✓	-	
19	Fr.33-34 BT 10 P	A-B	10	-	HULL 49	-	-	✓	-	
20	Fr.33-34 BT 10 S	A-B	10	-	HULL 49	P	3	✓	-	
21	Fr.36-37 BT 11 P	A-B	10	-	HULL 49	SI	10	-	✓	RI = Acc
22	Fr.36-37 BT 11 S	A-B	10	-	HULL 49	P	3	✓	-	
23	Fr.39-40 BT 12 P	A-B	10	-	HULL 62	-	-	✓	-	
24	Fr.39-40 BT 12 S	A-B	10	-	HULL 62	-	-	✓	-	
25	Fr.39-40 BT 13 P	A-B	10	-	HULL 62	-	-	✓	-	
26	Fr.39-40 BT 13 S	A-B	10	-	HULL 62	RUC	-	-	✓	RI = Acc
27	Fr.43-44 BT 14 P	A-B	10	-	HULL 59	-	-	✓	-	
28	Fr.43-44 BT 14 S	A-B	10	-	HULL 59	-	-	✓	-	
29	Fr.43-44 BT 15 P	A-B	10	-	HULL 59	-	-	✓	-	
30	Fr.43-44 BT 15 S	A-B	10	-	HULL 59	-	-	✓	-	
31	Fr.45-46 BT 16 P	A-B	10	-	HULL 55	SL	-	-	✓	RI = Acc
32	Fr.45-46 BT 16 S	A-B	10	-	HULL 55	IF	-	-	✓	RI = Acc
33	Fr.45-46 BT 17 P	A-B	10	-	HULL 55	-	-	✓	-	
34	Fr.45-46 BT 17 S	A-B	10	-	HULL 55	SI	15	-	✓	RI = Acc
Kind of Defect : SL : Slag In Line RC : Root Concavity RUC : Root Under Cut CR : Crack UC : Under Cut P : Porosity CP : Clustered Porosity IP : Incomplete Penetration LOF : Lack of Fusion SI : Slag Inclusion IF : Incomplete Fusion BT : Burn Through WH : Worm Hole						DESCRIPTION : Film 4" X 15" TOTAL FILM : 17 Sheets				
Radiographer by : PT.DNB		QC by : PT.ORELA SHIPYARD		Witnessed by :		Acknowledge by :				

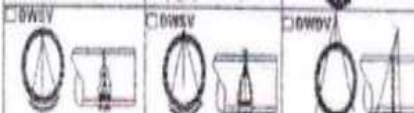

TYPE SCREEN		Hole No. : <input type="checkbox"/> 1T <input type="checkbox"/> 2T <input type="checkbox"/> 4T <input type="checkbox"/>		Placement : Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>		Block Thickness : mm		 		
Lead : Front <input checked="" type="checkbox"/> Back <input type="checkbox"/>		Thickness : in <input type="checkbox"/> mm <input checked="" type="checkbox"/>		Sensitivity : %		Density :		MARKER PLACEMENT		
		Source Side <input checked="" type="checkbox"/>		Film Side <input type="checkbox"/>		Notes For Marking : 1-RTI : Single Mark Single Reading 2-RTI : Double Mark Single Reading 3-RTI : Double Mark Double Reading 4-ORR : Other Side Lead / Photo Mark 5-PCRA : Precision Radiography Mark				
NO.	Part Or Weld Identification	Location	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
35	Fr.50-51 BT 18 P	A-B	10	-	HULL 64	SI	15	-	√	R1 = Acc
36	Fr.50-51 BT 18 S	A-B	10	-	HULL 64	IF	-	-	√	R1 = Rep, R2 = Acc
37	Fr.50-51 BT 19 P	A-B	10	-	HULL 59	-	-	-	√	-
38	Fr.50-51 BT 19 S	A-B	10	-	HULL 59	-	-	-	√	-
39	Fr.5-6 SS 1 P	A-B	10	-	HULL 60	-	-	-	√	-
40	Fr.5-6 SS 1 S	A-B	10	-	HULL 60	-	-	-	√	-
41	Fr.5-6 SS 2 P	A-B	10	-	HULL 60	CP	-	-	√	R1 = Acc
42	Fr.5-6 SS 2 S	A-B	10	-	HULL 60	Por	1	√	-	-
43	Fr.14-15 SS 3 P	A-B	10	-	HULL 24	-	-	-	√	-
44	Fr.14-15 SS 3 S	A-B	10	-	HULL 24	Por	1	√	-	-
45	Fr.23-24 SS 4 P	A-B	10	-	HULL 18	-	-	-	√	-
46	Fr.23-24 SS 4 S	A-B	10	-	HULL 18	SI	21	-	√	R1 = Acc
47	Fr.27-28 SS 5 P	A-B	10	-	HULL 61	-	-	-	√	-
48	Fr.27-28 SS 5 S	A-B	10	-	HULL 61	WH	-	-	√	R1 = Acc
49	Fr.29-30 SS 6 P	A-B	10	-	HULL 61	-	-	-	√	-
50	Fr.29-30 SS 6 S	A-B	10	-	HULL 61	SI	8	-	√	R1 = Acc
51	Fr.33-34 SS 7 P	A-B	10	-	HULL 62	P	2	√	-	-

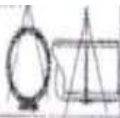

Kind of Defect			DESCRIPTION	
SL : Slag in Line	P : Porosity	IF : Incomplete Fusion	Film - 4" X 15"	
RC : Root Concavity	CP : Clustered Porosity	BT : Burn Through		
RUC : Root Under Cut	IP : Incomplete Penetration	WH : Worm Hole		
CR : Crack	LOF : Lack of Fusion			
UC : Under Cut	SI : Slag Inclusion		TOTAL FILM 17 Sheets	

Radhiographer by : PT.DNB	QC by : PT.ORELA SHIPTARD	Witnessed by : 	Acknowledge by :
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Sensitivity : %		MARKER PLACEMENT				<input type="checkbox"/> 100V - Fixed Wall Single Viewing <input type="checkbox"/> 100V - Double Wall Single Viewing <input type="checkbox"/> 100V - Double Wall Double Viewing		<input type="checkbox"/> 200V - Other Size fixed / Variable Method <input type="checkbox"/> Positive Indicator Radiography Test		
Density :		Source Site <input type="checkbox"/>		Film Side <input type="checkbox"/>		Interpretation		Result		Remark
No.	Part Or Weld Identification	Location	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Type of Indication	Size(mm)	Accepted	Rejected	
52	Fr.33-34 SS 7 S	A-B	10	-	HULL 62	P	2	✓	-	
53	Fr.36-37 SS 8 P	A-B	10	-	HULL 24	SI	9	-	✓	RI = Acc
54	Fr.36-37 SS 8 S	A-B	10	-	HULL 24	WH	-	-	✓	RI = Acc
55	Fr.39-40 SS 9 P	A-B	10	-	HULL 62	-	-	✓	-	
56	Fr.39-40 SS 9 S	A-B	10	-	HULL 62	P	-	✓	-	
57	Fr.43-44 SS 10 P	A-B	10	-	HULL 59	-	-	✓	-	
58	Fr.43-44 SS 10 S	A-B	10	-	HULL 59	P	5	-	✓	RI = Acc
59	Fr.45-46 SS 11 P	A-B	10	-	HULL 55	-	-	✓	-	
60	Fr.45-46 SS 11 S	A-B	10	-	HULL 55	-	-	✓	-	
61	Fr.48-49 SS 12 P	A-B	10	-	HULL 64	P	4	-	✓	RI = Acc
62	Fr.48-49 SS 12 S	A-B	10	-	HULL 65	SL	5	-	✓	RI = Acc
63	Fr.50-51 SS 13 P	A-B	10	-	HULL 59	P	2	✓	-	
64	Fr.50-51 SS 13 S	A-B	10	-	HULL 59	-	-	✓	-	
65	Fr.50-51 SS 14 P	A-B	10	-	HULL 59	-	-	✓	-	
66	Fr.50-51 SS 14 S	A-B	10	-	HULL 59	-	-	✓	-	
67	Fr.54 MD 1 P	A-B	10	-	HULL 60	CP	-	-	✓	RI = Acc
68	Fr.54 MD 2 S	A-B	10	-	HULL 60	-	-	✓	-	



