NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
No. 5, Jalan Anggerik Mokara 31/45, Seksyen 31, Kota Kemuning, 40460 Shah Alam, Selangor Darul Ehsan, Malaysia.
Tel: 03-5122 9766/7/8 Fax: 03-5122 8766/7 E-mail: info@nusatek.com

Our Ref. : NT/103308/18-09

Report No: NT/RT/180248-05/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	PMI-Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 7.0
		IQI type :	ASTM 1B
Project :	PMI Tech (Europe) B.V. Air Liquide	Film Manufacturer/Type :	FUJI 50(class I)
		Density :	2.0 - 3.5
Material:	SA 516 GR 70	Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	400mm
		Source Side of Object to Film Distance:	(8+3)mm
Welding Process :	FCAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect VIII Div 1 , 2017 Edition	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	21 March 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
W/O:11796 Pressure Leaf PLH(D) Filter 1650/80/32 Tandem Model No: F-571002								
LW1/CW2 (W012)	11	3	–	8	0 - 1	NRI	Accept	
LW2 (W012)	11	3	–	8	0 - 1	NRI	Accept	

End of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*UN : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	M.Nazib - NDT Lev.II	Name:	
Date:	22 March 2018	Date:	

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D) NDT Division

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Tel: 03-5122 9766/7/8 Fax: 03-5122 8766/7 E-mail: info@nusatek.com

Our Ref. : NT/103308/18-09

Report No: NT/RT/180248-04/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	PMI-Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 7.0
Project :	PMI Tech (Europe) B.V. Air Liquide	IQI type :	ASTM 1B
Material:	SA 516 GR 70	Film Manufacturer/Type :	FUJI 50(class I)
		Density :	2.0 - 3.5
Welding Process :	FCAW	Sensitivity:	0.33mm(5 wires visible)
Examination Code :	ASME V	Source to Object Distance :	400mm
Acceptance Code:	ASME Sect VIII Div 1 , 2017 Edition	Source Side of Object to Film Distance:	(8+3)mm
		No of Radiograph(exposure) :	Single Exposure
Examination Date:	21 March 2018	No. of Film Each Cassette :	1 Film
		Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
		Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
W/O:11796 Pressure Leaf PLH(D) Filter 1650/80/32 Tandem Model No: F-571001								
LW1/CW2 (W012)	11	3	–	8	0 - 1	Por	Accept	
CW2/LW2 (W012)	11	3	–	8	0 - 1	Por	Accept	

End of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*UN : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	M.Nazib - NDT Lev.II	Name:	
Date:	22 March 2018	Date:	

NUSANTARA TECHNOLOGIES SDN BHD (187753-D) NDT Division

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103308/18-09

Report No: NT/RT/180248-06/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	PMI-Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 7.0
		IQI type :	ASTM 1B
Project :	PMI Tech (Europe) B.V. Air Liquide	Film Manufacturer/Type :	FUJI 50(class I)
		Density :	2.0 - 3.5
Material:	SA 516 GR 70	Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	400mm
		Source Side of Object to Film Distance:	(8+3)mm
Welding Process :	FCAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect VIII Div 1 , 2017 Edition	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	21 March 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
W/O:11796 Pressure Leaf PLH(D) Filter 1650/80/32 Tandem Model No: F-571002								
CW2/LW2 (W012)	11	3	–	8	0 - 1	Sur		Visual

End of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*UN : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	M.Nazib - NDT Lev.II	Name:	
Date:	22 March 2018	Date:	

NUSANTARA TECHNOLOGIES SDN. BHD. * (187753-D) * NDT Division

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103308/18-09

Report No: NT/RT/180248-07/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	PMI-Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 7.0
Project :	PMI Tech (Europe) B.V. Air Liquide	IQI type :	ASTM 1B
Material:	SA 516 GR 70	Film Manufacturer/Type :	FUJI 50(class I)
		Density :	2.0 - 3.5
		Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	400mm
		Source Side of Object to Film Distance:	(8+3)mm
Welding Process :	FCAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect VIII Div 1 , 2017 Edition	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	21 March 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
W/O:11796 Pressure Leaf PLH(D) Filter 1650/80/32 Tandem Model No: F-571001								
LW2 (W012)	11	3	–	8	0 - 1	NRI	Debris	Remove

End of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*UN : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	M.Nazib - NDT Lev.II	Name:	
Date:	22 March 2018	Date:	

NUSANTARA TECHNOLOGIES SDN. BHD. NDT Division

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103308/18-09

Report No: NT/RT/180248-08/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	PMI-Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 7.0
Project :	PMI Tech (Europe) B.V. Air Liquide	IQI type :	ASTM 1B
Material:	SA 516 GR 70	Film Manufacturer/Type :	FUJI 50(class I)
		Density :	2.0 - 3.5
		Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	400mm
		Source Side of Object to Film Distance:	(8/10+3)mm
Welding Process :	FCAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect VIII Div 1 , 2017 Edition	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	21 March 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
W/O:11796 Pressure Leaf PLH(D) Filter 1650/80/32 Tandem Model No: F-571001								
CW1/LW1 (W012)	11 / 13	3	–	8 / 10	0 - 1	SI	Reject	

End of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*UN : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	M.Nazib - NDT Lev.II	Name:	
Date:	22 March 2018	Date:	

