



Vendor	<b>ABT 360 KT/Y PP PLANT Project</b>			Owner
	WPQ			 سراج گستران رجال SERAJ GOSTARAN REJAL (سهایی خاص)
	Vendor's Doc. No.: 23249-26	Rev.: 01		
	PPEC Doc. No.: L03-RE037-QC-WBK-002			

**PPEC REQ. NO. : L03-RE037-QC-WBK-002**

**ITEM NO. :**

**TOTAL PAGES : 13**

**NO COMMENT**

- **NO COMMENTS** : Documents/Drawings Were Checked By PPEC And Further Step Can Be Followed.
- **COMMENTED AS MARKED:** Documents/Drawings Were Checked By PPEC And Marked Comments Must Be Considered By Vendor. Vendor Shall Revise Documents/Drawing As Per Comments And The New Revision Of Documents/Drawings Must Be Revised Prior To Fabrication.
- **REJECTED:** Documents/Drawings Were Checked And It Is Not In Comply With Purchase Requisition Requirements.
- **ACCEPTABLE WITH COMMENTS:** Documents/Drawings Were Checked By PPEC And Comments Must Be Considered By Vendor. Fabrication Can Proceed Accordingly. Revised Document To Be Issued Either For Review Or As Final Certified. However PPEC Will Check The Revised Document For Proper Incorporation Of Comments.
- **NOT RETURNED:** Document Was Received For Information And Not Returned To The Vendor.



Name :  
Signature:  
Date :

Req. No. :

Seq. No.:

PPEC review & comments does not absolve the vendor of the responsibility for the corrected design, manufacturing and operation of the equipment

01	06-06-2025	Issue for Engineering	S.K.	S.K.	J.J.	
00	31-03-2025	Issue for Engineering	S.K.	S.K.	J.J.	
REV.	DATE	Description	Prepared by	Checked by	Approved by	Authorized by

<div>Vendor</div> <div></div>	<div>ABT 360 KT/Y PP PLANT</div>		<div>Contractor (DEC)</div>	<div>Owner</div> <div><div>سراج گستران رجال SERAJ GOSTARAN REJAL (سهامی خاص)</div></div>
	<div>WPQ</div>			
	<div>Vendor's Doc. No.: 2 3 2 4 9 - 2 6</div>	<div>Rev.: 01</div>		
	<div>PPEC Doc. No.: L03-RE037-QC-WBK-002</div>			

PAGE NO.		CHANGE INDEX DURING FORMAL ISSUE						REASON OF LATEST CHANGE
		FIRST ISSUE	SECOND ISSUE	THIRTH ISSUE	FOURTH ISSUE	FIFTH ISSUE	SIXTH ISSUE	
		REV.00	REV.01	REV.02	REV.03	REV.04	REV.05	
1		X	X					
2		X	X					
3		X						
4		X						
5		X						
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Welder's name	R.W. de Oude		Test date	29-01-2018	
ID Number	ID Card IV78078L8		WPQ record number	ROT 2018.12560	
Date of birth	09-01-1998		Standard test number	ARL-2331-2	Rev. 0
Stamp number	RdO		WPS record number	S2500	Rev. 0
Company name	Airpack Netherlands BV.		Qualification code	AWS D1.1	
Division					

#### BASE METALS

	Product form	Specification (type or grade)	P no.	Grp-no.	Size	Sch.	Thick. (mm)	Dia. (mm)
Welded to:	Plate	S355J2+N acc. EN 10025-2	U	I	-	-	12	-
	Plate	S355J2+N acc. EN 10025-2	U	I	-	-	12	-
Joint type	Fillet							

#### VARIABLES

	Actual values	RANGE QUALIFIED
Type of weld joint	Plate - Fillet	Fillet welds
Base metal	Group I to Group I	Carbon and Low-Alloy Steel

#### BASE METAL THICKNESS

		Groove	Fillet	Groove	Fillet
Plate thickness (mm)	-	-	12	-	3 min.
Pipe/tube thickness (mm)	-	-	-	-	-
Pipe diameter (mm)	-	-	-	-	-

#### PROCESS VARIABLES

	Actual values	RANGE QUALIFIED
Welding process	GMAW	GMAW
Type	Semi-automatic	Semi-Automatic, Machine, Automatic
Backing	Backing used	With
Filler metal specification	5.18	A5.xx
Filler metal classification	E70C-6M	All
Weld position (Actual position tested)	4F	F,H,O
Fillet - Plate & Pipe >= 610mm		F,H,O
Fillet - Pipe 73mm to 610mm		F,H,O
Fillet - Pipe < 73mm		-
Progression	-	-
GMAW transfer mode	Spray	Spray, pulse, globular
Shielding gas/flux	AC-20	A5.xx approved

#### TESTS

Type of test	Acceptance criteria	Result	Comments
Visual examination per 4.31.1	4.9.1	Acceptable	see - AWS D1.1 - T4.11
1 macroetch per 4.31.2 and 4.31.2.1 (Fillet Option 1 Fig. 4.37)	4.31.2.3	Acceptable	see - AWS D1.1 - T4.11


Notes na.