Kind of Defect :		DESCRIPTION :	
SL : Slag in Line	P : Porosity	IF : Incomplete Fusion	Film 4" X 5"
RC : Root Concavity	CP : Clustered Porosity	BT : Burn Through	
RUC : Root Under Cut	IP : Incomplete Penetration	WH : Worm Hole	TOTAL FILM
CR : Crack	LOF : Lack of Fusion		17
UC : Under Cut	BI : Slag Inclusion		

Reinforc. T&K: <input type="checkbox"/> mm <input type="checkbox"/>		Viewing: Single Wall <input checked="" type="checkbox"/> Double Wall <input type="checkbox"/>		<input type="checkbox"/> DWSV <input type="checkbox"/> DWSV <input type="checkbox"/> DWDV 						
Backing Ring: Yes <input type="checkbox"/> No <input type="checkbox"/>		Exposure Time: 10 Detik		<input type="checkbox"/> DWSV <input type="checkbox"/> Other 						
TYPE FILM Manufacturer's: AGFA Type Of Film: 07 Dimension: X 15 In		Min. SOD: Mm Min. DSSOF: Mm No. Of Film In Holder: Single <input checked="" type="checkbox"/> Multiple <input type="checkbox"/> (IMAGE QUALITY INDICATOR / IQI) Wire <input checked="" type="checkbox"/> No. : ASTM 1B 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 Hole <input type="checkbox"/> No. : 1T <input type="checkbox"/> 2T <input type="checkbox"/> 4T Placement: Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/> Block Thickness: Mm		Notes For Marked: 1) 2001 : Single Wall Single Viewing 2) 2001 : Double Wall Single Viewing 3) 2001 : Double Wall Double Viewing 4) 2001 : Other Not Marked (Please Detail) 5) Please install the Radiography Test						
TYPE SCREEN Lead: Front <input checked="" type="checkbox"/> Back <input type="checkbox"/> Thickness: In <input type="checkbox"/> mm <input checked="" type="checkbox"/>		MARKER PLACEMENT Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>								
Sensitivity: %										
Density: 1										
NO.	Part Or Weld Identification	Location	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size (mm)	Accepted	Rejected	
86	Fr.36-37 MD 20 S	A-B	10	-	HULL 24	S	-	-	√	R1 = Acc
87	Fr.39-40 MD 21 P	A-B	10	-	HULL 62	-	-	-	√	
88	Fr.39-40 MD 22 S	A-B	10	-	HULL 62	P	7	-	√	R1 = Acc
89	Fr.43-44 MD 23 P	A-B	10	-	HULL 59	-	-	-	√	
90	Fr.43-44 MD 24 S	A-B	10	-	HULL 59	-	-	-	√	
91	Fr.43-44 MD 25 S	A-B	10	-	HULL 59	S	12	-	√	R1 = Acc
92	Fr.45-46 MD 26 P	A-B	10	-	HULL 55	-	-	-	√	
93	Fr.45-46 MD 27 P	A-B	10	-	HULL 55	P	5	-	√	R1 = Acc
94	Fr.45-46 MD 28 S	A-B	10	-	HULL 55	-	-	-	√	
95	Fr.48-49 MD 29 P	A-B	10	-	HULL 57	-	-	-	√	
96	Fr.48-49 MD 30 S	A-B	10	-	HULL 57	S	9	-	√	R1 = Acc
97	Fr.53-54 MD 31 S	A-B	10	-	HULL 57	-	-	-	√	
98	Fr. Transom BD 1	A-B	10	-	HULL 60	-	-	-	√	
99	Fr. Transom BD 2	A-B	10	-	HULL 60	-	-	-	√	
100	Fr. 4 BD 1	A-B	10	-	HULL 60	-	-	-	√	
101	Fr. 7 BD 4	A-B	10	-	HULL 51	S	11	-	√	R1 = Acc
102	Fr. 7 BD 5	A-B	10	-	HULL 51	-	-	-	√	
Kind of Defect: SL : Slag In Line RC : Root Concavity RUC : Root Under Cut CR : Crack P : Porosity CP : Clustered Porosity IP : Incomplete Penetration LDF : Lack of Fusion IF : Incomplete Fusion BT : Burn Through WH : Worm Hole						DESCRIPTION: Film: 4" X 15" TOTAL FILM				

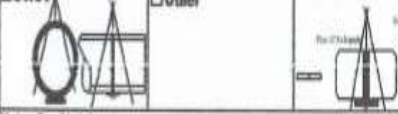
Dimension : A B		TYPE SCREEN		Wire No. : ASTM 18 10 20 30 40 50 60	 					
Lead : Front Back		Hole No. : 1T 2T 4T		Placement : Source Side Film Side						
Thickness : In mm		Block Thickness : mm		Notice For Checks : - 100% Cracks Not Single Reading - 100% Cracks Not Single Reading - 200% Cracks Not Single Reading - Other : Other fine holes / Porosity (etc) - Porosity : Porosity Indication Test						
Sensitivity : %		MARKER PLACEMENT								
Density :		Source Side		Film Side						
NO.	Part Or Weld Identification	Location	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
103	Fr.23 BD 6	A-B	10	-	HULL 60	-	-	✓	-	
104	Fr.29 BD 7	A-B	10	-	HULL 60	-	-	✓	-	
105	Fr.35 BD 8	A-B	10	-	HULL 60	IP	-	-	✓	RI = Acc
106	Fr.42 BD 9	A-B	10	-	HULL 60	P	5	-	✓	RI = Acc
107	Fr.49 BD 10	A-B	10	-	HULL 28	-	-	✓	-	
108	Fr.49 BD 11	A-B	10	-	HULL 28	-	-	✓	-	
109	Fr.51 BD 12	A-B	10	-	HULL 49	-	-	✓	-	
110	Fr.29-30 TT 1 P	A-B	10	-	HULL 49	-	-	✓	-	
111	Fr.29-30 TT 2 P	A-B	10	-	HULL 1	-	-	✓	-	
112	Fr.29-30 TT 3 S	A-B	10	-	HULL 1	P	6	-	✓	RI = Acc
113	Fr.33-34 TT 4 P	A-B	10	-	HULL 1	-	-	✓	-	
114	Fr.33-34 TT 5 P	A-B	10	-	HULL 1	-	-	✓	-	
115	Fr.34-35 TT 6 P	A-B	10	-	HULL 18	-	-	✓	-	
116	Fr.34-35 TT 7 P	A-B	10	-	HULL 18	-	-	✓	-	
117	Fr.34-35 TT 8 S	A-B	10	-	HULL 61	P	2	✓	-	
118	Fr.34-35 TT 9 S	A-B	10	-	HULL 61	-	-	✓	-	
119	Fr.39-40 TT 10 P	A-B	10	-	HULL 49	-	-	✓	-	
Kind of Defect -						DESCRIPTION -				
SL : Slag In Line		P : Porosity		IF : Incomplete Fusion		Film 4" X 15"				
RC : Root Concavity		CP : Clustered Porosity		BT : Burn Through		TOTAL FILM 17 Sheets				
RUC : Root Under Cut		IP : Incomplete Penetration		WN : Worm Hole						
CR : Crack		LOF : Lack of Fusion								
UC : Under Cut		SI : Slag Inclusion								
Radiographer by : PT.DNB		QC by : PT.ORELA SHIPYARD		Witnessed by : BK		Acknowledge by :				