NUSANTARA TECHNOLOGIES SDN BHD * (187753-D) NDT Division

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103308/18-09

Report No: NT/RT/180248-09/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	PMI-Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 7.0
Project :	PMI Tech (Europe) B.V. Air Liquide	IQI type :	ASTM 1B
Material:	SA 516 GR 70	Film Manufacturer/Type :	FUJI 50(class I)
		Density :	2.0 - 3.5
		Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	400mm
		Source Side of Object to Film Distance:	(8/10+3)mm
Welding Process :	FCAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect VIII Div 1 , 2017 Edition	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	21 March 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
W/O:11796 Pressure Leaf PLH(D) Filter 1650/80/32 Tandem Model No: F-571002								
CW1/LW1 (W012)	11 / 13	3	–	8 / 10	0 - 1	Por	Debris	Remove

End of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*UN : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II		Client Representative:
Interpreted & Evaluated By:	M.Nazib - NDT Lev.II	NUSANTARA TECHNOLOGIES SDN. BHD. NDT Division	Name:
Date:	22 March 2018		Date:

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103308/18-09

Report No: NT/RT/180248-01/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	PMI-Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 7.0
		IQI type :	ASTM 1B
Project :	Alfa Laval (Italy)	Film Manufacturer/Type :	FUJI 50(class I)
		Density :	2.0 - 3.5
Material:	SA 240 304	Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	400mm
		Source Side of Object to Film Distance:	(8+3)mm
Welding Process :	FCAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect VIII Div 1 , 2017 Edition	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	21 March 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
W/O:11817 PLVD 1500/50 Item:26F03AF03A								
LW1 (W012)	11	3	–	8	0 - 1	NRI	Accept	
CW2/LW1 (W012)	11	3	–	8	0 - 1	NRI	Accept	
CW2/LW2 (W012)	11	3	–	8	0 - 1	NRI	Accept	
CW3/LW3 (W012)	11	3	–	8	0 - 1	Sur	Accept	

End of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*UN : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	M.Nazib - NDT Lev.II	Name:	
Date:	22 March 2018	Date:	

NUSANTARA TECHNOLOGIES SDN BHD * (187753-D) * NDT Division

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103308/18-09

Report No: NT/RT/180248-02/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	PMI-Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 7.0
Project :	Alfa Laval (Italy)	IQI type :	ASTM 1B
Material:	SA 240 304	Film Manufacturer/Type :	FUJI 50(class I)
		Density :	2.0 - 3.5
		Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	400mm
		Source Side of Object to Film Distance:	(8+3)mm
Welding Process :	FCAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect VIII Div 1 , 2017 Edition	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	21 March 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
W/O:11817 PLVD 1500/50 Item:26F03BF03B								
LW1 (W012)	11	3	–	8	0 - 1	NRI	Accept	
CW2/LW1 (W012)	11	3	–	8	0 - 1	NRI	Accept	
CW2/LW2 (W012)	11	3	–	8	0 - 1	NRI	Accept	
CW3/LW3 (W012)	11	3	–	8	0 - 1	NRI	Accept	

End of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*UN : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	M.Nazib - NDT Lev.II	Name:	
Date:	22 March 2018	Date:	

NUSANTARA TECHNOLOGIES SDN. BHD. NDT Division (187753-D)

NUSANTARA TECHNOLOGIES SDN. BHD. (187753-D)
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Our Ref. : NT/103308/18-09

Report No: NT/RT/180248-03/18

RADIOGRAPHIC EXAMINATION REPORT

Client and Testing Particulars

Client :	PMI-Technology Sdn Bhd	Procedure No:	NT/RT/ASME Rev 7.0
Project :	Alfa Laval (Italy)	IQI type :	ASTM 1B
Material:	SA 240 304	Film Manufacturer/Type :	FUJI 50(class I)
		Density :	2.0 - 3.5
		Sensitivity:	0.33mm(5 wires visible)
		Source to Object Distance :	400mm
		Source Side of Object to Film Distance:	(8+3)mm
Welding Process :	FCAW	No of Radiograph(exposure) :	Single Exposure
Examination Code :	ASME V	No. of Film Each Cassette :	1 Film
Acceptance Code:	ASME Sect VIII Div 1 , 2017 Edition	Radiographic Technique :	SWSI
		Film Viewing Technique :	Single Wall Viewing
Examination Date:	21 March 2018	Source Type/Size :	Iridium192 (3.2mm)
		Location Markers :	Film Side

Radiographic Examination Result

Weld Reference (Welder No)	WT (mm)	RT (mm)	Pipe Diameter (mm)	Material Thickness (mm)	Film Position	Film Interpretation	Result	Remarks
W/O:11817 PLVD 1500/50 Item:26F03CF03C								
LW1 (W012)	11	3	–	8	0 - 1	NRI	Accept	
CW2/LW1 (W012)	11	3	–	8	0 - 1	NRI	Accept	
CW2/LW2 (W012)	11	3	–	8	0 - 1	NRI	Accept	
CW3/LW3 (W012)	11	3	–	8	0 - 1	NRI	Accept	

End of Report

Legend:

TI : Tungsten Inclusion	*NRI : No Relevant Indication*	*UN : Undercut*	*Por : Porosity*	*WT : Weld Thickness*
SI : Slag Inclusion	*LP : Lack of Penetration*	*Con : Concavity*	*BT : Burn Through*	*RT : Reinforcement Thickness*
LF : Lack of Fusion	*EP : Excess Penetration*	*AR : Artifact*	*Sur : Surface*	

Personnel Particulars

Radiographer :	Emirsham - NDT Lev. II	Client Representative:	
Interpreted & Evaluated By:	M.Nazib - NDT Lev.II	Name:	
Date:	22 March 2018	Date:	

NUSANTARA TECHNOLOGIES SDN BHD * (187753-D) * NDT Division