#### CERTIFICATION

Tests conducted by	---	Laboratory test number	---
Mechanical tests by	J. Eland	Test file number	0537/1 page 0537/3 page 1 of 1

We certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of section 4 of the ANSI/AWS D1.1 Structural Welding Code-Steel.

#### Signature 1

Name	Signature
K. Noomen / A. Verduyn	
Date	
23-02-2018	

#### Signature 2

Name	Signature
	
Date	

Report no. : 0537/1 page 1 of 1  
Ref. Lab : 189.0537 / 1802076  
Date : 12-02-2018



## TEST REPORT

Customer	: Airpack Netherlands BV	Your ref.	: Mr. A. Verduyn / 18-014
Subject	: Welders Performance Qualification ARL-2331-2		
Specification	: AWS.D.1.1./2015		
Welded size	: Plate 12/12mm.	Stamped by	: A. Verduyn / DNV-Cert. ROT 2012-10114593
Material	: S 355 J2 + N	Weld process	: GMAW
Welder	: R.W. de Oude (RdO)	Weld prep.	: Filletweld-Multirun
Date of birth	: 9-1-1998	Position	: 4F
ND examination	: N.a.		

TENSILE TEST					Yieldstr.	Tensile	Yieldstr.	Tensile	Elongation	Reduction	Fracture
Type	Dimensions mm	Surface Area mm <sup>2</sup>	Lo mm	Temp. °C	ReH kN	strength kN	ReH N/mm <sup>2</sup>	strength N/mm <sup>2</sup>	%	%	in

IMPACT TEST				Type	Values in Joule			
Dimensions specimens:				Temp. °C				
Marked	Location of notch				1	2	3	Average

BEND TEST		MACRO ETCH	FRACTURE TEST	MICRO ETCH	Remarks:
Type		according to AWS D1.1 ch.4 part B-C	according to AWS D1.1 chapter 4 part B-C		(p)WPS No.: S2500
		1 x Accepted	1 x Accepted		Welding date 29-1-2018
		*****	*****		

Laboratory :	Customer :	Witnessing Authority :
 Planner		 Witnessing Authority



Welder's name	R.W. de Oude		Test date	29-01-2018	Rev. 0
ID Number	ID Card IV78078L8		WPQ record number	ROT 2018.12559	
Date of birth	09-01-1998		Standard test number	ARL-2331-1	
Stamp number	RdO		WPS record number	S2800	
Company name	Airpack Netherlands BV.		Qualification code	AWS D1.1	
Division					Rev. 0

#### BASE METALS

	Product form	Specification (type or grade)	P no.	Grp-no.	Size	Sch.	Thick. (mm)	Dia. (mm)
Welded to:	Plate	S355J2+N acc. EN 10025-2	U	I	-	-	20	-
	Plate	S355J2+N acc. EN 10025-2	U	I	-	-	20	-
Joint type	Groove							

#### VARIABLES

	Actual values	RANGE QUALIFIED
Type of weld joint	Plate - Groove (Fig 4.21) without backing	Groove, Fillet, Plug and Slot welds ( T-,Y-,K-Groove PJP only)
Base metal	Group I to Group I	Carbon and Low-Alloy Steel
<b>BASE METAL THICKNESS</b>	<b>Groove</b>	<b>Fillet</b>
Plate thickness (mm)	20	3 - 40.0
Pipe/tube thickness (mm)	-	3 - 40.0
Pipe diameter (mm)	-	600 min.
		3 min.
		no limit
		no limit

#### PROCESS VARIABLES

	Actual values	RANGE QUALIFIED
Welding process	GMAW	GMAW
Type	Semi-automatic	Semi-Automatic, Machine, Automatic
Backing	Without	With, without
Filler metal specification	5.18	A5.xx
Filler metal classification	E70C-6M	All
Weld position (Actual position tested)	3G	F,H,V
Groove - Plate & Pipe >= 610mm		-
Groove - Pipe 73mm to 610mm		-
Groove - Pipe 73mm		-
Fillet - Plate & Pipe >= 610mm		F,H,V
Fillet - Pipe 73mm to 610mm		F,H,V
Fillet - Pipe < 73mm		F,H,V
Progression	Up	Up
GMAW transfer mode	Short-circuiting	Short-circuiting
Shielding gas/flux	AC-20	A5.xx approved

#### TESTS

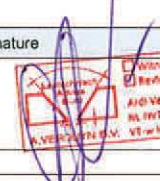

Type of test	Acceptance criteria	Result	Comments
Visual examination per 4.31.1	4.9.1	Acceptable	see - AWS D1.1 - T4.11
2 transverse side bends per 4.9.3.1 and Fig. 4.13	4.9.3.3	Acceptable	see - AWS D1.1 - T4.11
Notes	na.		