Thickness : <input type="checkbox"/> mm <input type="checkbox"/>		Block Thickness : <input type="checkbox"/> mm		Marker Placement		Sensitivity : %		Density : <input type="checkbox"/>		Source Side <input type="checkbox"/> Film Side <input type="checkbox"/>		Notes for Sketch :						
NO.		Part Or Weld Identification		Location		Thickness (mm)		Diameter (mm / in)		Welder Stamp		Interpretation		Result		Remark		
												Type of Indication		Size (mm)				
120.	Fr 29-40 TT 11 P	A-B	10	-	HULL 60	-	-	-	-	-	-	-	-	-	-	-	-	
121.	Fr 39-40 TT 12 S	A-B	10	-	HULL 60	SL	-	-	-	-	-	-	-	-	-	-	-	RI = Acc
122.	Fr 43-44 TT 13 P	A-B	10	-	HULL 60	IP	-	-	-	-	-	-	-	-	-	-	-	RI = Acc
123.	Fr 43-44 TT 14 S	A-B	10	-	HULL 60	-	-	-	-	-	-	-	-	-	-	-	-	
134.	Fr 45-46 TT 15 P	A-B	10	-	HULL 28	IC	-	-	-	-	-	-	-	-	-	-	-	RI = Acc
125.	Fr 45-46 TT 16 S	A-B	10	-	HULL 28	P	2	-	-	-	-	-	-	-	-	-	-	
126.	Fr 48-49 TT 17 P	A-B	10	-	HULL 49	-	-	-	-	-	-	-	-	-	-	-	-	
127.	Fr 48-49 TT 18 S	A-B	10	-	HULL 49	-	-	-	-	-	-	-	-	-	-	-	-	
128.	Fr 23-24 ST 1 P	A-B	9	-	HULL 1	-	-	-	-	-	-	-	-	-	-	-	-	
129.	Fr 23-24 ST 2 P	A-B	9	-	HULL 1	-	-	-	-	-	-	-	-	-	-	-	-	
130.	Fr 23-24 ST 1 S	A-B	9	-	HULL 1	-	-	-	-	-	-	-	-	-	-	-	-	
131.	Fr 26-27 ST 4 P	A-B	9	-	HULL 1	-	-	-	-	-	-	-	-	-	-	-	-	
132.	Fr 26-27 ST 5 S	A-B	9	-	HULL 18	-	-	-	-	-	-	-	-	-	-	-	-	
133.	Fr 23-24 CG 1	A-B	9	-	HULL 18	-	-	-	-	-	-	-	-	-	-	-	-	
134.	Fr 26-27 CG 2	A-B	9	-	HULL 61	-	-	-	-	-	-	-	-	-	-	-	-	
135.	Fr 29-30 CG 3	A-B	9	-	HULL 61	WH	-	-	-	-	-	-	-	-	-	-	-	RI = Acc
136.	Fr 33-34 CG 4	A-B	9	-	HULL 49	-	-	-	-	-	-	-	-	-	-	-	-	

Kind of Defect			DESCRIPTION	
SL : Slag in Line	P : Porosity	IF : Incomplete Fusion	Film : 4" X 15"	
RC : Root Concavity	CP : Clustered Porosity	BT : Burn Through	TOTAL FILM	
KUC : Root Under Cut	IP : Incomplete Penetration	WH : Worm Hole	17 Sheets	
CR : Crack	LOF : Lack of Fusion			
UC : Under Cut	SI : Slag Inclusion			

Radiographer by : PT.DNB QC by : PT.ORELA SHIPYARD Witnessed by :  

6. Kapal Kontainer H.138


Dimension : 4 X 15 in		Wire No. : ASTM 1B <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>								
TYPE SCREEN		Hole No. : - 1T <input type="checkbox"/> 2T <input type="checkbox"/> 4T <input type="checkbox"/>		Placment : Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>						
Lead : Front <input checked="" type="checkbox"/> Back <input type="checkbox"/>		Block Thickness : Mm		Notes For Sketch :						
Thickness : In <input type="checkbox"/> mm <input checked="" type="checkbox"/>		MARKER PLACEMENT		<input checked="" type="checkbox"/> SWSV : Single Wall Single Viewing <input type="checkbox"/> Other : Other than listed (Please Sketch) <input checked="" type="checkbox"/> DWSV : Double Wall Single Viewing <input type="checkbox"/> Process Inert Gas Metal Arc Welding <input checked="" type="checkbox"/> DWSV : Double Wall Double Viewing						
Sensitivity : 2 %		Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>								
Density : 3.0 - 4.0										
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
1.	Fr.6 AB J.1 Sb	A-B	10	-	-	-	-	√	-	
2.	Fr.6 AB J.2 Ps	A-B	10	-	-	P,SL	-	-	√	RI = Acc
3.	Fr.6 CD J.3 Sb	A-B	10	-	-	-	-	√	-	
4.	Fr.6 CD J.4 Ps	A-B	10	-	-	-	-	√	-	
5.	Fr.6 FEI J.5 Sb	A-B	10	-	-	-	-	√	-	
6.	Fr.6 FEI J.6 Ps	A-B	10	-	-	-	-	√	-	
7.	Fr.6 GHJ J.7 Sb	A-B	10	-	-	-	-	√	-	
8.	Fr.6 BC J.8 Sb	A-B	10	-	-	-	-	√	-	
9.	Fr.20 AB J.9 Sb	A-B	10	-	-	SL, P	-	-	√	RI = Acc
10.	Fr.20 AB J.10 Ps	A-B	10	-	-	-	-	√	-	
11.	Fr.20 CD J.11 Sb	A-B	10	-	-	SL, P	-	-	√	RI = Acc
12.	Fr.20 CD J.12 Ps	A-B	10	-	-	-	-	√	-	
13.	Fr.20 HJ J.13 Sb	A-B	10	-	-	-	-	√	-	
14.	Fr.20 HJ J.14 Ps	A-B	10	-	-	IP	-	-	√	RI = Acc
15.	Fr.20 KA J.15 Sb	A-B	12	-	-	-	-	√	-	
16.	Fr.27 KA J.16 Ps	A-B	12	-	-	-	-	√	-	
17.	Fr.27 BC J.17 Sb	A-B	10	-	-	IP	-	-	√	RI = Acc
* Kind of Defect *						* DESCRIPTION *				
SL : Slag in Line		P : Porosity		IF : Incomplete Fusion		Film : 4" X 15"				
RC : Root Concavity		CP : Clustered Porosity		BT : Burn Through		TOTAL FILM 30 Sheets				
RUC : Root Under Cut		IP : Incomplete Penetration		WH : Worm Hole						
CR : Crack		LOF : Lack of Fusion		IC : Incomplete Concavities						
UC : Under Cut		SI : Slag Inclusion								
Radiographer by : PT. Dalut		QC by : PT. Daya Radar Utama V		Witnessed by : Biro Klasifikasi		Acknowledge by :				