#### CERTIFICATION

Tests conducted by	H. Georgiev	Laboratory test number	LB581597493
Mechanical tests by	J. Eland	Test file number	0537/3 page 1 of 1

We certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of section 4 of the ANSI/AWS D1.1 Structural Welding Code-Steel.

#### Signature 1

Name	Signature	Name	Signature
K. Noomen / A. Verduyn			
Date		Date	
23-02-2018			

## NON DESTRUCTIVE TESTING REPORT NIET DESTRUCTIEF ONDERZOEK RAPPORT

Page 1 of 1

MM order nr.: ND 1802076

Report no. **LB581597493**  
Report nr. rev.0

Client: Klant:	Airpack Netherlands BV	Project: Project:	Welders Performance Qualification	
Test location: Plaats onderzoek:	MME Ridderkerk	Subject: Onderwerp:	Plate 20mm., weld length = 400 mm	
Order number: Order nummer:	189.0537	Subject no.: Werkstuk nr.:	ARL-2331-1	Request no.: Opdracht nr.:
Reference client: Referentie klant:	Mr. A. Verduyn / 18-014	Drawing no.: Tekening. nr.:	N.a.	Heat treat: Warmtebeh.:
Examination: Soort onderzoek:	Weld examination	Material type: Materiaal soort:	S 355 J2 + N	Material thckn.: Materiaal dikte:
Specification: Specificatie:	ANSI/AWS Structural welding code D1.1M:2010	Weld process: Las methode:	GMAW-S+GMAW / 3Gup	Weld preparation: Las voorbereiding:
Acceptance: Acceptatie:	AWS D.1.1.			V-groove

### ULTRASONIC EXAMINATION ULTRASOON ONDERZOEK

**UT**

Procedure: Procedure:	MM 43101	Revision: Revisie:	0	Reference block: Referentie ijkblok:	ASME 19mm, 38mm
Equipment: Apparaat:	Sonatest SS 250	ID.No.: MM4042		Transfer corr. (dB): Oppervlakte verlies (dB):	--
Calibration block: Standaard ijkblok:	K1 (ISO2400) + K2 (ISO7963)	Damping reference (dB/m): Damping referentie (dB/m):	damping object	Damping object (dB/m): Damping object (dB/m):	damping ref.
Time base range: Meetbereik:	0-200 mm	Sensitivity: Versterking:	DAC + Transfer + 6 dB		
Couplant: Koppelmiddel:	Waterbased	Surface condition: Oppervlakte gesteldheid:	Acceptable	Object temperature: Temperatuur object:	20 °C

#### Probes / Tasters

Type:	GE MSEB	Olympus AM	Olympus AM				
Type:							
Crystal size: Kristal afmeting:	Ø 10 mm	8x9 mm	8x9 mm				
Frequency (MHz): Frequentie (MHz):	4	4	4				
Angle(")/index: Hoek(")/index:	0	70	60				
Serial no.: Serie nr.:	57462	1094500	1096488				

Part examined:  
Onderzochte gedeelte:

100% UT was carried out on the weld. No rejectable indications were detected.



Welder(s)/Lasser(s) : R.W. de Oude (RdO) 9-1-1998

Remarks/Opmmerkingen: (p)WPS No.: S2800 / Welding date 29-1-2018

Time and/or date of examination:  
Tijd en/of datum van onderzoek: 09-02-2018

Result according to procedure and acceptance criteria:  
Resultaat volgens procedure en acceptatiecriteria: **Acceptable**

With reportable indications.:  
Met rapporteerbare indicaties:

Inspector/Inspecteur(s) H. Georgiev	Level: 3	Manufacturer/Fabrikant:	Client/Klant:	Cert.Authority/Keur instantie:
				
Date of report: Rapport datum:	09-02-2018	Fabr. date/time: Fabr. datum/tijd:	Date: Datum:	Date: Datum:



Report no. : 0537/3 page 1 of 1  
Ref. Lab : 189.0537 / 1802076  
Date : 12-02-2018




## TEST REPORT

Customer	: Airpack Netherlands BV	Your ref.	: Mr. A. Verduyn / 18-014
Subject	: Welders Performance Qualification ARL-2331-1		
Specification	: AWS.D.1.1./2015		
Welded size	: Plate 20mm.	Stamped by	: A. Verduyn / DNV-Cert. ROT 2012-10114593
Material	: S 355 J2 + N	Weld process	: GMAW-S / GMAW
Welder	: R.W. de Oude (RdO)	Weld prep.	: V-groove
Date of birth	: 9-1-1998	Position	: 3Gup
ND examination	: UT report: LB581597493		