Thickness : In <input type="checkbox"/> mm <input checked="" type="checkbox"/>		Block Thickness : Nm		Notes For Sketch :						
Sensitivity : 2 %		MARKER PLACEMENT				• Other : Other (See Note / Please Sketch)				
Density : 3.0 - 4.0		Source Side <input checked="" type="checkbox"/>		Film Side <input type="checkbox"/>		• Process Irradiation Radiography Test				
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
18.	Fr.27 BC J.18 Ps	A-B	10	-	-	P,SL	-	-	√	R1 = Acc
19.	Fr.27 DE J.19 Sb	A-B	10	-	-	-	-	√	-	
20.	Fr.27 DE J.20 Ps	A-B	10	-	-	-	-	√	-	
21.	Fr.27 FG J.21 Sb	A-B	10	-	-	-	-	√	-	
22.	Fr.27 FG J.22 Ps	A-B	10	-	-	-	-	√	-	
23.	Fr.20 KA J.23 Sb	A-B	12	-	-	-	-	√	-	
24.	Fr.20 KA J.24 Ps	A-B	12	-	-	IP	-	-	√	R1 = Acc
25.	Fr.32 AB J.25 Sb	A-B	10	-	-	-	-	√	-	
26.	Fr.32 AB J.26 Ps	A-B	10	-	-	-	-	√	-	
27.	Fr.32 CD J.27 Sb	A-B	10	-	-	-	-	√	-	
28.	Fr.32 CD J.28 Ps	A-B	10	-	-	SL	-	-	√	R1 = Acc
29.	Fr.32 EF J.29 Sb	A-B	10	-	-	SL,P	-	-	√	R1 = Acc
30.	Fr.32 EF J.30 Ps	A-B	10	-	-	-	-	√	-	
31.	Fr.32 GH J.31 Sb	A-B	10	-	-	IC	-	-	√	R1 = Acc
32.	Fr.32 GH J.32 Ps	A-B	10	-	-	-	-	√	-	
33.	Fr.32 IJ2 J.33 Sb	A-B	10	-	-	-	-	√	-	
34.	Fr.32 GH J.34 Ps	A-B	10	-	-	-	-	√	-	
* Kind of Defect *						* DESCRIPTION *				
SL : Slag in Line		P : Porosity		IF : Incomplete Fusion		Film : 4" X 15"				
RC : Root Concavity		CP : Clustered Porosity		BT : Burn Through						
RUC : Root Under Cut		IP : Incomplete Penetration		WF : Worm Hole		TOTAL FILM				
CR : Crack		LOF : Lack of Fusion		IC : Incomplete Concavities		22				
UC : Under Cut		SI : Slag Inclusion				Sheets				
Radiographer by : PT.Dalut Nusanjara Baru		QC by : PT.Daya Radar Utama V		Witnessed by : Biro Klasifikasi Indonesia		Acknowledge by :				

NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
35.	Fr.31 KA J.35 Sb	A-B	12	-	-	-	-	√	-	
36.	Fr.37 KA J.36 Ps	A-B	12	-	-	-	-	√	-	
37.	Fr.37 AB J.37 Sb	A-B	10	-	-	-	-	√	-	
38.	Fr.37 AB J.38 Ps	A-B	10	-	-	-	-	√	-	
39.	Fr.37 BC J.39 Sb	A-B	10	-	-	-	-	√	-	
40.	Fr.32 BC J.40 Ps	A-B	10	-	-	-	-	√	-	
41.	Fr.37 CD J.41 Sb	A-B	10	-	-	-	-	√	-	
42.	Fr.37 CD J.42 Ps	A-B	10	-	-	-	-	√	-	
43.	Fr.37 DE J.43 Sb	A-B	10	-	-	-	-	√	-	
44.	Fr.37 DE J.44 Ps	A-B	10	-	-	-	-	√	-	
45.	Fr.37 FG J.45 Sb	A-B	10	-	-	-	-	√	-	
46.	Fr.37 FG J.46 Ps	A-B	10	-	-	WH	-	-	√	R1 = Acc
47.	Fr.37 HJ1 J.47 Sb	A-B	10	-	-	SL	-	-	√	R1 = Acc
48.	Fr.37 HJ1 J.48 Ps	A-B	10	-	-	WH	-	-	√	R1 = Acc
49.	Fr.42 AB J.49 Sb	A-B	10	-	-	-	-	√	-	
50.	Fr.42 AB J.50 Ps	A-B	10	-	-	-	-	√	-	
51.	Fr.42 CD D1C1 J.51 Sb	A-B	10	-	-	SL	-	-	√	R1 = Acc
• Kind of Defect •						• DESCRIPTION •				
SL : Slag in Line		P : Porosity		IF : Incomplete Fusion		Film : 4" X 15"				
RC : Root Concavity		CP : Clustered Porosity		BT : Burn Through		TOTAL FILM				
RUC : Root Under Cut		IP : Incomplete Penetration		WH : Worm Hole						
CR : Crack		LOF : Lack of Fusion		IC : Incomplete Concavities		21				
IC : Under Cut		SI : Slag Inclusion				Sheets				

Type Of Film : D7		IMAGE QUALITY INDICATOR (IQI)		<input checked="" type="checkbox"/> DWSV <input type="checkbox"/> Other						
Dimension : 4 X 15 In		Wire <input checked="" type="checkbox"/> No. : ASTM 1B 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>		Hole <input type="checkbox"/> No. : - 1T <input type="checkbox"/> 2T <input type="checkbox"/> 4T <input type="checkbox"/>		Placement : Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>				
TYPE SCREEN		Block Thickness : Mm		Thickness : In <input type="checkbox"/> mm <input checked="" type="checkbox"/>		Density : 2 %				
Lead : Front <input checked="" type="checkbox"/> Back <input type="checkbox"/>		MARKER PLACEMENT		Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>		Notes For Sketch : <input checked="" type="checkbox"/> SWSV : Single Wall Single Viewing <input checked="" type="checkbox"/> DWSV : Double Wall Single Viewing <input checked="" type="checkbox"/> DWSV : Double Wall Double Viewing <input type="checkbox"/> Other : Other than listed (Please Sketch) <input type="checkbox"/> Porosity Indication Radiography Test				
Sensitivity : 2 %		Density : 3.0 - 4.0								
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
52	Fr.42 CDD1C1 J.52 Ps	A-B	10	-	-	-	-	√	-	
53	Fr.42 DD1E J.53 Sb	A-B	10	-	-	-	-	√	-	
54	Fr.42 DD1E J.54 Ps	A-B	10	-	-	-	-	√	-	
55	Fr.42 EE1F J.55 Sb	A-B	10	-	-	-	-	√	-	
56	Fr.42 EE1F J.56 Ps	A-B	10	-	-	-	-	√	-	
57	Fr.42 HG1 J.57 Sb	A-B	10	-	-	-	-	√	-	
58	Fr.42 HG1 J.58 Ps	A-B	10	-	-	-	-	√	-	
59	Fr.45 F1G1F2G2 J.59 Sb	A-B	10	-	-	-	-	√	-	
60	Fr.45 F1G1F2G2 J.60 Ps	A-B	10	-	-	-	-	√	-	
61	Fr.45 BC1C2 J.61 Sb	A-B	10	-	-	-	-	√	-	
62	Fr.45 BC1C2 J.62 Ps	A-B	10	-	-	-	-	√	-	
63	Fr.45 E1E2F2 J.63 Sb	A-B	10	-	-	-	-	√	-	
64	Fr.45 E1E2F2 J.64 Ps	A-B	10	-	-	-	-	√	-	
65	Fr.47 BC2B1C J.65 Sb	A-B	10	-	-	-	-	√	-	
66	Fr.47 BC2B1C J.66 Ps	A-B	10	-	-	-	-	√	-	
67	Fr.47 D1FF2 J.67 Sb	A-B	10	-	-	-	-	√	-	
68	Fr.47 D1FF2 J.68 Ps	A-B	10	-	-	-	-	√	-	
* Kind of Defect *						* DESCRIPTION *				
SL : Slag in Line		P : Porosity		IF : Incomplete Fusion		Film : 4" X 15"				
RC : Root Concavity		CP : Clustered Porosity		BT : Burn Through		TOTAL FILM 17 Sheets				
RUC : Root Under Cut		IP : Incomplete Penetration		WH : Worm Hole						
CR : Crack		LOF : Lack of Fusion		IC : Incomplete Concavities						
UC : Under Cut		SI : Slag Inclusion								
Radiographer by : PT.Dalut Nusantara Baru		QC by : PT.Daya Radar Utama V		Whitessed by : Biro Klasifikasi Indonesia		Acknowolodge by :				



Thickness : In <input type="checkbox"/> mm <input checked="" type="checkbox"/>		Block Thickness : #mm		Notes For Sketch :						
Sensitivity : 2 %		MARKER PLACEMENT		<input checked="" type="checkbox"/> SBWV : Single Wall Single Viewing <input type="checkbox"/> Other : Other (See Inset / Please Sketch) <input checked="" type="checkbox"/> DBWV : Double Wall Single Viewing <input type="checkbox"/> Porosity Evaluation Radiography Test <input type="checkbox"/> DWBIV : Double Wall Double Viewing						
Density : 3.0 - 4.0		Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>								
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Weider Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
69.	Fr.48 D1D2F J.69 Sb	A-B	10	-	-	-	-	√	-	
70.	Fr.48 D1D2F J.70 Ps	A-B	10	-	-	SL	-	-	√	RI = Acc
71.	Fr.51 KA J.71 Sb	A-B	12	-	-	-	-	√	-	
72.	Fr.51 KA J.72 Ps	A-B	12	-	-	-	-	√	-	
73.	Fr.51 B2D2B J.73 Sb	A-B	10	-	-	-	-	√	-	
74.	Fr.51 B2D2B J.74 Ps	A-B	10	-	-	-	-	√	-	
75.	Fr.51 FG1G1 J.75 Sb	A-B	10	-	-	-	-	√	-	
76.	Fr.51 FG1G1 J.76 Ps	A-B	10	-	-	-	-	√	-	
77.	Fr.51 HH1J1 J.77 Sb	A-B	10	-	-	-	-	√	-	
78.	Fr.51 HH1J1 J.78 Ps	A-B	10	-	-	-	-	√	-	
79.	Fr.57 FG1F2G2 J.79 Sb	A-B	10	-	-	SL	-	-	√	RI = Acc
80.	Fr.57 FG1F2G2 J.80 Ps	A-B	10	-	-	-	-	√	-	
81.	Fr.5 KA J.81 Sb	A-B	12	-	-	-	-	√	-	
82.	Fr.57 KA J.82 Sb	A-B	12	-	-	-	-	√	-	
83.	Fr.32 BC J.83 Ps	A-B	10	-	-	-	-	√	-	
84.	Fr.32 DE J.84 Ps	A-B	10	-	-	-	-	√	-	
85.	Fr.32 DC J.85 Ps	A-B	10	-	-	-	-	√	-	
* Kind of Defect *						* DESCRIPTION *				
SL : Slag in Line RC : Root Concavity RUC : Root Under Cut CR : Crack UC : Under Cut		P : Porosity CP : Clustered Porosity IP : Incomplete Penetration LOF : Lack of Fusion SI : Slag Inclusion		IF : Incomplete Fusion BT : Burn Through WN : Worm Hole IC : Incomplete Concavtive		Film : 4" X 15" <div style="text-align: center;"> TOTAL FILM 19 Sheets </div>				

Lead : Front <input checked="" type="checkbox"/> Back <input type="checkbox"/>		Placement : Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>								
Thickness : in <input type="checkbox"/> mm <input checked="" type="checkbox"/>		Block Thickness : Mm		Notes For Sketch :						
Sensitivity : %		MARKER PLACEMENT		<input checked="" type="checkbox"/> SWV : Single Wall Single Viewing + Other : Other than listed (Please Sketch) <input checked="" type="checkbox"/> DWV : Double Wall Single Viewing + Process : Industrial Radiography Test <input checked="" type="checkbox"/> DWDV : Double Wall Double Viewing						
Density : 3.0 - 4.0		Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>								
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
86	Fr.32 KA J.86 Ps	A-B	12	-	-	-	-	√	-	
87	Fr.29 CD J.87 Ps	A-B	10	-	-	-	-	√	-	
88	Fr.27 AB J.88 Sb	A-B	10	-	-	-	-	√	-	
89	Fr.32 DE J.89 Sb	A-B	10	-	-	-	-	√	-	
90	Fr.42 KA J.90 Sb	A-B	12	-	-	-	-	√	-	
91	Fr.27 AB J.1 LB Sb	A-B	10	-	-	-	-	√	-	
92	Fr.27 AB J.2 LB Ps	A-B	10	-	RAO	-	-	√	-	
93	Fr.27 CD J.3 LB Sb	A-B	10	-	-	-	-	√	-	
94	Fr.27 CD J.4 LB Ps	A-B	10	-	TAN	-	-	√	-	
95	Fr.32 BC J.5 LB Sb	A-B	10	-	-	-	-	√	-	
96	Fr.32 BC J.6 LB Ps	A-B	10	-	-	-	-	√	-	
97	Fr.37 AB J.7 LB Sb	A-B	10	-	-	-	-	√	-	
98	Fr.37 AB J.8 LB Sb	A-B	10	-	-	P	I	√	-	
99	Fr.37 CD J.9 LB Sb	A-B	10	-	-	-	-	√	-	
100	Fr.37 CD J.10 LB Ps	A-B	10	-	-	-	-	√	-	
101	Fr.42 BC J.11 LB Sb	A-B	10	-	-	-	-	√	-	
102	Fr.42 BC J.12 LB Ps	A-B	10	-	-	-	-	√	-	
* Kind of Defect *						* DESCRIPTION *				
SL : Slag in Line		P : Porosity		IF : Incomplete Fusion		Film : 4" X 15"				
RC : Root Concavity		CP : Clustered Porosity		BT : Burn Through		TOTAL FILM				
RUC : Root Under Cut		IP : Incomplete Penetration		WH : Worm Hole						
CR : Crack		LOF : Lack of Fusion		IC : Incomplete Concavities		17 Sheets				
UC : Under Cut		SI : Slag Inclusion								

Thickness : In <input type="checkbox"/> mm <input checked="" type="checkbox"/>		Placement : SOURCE SIDE <input checked="" type="checkbox"/> FILM SIDE <input type="checkbox"/>		Block Thickness : Mm		Notes For Sketch : <input checked="" type="checkbox"/> SWSV : Single Wall Single Viewing <input checked="" type="checkbox"/> DWSV : Double Wall Single Viewing <input checked="" type="checkbox"/> DWSV : Double Wall Double Viewing <input type="checkbox"/> Other : Other than listed (Please Sketch) <input type="checkbox"/> Porosity Indication Radiography Test				
Sensitivity : 2 %		MARKER PLACEMENT								
Density : 3.0 - 4.0		Source Side <input checked="" type="checkbox"/>		Film Side <input type="checkbox"/>						
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
103	Fr.42 CD J.13 LB Sb	A-B	10	-	-	-	-	√	-	
104	Fr.42 CD J.14 LB Ps	A-B	10	-	-	-	-	√	-	
105	Fr.47 CD J.15 LB Ps	A-B	10	-	XIA	-	-	√	-	
106	Fr.47 CD J.16 LB Ps	A-B	10	-	XIA	-	-	√	-	
107	Fr.23 AB J.1 TT Sb	A-B	10	-	-	-	-	√	-	
108	Fr.23 AB J.2 TT Ps	A-B	10	-	-	-	-	√	-	
109	Fr.23 CD J.3 TT Sb	A-B	10	-	-	-	-	√	-	
110	Fr.23 CD J.4 TT Ps	A-B	10	-	-	-	-	√	-	
111	Fr.23 DE J.5 TT Sb	A-B	10	-	-	-	-	√	-	
112	Fr.23 DE J.6 TT Ps	A-B	10	-	-	-	-	√	-	
113	Fr.26 AB J.7 TT Sb	A-B	10	-	-	-	-	√	-	
114	Fr.26 AB J.8 TT Ps	A-B	10	-	-	-	-	√	-	
115	Fr.26 CD J.9 TT Sb	A-B	10	-	-	-	-	√	-	
116	Fr.26 CD J.10 TT Ps	A-B	10	-	-	-	-	√	-	
117	Fr.27 BC J.11 TT Sb	A-B	10	-	-	-	-	√	-	
118	Fr.27 BC J.12 TT Ps	A-B	10	-	-	-	-	√	-	
119	Fr.27 DE J.13 Sb	A-B	10	-	XIA	-	-	√	-	
* Kind of Defect *						* DESCRIPTION *				
SL : Slag In Line		P : Porosity		IF : Incomplete Fusion		Film : 4" X 15"				
RC : Root Concavity		CP : Clustered Porosity		BT : Burn Through						
RUC : Root Under Cut		IP : Incomplete Penetration		WH : Worm Hole		TOTAL FILM 17 Sheets				
CR : Crack		LOF : Lack of Fusion		IC : Incomplete Concavities						
UC : Under Cut		SI : Slag Inclusion								

LEAD : FRONT BACK		FILAMENT : SOURCE SIDE FILM SIDE		Block Thickness : Mm		Notes For Sketch :				
Thickness : In mm		MARKER PLACEMENT				* Other : Other than listed (Please Sketch) * Penetrant Irradiation Radiography Test				
Sensitivity : 2 %		Source Side <input checked="" type="checkbox"/>		Film Side <input type="checkbox"/>		Interpretation		Result		Remark
Density : 3.0-4.0		Type of Indication		Size(mm)		Accepted		Rejected		
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp					
120	Fr.27 DE J.14 TT Ps	A-B	10	-	-	-	-	√	-	
121	Fr.30 AB J.15 TT Sb	A-B	10	-	-	-	-	√	-	
122	Fr.30 AB J.16 TT Ps	A-B	10	-	-	-	-	√	-	
123	Fr.30 CD J.17 TT Sb	A-B	10	-	-	-	-	√	-	
124	Fr.30 CD J.18 TT Ps	A-B	10	-	-	-	-	√	-	
125	Fr.30 DE J.19 TT Sb	A-B	10	-	-	-	-	√	-	
126	Fr.30 DE J.20 TT Ps	A-B	10	-	-	-	-	√	-	
127	Fr.32 BC J.21 TT Sb	A-B	10	-	-	-	-	√	-	
128	Fr.32 BC J.22 TT Ps	A-B	10	-	-	-	-	√	-	
129	Fr.32 DE J.23 TT Sb	A-B	10	-	-	-	-	√	-	
130	Fr.32 DE J.24 TT Ps	A-B	10	-	-	-	-	√	-	
131	Fr.33 AB J.25 TT Sb	A-B	10	-	RAO	-	-	√	-	
132	Fr.33 AB J.26 TT Ps	A-B	10	-	TAN	-	-	√	-	
133	Fr.33 CD J.27 TT Sb	A-B	10	-	-	-	-	√	-	
134	Fr.33 CD J.28 TT Ps	A-B	10	-	-	-	-	√	-	
135	Fr.36 CD J.29 TT Sb	A-B	10	-	-	-	-	√	-	
136	Fr.36 CD J.30 TT Ps	A-B	10	-	-	-	-	√	-	
* Kind of Defect *						* DESCRIPTION *				
SL : Slag In Line RC : Root Concavity RUC : Root Under Cut CR : Crack IIC : Under Cut		P : Porosity CP : Clustered Porosity IP : Incomplete Penetration LOF : Lack of Fusion SI : Slag Inclusion		IF : Incomplete Fusion BT : Burn Through WN : Worm Hole IC : Incomplete Concavities		Film : 4" X 15" TOTAL FILM 17 Sheets				

Lead : Front <input checked="" type="checkbox"/> Back <input type="checkbox"/>		Placement : Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>								
Thickness : In <input type="checkbox"/> mm <input checked="" type="checkbox"/>		Block Thickness : Nm		Notes For Sketch :						
Sensitivity : 2 %		MARKER PLACEMENT				Other : Other than listed (Please Sketch)				
Density : 3.0 - 4.0		Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>		Other : Other than listed (Please Sketch)		Process Available Radiography Test				
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
137	Fr.37 BC J.31 TT Sb	A-B	10	-	-	-	-	√	-	
138	Fr.37 BC J.32 TT Ps	A-B	10	-	-	-	-	√	-	
139	Fr.37 DE J.33 TT Sb	A-B	10	-	-	-	-	√	-	
140	Fr.37 DE J.34 TT Ps	A-B	10	-	-	-	-	√	-	
141	Fr.40 AB J.35 TT Sb	A-B	10	-	-	-	-	√	-	
142	Fr.40 AB J.36 TT Ps	A-B	10	-	-	-	-	√	-	
143	Fr.40 CD J.37 TT Sb	A-B	10	-	-	-	-	√	-	
144	Fr.40 CD J.38 TT Ps	A-B	10	-	-	-	-	√	-	
145	Fr.42 AB J.39 TT Sb	A-B	10	-	-	-	-	√	-	
146	Fr.42 AB J.40 TT Ps	A-B	10	-	-	-	-	√	-	
147	Fr.42 DE J.41 TT Sb	A-B	10	-	XIA	-	-	√	-	
148	Fr.42 DE J.42 TT Ps	A-B	10	-	-	-	-	√	-	
149	Fr.43 CD J.43 TT Sb	A-B	10	-	-	-	-	√	-	
150	Fr.43 CD J.44 TT Ps	A-B	10	-	-	P	1	√	-	
151	Fr.43 BC J.45 TT Sb	A-B	10	-	-	-	-	√	-	
152	Fr.43 BC J.46 TT Ps	A-B	10	-	-	-	-	√	-	
153	Fr.47 AB J.47 TT Sb	A-B	10	-	-	-	-	√	-	
* Kind of Defect *						* DESCRIPTION *				
SL : Slag in Line	P : Porosity	IF : Incomplete Fusion		Film : 4" X 15"		TOTAL FILM				
RC : Root Concavity	CP : Clustered Porosity	BT : Burn Through								
RUC : Root Under Cut	IP : Incomplete Penetration	WH : Worm Hole		17 Sheets						
CR : Crack	LOF : Lack of Fusion	IC : Incomplete Concavities								
UC : Under Cut	SI : Slag Inclusion									

TYPE SCREEN			WELD NO. 1 A01M 15 11 41 J141 508 61			 				
Lead : Front <input checked="" type="checkbox"/> Back <input type="checkbox"/>			Hole No. : - 1T <input type="checkbox"/> 2T <input type="checkbox"/> 4T <input type="checkbox"/>			Notes For Sketch : * SSW : Single Wall Single Viewing * Other : Other than listed (Please Sketch) * DSW : Double Wall Single Viewing * Penetrant Infiltration Radiography Test * DSW : Double Wall Double Viewing				
Thickness : In <input type="checkbox"/> mm <input checked="" type="checkbox"/>			Placement : Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>							
Sensitivity : 2 %			Block Thickness : 11mm							
Density : 3.0 - 4.0			MARKER PLACEMENT							
			Source Side <input checked="" type="checkbox"/> Film Side <input type="checkbox"/>							
NO.	Part Or Weld Identification	Loc.	Thickness (mm)	Diameter (mm / in)	Welder Stamp	Interpretation		Result		Remark
						Type of Indication	Size(mm)	Accepted	Rejected	
154	Fr.47 AB J.48 TT Ps	A-B	10	-	-	-	-	√	-	
155	Fr.47 CD J.49 TT Sb	A-B	10	-	TAN	-	-	√	-	
156	Fr.47 CD J.50 TT Ps	A-B	10	-	BIE	-	-	√	-	
157	Fr.6 CD J.1 MD Sb	A-B	10	-	-	-	-	√	-	
158	Fr.6 CD J.2 MD Ps	A-B	10	-	-	-	-	√	-	
159	Fr.6 EF J.3 MD Sb	A-B	10	-	-	-	-	√	-	
160	Fr.6 EF J.4 MD Ps	A-B	10	-	BIE	-	-	√	-	
161	Fr.21 BC J.5 MD Sb	A-B	10	-	BIE	-	-	√	-	
162	Fr.21 BC J.6 MD Ps	A-B	10	-	-	-	-	√	-	
163	Fr.21 DE J.7 MD Sb	A-B	10	-	-	-	-	√	-	
164	Fr.21 DE J.8 MD Ps	A-B	10	-	-	-	-	√	-	
165	Fr.21 FG1 J.9 MD Sb	A-B	10	-	-	-	-	√	-	
166	Fr.21 FG1 J.10 MD Ps	A-B	10	-	-	-	-	√	-	
167	Fr.23 E2G1 J.11 MD Sb	A-B	10	-	-	-	-	√	-	
168	Fr.23 E2G1 J.12 MD Sb	A-B	10	-	-	-	-	√	-	
169	Fr.27 E2G1 J.13 MD Sb	A-B	10	-	-	IP,WH	-	-	√	R1 = Acc
170	Fr.27 E2G1 J.14 MD Ps	A-B	10	-	-	-	-	√	-	

* Kind of Defect *			* DESCRIPTION *	
SL : Slag in Line RC : Root Concavity RUC : Root Under Cut CR : Crack UC : Under Cut	P : Porosity CP : Clustered Porosity IP : Incomplete Penetration LOF : Lack of Fusion SI : Slag Inclusion	IF : Incomplete Fusion BT : Burn Through WH : Worm Hole IC : Incomplete Concavities	Film : 4" X 15" TOTAL FILM 18 Sheets	

LAMPIRAN 3

3.1 Foto Keadaan Di Galangan

1. Tempat Penyimpanan Elektroda



2. Proses Pengelasan Berlangsung








3.2 Contoh Welding Procedure Specification

WELDING PROCEDURE SPECIFICATION (WPS) Yes
PREQUALIFIED X **QUALIFIED BY TESTING**.....
Or PROCEDURE QUALIFICATION RECORDS (PQR) Yes



COMPANY NAME : **INDONESIAN WELDING SOCIETY**
 WELDING PROCESS : FCAW
 SUPPORTING PQR No. : N/A

IDENTIFICATION # : WPS No. 08 / IWS-TR-3/2007
 REVISION : 01 DATE : 21ST FEB. 07 BY : SW
 AUTHORIZED BY : IWS DATE : 5TH MRC 07
 TYPE - MANUAL SEMI AUTOMATIC
 MACHINE AUTOMATIC

JOINT DESIGN USED

TYPE : SINGLE J GROOVE T-JOINT
 SINGLE DOUBLE WELD
 BACKING : Yes No
 BACKING MATERIAL : N/A
 ROOT OPENING : R = 0.3 ROOT FACE : f = 3
 GROOVE ANGLE : +45° - 0° RADIUS (J-U) : +6 - 0
 BACK GOUGING : Yes No METHOD : AIR CARBON

BASE METALS

MATERIAL SPEC : ASTM A36
 TYPE OR GRADE : N/A
 THICKNESS : GROOVE 1/2 - 3/4 FILLET
 DIAMETER (PIPE) : N/A

FILLER METALS

AWS SPECIFICATION : A5.20
 AWS CLASSIFICATION : E71T-1

SHIELDING

FLUX : GAS : CO2
 COMPOSITION : 100% FLOW RATE : 45-55 CFH
 ELECTRODE-FLUX (CLASS)
 GAS CUP SIZE : R.4

PREHEAT

PREHEAT TEMP. MIN. : 60°F
 INTERPASS TEMP. MIN. : 60°F MAX. : 350°F

POSITION

POSITION OF GROOVE : All
 FILLET :
 VERTICAL PROGRESSION : Up Down

ELECTRICAL CHARACTERISTICS

TRANSFER MODE (GMAW) SHORT CIRCUIT
 GLOBULAR SPRAY
 CURRENT : AC DCEP DCEN PULSED
 OTHER :
 TUNGSTEN ELECTRODE (GTAW)
 SIZE :
 TYPE :

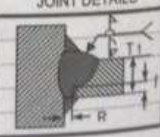
TECHNIQUE

STRINGER OR WEAVE BEAD : STRINGER
 MULTI PASS OR SINGLE PASS : MULTIPASS
 NUMBER OF ELECTRODE : SINGLE
 ELECTRODE SPACING : LONGITRUDINAL
 LATERAL
 ANGLE :
 CONTACT TUBE TO WORK DISTANCE : 1/2"
 PEENING : N/A
 INTER PASS CLEANING : WIRE BRUSH

POST WELD HEAT TREATMENT

TEMP. : N/A
 TIME : N/A

WELDING PROCEDURE

PASS OR WELD LAYERS	PROCESS	FILLER METALS		CURRENT		VOLTS	TRAVEL SPEED	JOINT DETAILS
		CLASS	DIAM.	TYPE & POLARITY	AMPS OR WIRE FEED SPEED			
ALL	FCAW	E71T-1	0.045"	DC+	180 - 220 A	25 - 26 V	8 - 12 IPM	

KATA PENGANTAR KUESIONER PENELITIAN

Responden yang Terhormat,

Dalam rangka memenuhi salah satu syarat untuk memperoleh gelar sarjana di Fakultas Teknik, Universitas Hasanuddin saya meminta kesediaan Bapak/ Ibu/ Saudara (i) sejenak meluangkan waktu untuk mengisi kuesioner ini.

Adapun tujuan penelitian ini adalah untuk mengetahui “STUDI POTENSI CACAT LAS PADA PEKERJAAN LAS KAPAL”. Besar harapan saya bahwa Bapak/ Ibu/ Saudara (i) bersedia untuk memberikan tanggapan pernyataan dalam kuesioner dengan sebenar-benarnya. Data yang terkumpul nantinya akan dianalisis dan disajikan dalam bentuk keseluruhan (bukan individual). Jawaban yang diberikan tidak akan dinilai benar salahnya, melainkan sebagai informasi yang sangat bermanfaat untuk menentukan hasil penelitian yang saya lakukan. Sesuai dengan etika penelitian bahwa jawaban yang anda berikan **akan dijamin kerahasiaannya dan tidak akan dipublikasikan.**

Akhir kata saya ucapkan terima kasih yang sebesar-besarnya atas kesediaan Bapak / Ibu/ Saudara (i) mengisi kuesioner ini.

Hormat Saya,

Shealshy Domi S.



KUESIONER PENELITIAN

STUDI POTENSI CACAT LAS PADA PEKERJAAN LAS KAPAL

Isilah pertanyaan dibawah pada kotak yang telah disediakan!

No.	A. IDENTITAS RESPONDEN	
A1	Kota	Makassar
A2	Kecamatan	
A3	Kelurahan	
A4	Alamat	

NO.	B. KARAKTERISTIK UMUM RESPONDEN		
B1	Nomor Responden		
B2	Nama Responden	..... ... (Boleh tidak diisi)	
B3	Umur Responden (Dalam Tahun)	<input type="checkbox"/> <input type="checkbox"/>	
B4	Jenis Kelamin	1. Laki-laki 2. Perempuan	<input type="checkbox"/>
B5	Pendidikan Terakhir	1. Tidak pernah sekolah 2. Tidak Tamat SD 3. Tamat SD 4. Tamat SLTP 5. Tamat SLTA 6. Tamat Perguruan Tinggi	<input type="checkbox"/>
B6	Berapa lama jadi tukang las	.....Tahun	

No	C. PERTANYAAN PENGENAI PROSES PENGELASAN	
A.	MANUSIA	
A.1	Pernahkah anda mengalami micro sleep (tertidur sesaat) pada saat mengelas ? 1. Ya 2. Tidak	<input type="checkbox"/>
A.2	Pernahkah anda merasakan lelah pada saat mengelas ? 1. Ya 2. Tidak	<input type="checkbox"/>
	jika ya, pada jam seberapa mengalami kelelahan? a. 1 jam b. 2 jam c. 3 jam d. Jam	<input type="checkbox"/>
A.3	Pernahkah anda merasa tidak fokus pada saat mengelas ? 1. Ya 2. Tidak	<input type="checkbox"/>
A.4	Apakah anda memiliki sertifikat pengelasan? 1. Ya 2. Tidak	<input type="checkbox"/>
	jika ya, jenis sertifikatnya adalah a. 1G b. 2G c. 3G c. 4G e. ....G/....	<input type="checkbox"/>
B.	LINGKUNGAN	
B.1	Apakah pelindung cuaca berpengaruh terhadap terjadinya cacat las? 1. Ya 2. Tidak	<input type="checkbox"/>
B.2	Apakah dapat melakukan pengelasan pada saat mendung dan berangin? 1. Ya 2. Tidak	<input type="checkbox"/>
B.3	Apakah dapat melakukan pengelasan pada setelah hujan turun? 1. Ya 2. Tidak	<input type="checkbox"/>
B.4	Apakah dapat melakukan pengelasan pada tempat yang sempit? 1. Ya 2. Tidak	<input type="checkbox"/>
B.5	Apakah dapat melakukan pengelasan pada area yang berdebu? 1. Ya 2. Tidak	<input type="checkbox"/>

C.	MATERIAL	
C.1	Apakah elektroda disimpan dalam tabung khusus sebelum digunakan? 1. Ya 2. Tidak	<input type="checkbox"/>
C.2	Apakah setiap akan mengelas harus melakukan pembersihan pada material yang akan diisambung? 1. Ya 2. Tidak	<input type="checkbox"/>
C.3	Apakah elektroda yang lembab dapat menghasilkan hasil las yang bagus? 1. Ya 2. Tidak	<input type="checkbox"/>
C.4	Apakah elektroda yang berdebu berpengaruh terhadap hasil las? 1. Ya 2. Tidak	<input type="checkbox"/>
C.5	Apakah Fit-up (penyetelan) yang buruk berpengaruh terhadap hasil las? 1. Ya 2. Tidak	<input type="checkbox"/>
C.6	Apakah diameter elektroda berpengaruh terhadap hasil las? 1. Ya 2. Tidak	<input type="checkbox"/>
C.7	Apakah Root gap (celah antar sambungan) yang terlalu rapat berpengaruh terhadap hasil las? 1. Ya 2. Tidak	<input type="checkbox"/>
D.	MESIN	
D.1	Apakah mesin las dirawat secara berkala? 1. Ya 2. Tidak	<input type="checkbox"/>
	jika ya, perawatan berkalaanya selama: a. 1 bulan sekali b. 2 bulan sekali c. 3 bulan sekali d.....	<input type="checkbox"/>
D.2	Apakah setiap akan mengelas, memeriksa pengaturan arus listrik (ampere) bekerja dengan kondisi baik? 1. Ya 2. Tidak	<input type="checkbox"/>
D.3	Apakah setiap akan mengelas, memeriksa kabel mesin las bekerja dengan kondisi baik? 1. Ya 2. Tidak	<input type="checkbox"/>
D.4	Apakah setiap akan mengelas memeriksa gagang mesin las bekerja dengan kondisi baik?	

1. Ya 2. Tidak	<input type="checkbox"/>
-------------------	--------------------------

E.	METODE	
E.1	Apakah pada saat melakukan pengelasan menggunakan APD lengkap? 1. Ya 2. Tidak	<input type="checkbox"/>
	Jika tidak lengkap APD apa saja yang digunakan? a. Wearpack b. Helm las/Topeng las c. Sarung tangan d. Apron (pakaian kerja las) e. Sepatu las f. Masker las	<input type="checkbox"/>
E.2	Apakah anda melakukan pengelasan sesuai dengan WPS yang telah ditetapkan? 1. Ya 2. Tidak	<input type="checkbox"/>

Pilihlah jawaban yang benar dan isilah kolom yang kosong!

No.	PERTANYAAN MENGENAI PENGERTIAN DARI JENIS-JENIS CACAT LAS YANG TERIDENTIFIKASI	
	Pengertian Cacat Las	Penyebab Cacat Las
1	Sesuai pemahaman anda cacat las porosity itu adalah...	
	a. Cacat yang disebabkan adanya gas yang terperangkap di daerah lasan b. Manik las tidak cembung sempurna c. pembersihan pada saat pengelasan yang berlapis kurang bersih. d. terperangkapnya gas pada proses pengelasan yang berbentuk rongga.	
2	Berikut manakah pengertian Slag Inclusion yang benar?	
	a. Cacat yang disebabkan adanya gas yang terperangkap di daerah lasan b. Manik las tidak cembung sempurna c. pembersihan pada saat pengelasan yang berlapis kurang bersih.	

	d. terperangkapnya gas pada proses pengelasan yang berbentuk rongga.	
3	Berikut manakah pengertian Incomplete Fusion yang benar?	
	<ul style="list-style-type: none"> a. Cacat yang disebabkan adanya gas yang terperangkap di daerah lasan b. kesalahan penggunaan besar arus, kecepatan pengelasan. c. akibat manik las yang menembus kurang sempurna d. pembersihan pada saat pengelasan kurang bersih sehingga mengakibatkan terak terperangkap pada permukaan. 	
4	Berikut manakah pengertian Incomplete Penetration yang benar?	
	<ul style="list-style-type: none"> a. Cacat yang disebabkan adanya gas yang terperangkap di daerah lasan b. kesalahan penggunaan besar arus, kecepatan pengelasan. c. akibat manik las yang menembus kurang sempurna d. pembersihan pada saat pengelasan kurang bersih sehingga mengakibatkan terak terperangkap pada permukaan. 	
5	Berikut manakah pengertian Slag Line yang benar?	
	<ul style="list-style-type: none"> a. Cacat yang disebabkan adanya gas yang terperangkap di daerah lasan b. kesalahan penggunaan besar arus, kecepatan pengelasan. c. akibat manik las yang menembus kurang sempurna d. pembersihan pada saat pengelasan kurang bersih sehingga mengakibatkan terak terperangkap pada permukaan. 	
6	Berikut manakah pengertian Worm Hole yang benar?	
	<ul style="list-style-type: none"> a. terperangkapnya gas pada proses pengelasan yang berbentuk rongga. b. manik las tidak cembung sempurna. c. akibat manik las yang menembus kurang sempurna d. pembersihan pada saat pengelasan kurang bersih sehingga mengakibatkan 	

	terperangkapnya minyak atau oli pada saat pengelasan.	
7	<p>Berikut manakah pengertian Clustered Porosity yang benar?</p> <p>a. terperangkapnya gas pada proses pengelasan yang berbentuk rongga. b. manik las tidak cembung sempurna. c. akibat manik las yang menembus kurang sempurna d.pembersihan pada saat pengelasan kurang bersih sehingga mengakibatkan terperangkapnya minyak atau oli pada saat pengelasan.</p>	
8	<p>Berikut manakah pengertian Clustered Porosity yang benar?</p> <p>a. terperangkapnya gas pada proses pengelasan yang berbentuk rongga. b. manik las tidak cembung sempurna. c. akibat manik las yang menembus kurang sempurna d.pembersihan pada saat pengelasan kurang bersih sehingga mengakibatkan terperangkapnya minyak atau oli pada saat pengelasan.</p>	