TENSILE TEST					Yieldstr.	Tensile	Yieldstr.	Tensile	Elon-	Reduc-	Fracture
Type	Dimensions mm	Surface Area mm <sup>2</sup>	Lo mm	Temp. °C	ReH kN	strenght kN	ReH N/mm <sup>2</sup>	strength N/mm <sup>2</sup>	gation %	tion %	in

IMPACT TEST				Type :
Dimensions specimens:			Temp. °C	Values in Joule
Marked	Location of notch			1 2 3 Average

BEND TEST according to AWS D1.1 chapter 4 part B and C		MACRO ETCH	FRACTURE TEST	MICRO ETCH	Remarks:
Type	D=4t 180°				(p)WPS No.: S2800 Welding date 29-1-2018
Side	1x Accepted				
Side	1x Accepted				
*****	*****				

Laboratory :	Customer :	Witnessing Authority :
 Planner		 

Welder's name	A. Sumantri		Test date	25-5-2012
ID Number	ID Card IXH4P6551		WPQ record number	RET 0245029-002-23 Rev 1
Date of birth	23-02-1962		Standard test number	N.A.
Stamp number	W-102		WPS record number	P2000
Company name	Airpack Netherlands BV		Qualification code	ASME Section IX: 2010 including
Division	N.A.			

**BASE METALS (QW-403)**

	Product form	Specification (type or grade)	P no.	Grp.no.	Size	Sch.	Thick. (mm)	Dia. (mm)
Welded to:	Pipe	SA-333 (6)	1	1	12,70	160	4,78	21,34
	Pipe	SA-333 (6)	1	1	12,70	160	4,78	21,34
Joint type	Groove							

**VARIABLES**

	Actual values	RANGE QUALIFIED
Type of weld joint	Pipe - Groove	Groove and Fillet welds
Base metal	P1 to P1	P-no. 1 thru 15F, 34, 41 thru 49

**BASE METAL THICKNESS**

		Groove	Fillet	Overlay	Groove	Fillet	Overlay
Plate thickness (mm)	-	-	-	-	no limit	no limit	-
Pipe/tube thickness (mm)	4,78	-	-	-	no limit	no limit	-
Pipe diameter (mm)	21,34	-	-	-	21,34 min	no limit	-

**PROCESS VARIABLES**

	Actual values	RANGE QUALIFIED
Welding process	GTAW	GTAW
Type	Manual	Manual
Backing	No backing used	With, without
Filler metal specification	5.18	5 xx
Filler metal classification	ER70S-3	Any
Filler metal F-number	6	6
Filler metal variety (QW-404.23)	Bare (solid)	Solid, metal cored
Consumable insert	None	Without
Number of layers deposited	5	
Weld deposit thickness (mm)	4,78	9,56 max
Weld position (Actual position tested)	6G	
Groove - Plate & Pipe > 610mm		All
Groove - Pipe 73mm to 610mm		All
Groove - Pipe 73mm		All
Fillet - Plate & Pipe > 610mm		All
Fillet - Pipe 73mm to 610mm		All
Fillet - Pipe < 73mm		All
Progression	Up	Up
Backing gas	Without	With, without
GTAW welding current/polarity	DCEN (straight polarity)	DCEN (straight polarity)

**TESTS**


Type of test	Acceptance criteria	Result	Comments
Radiographic examination	ASME IX	Acceptable	Report number 1213-1012-24-020

**Notes**
**CERTIFICATION**


Tests conducted by	Schielab BV Breda (NLD)	Laboratory test number	SL 12 6538-1
Mechanical tests by	N.A.	Test file number	ARL 1559-7

We certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Code.

**Signature**

Name	Signature
F. van Toledo	
Date	21-6-2012

**Signature Welder**

Name	Signature
W. Komdeur (Lloyds)	
Date	21-6-2012



### WELDING PROCEDURE QUALIFICATION RECORD AND WELDERS PERFORMANCE QUALIFICATION TEST RECORD

Testing in accordance with : ASME IX:2010  
Purchaser : Arjan Roza Lastechniek BV  
Purchase order no. : ARL1559-1

Manufacturer : Airpack Nederland BV.  
WPS : P2000

Description of sample(s) : Pipe with Single-V-groove  
Dimension(s) : 2,5" Sch 40S (Ø 73,03 x 5,15 mm)  
Material grade : P1 Gr.1 – P1 Gr. 1  
Material : ASTM SA-333 Gr.6 - ASTM SA-333 Gr.6

Welding process(es) : GTAW  
Filler : F-no.6 A-no. 1  
Brand and type : Lincoln Electric LNT 25, ER70S-3  
Shielding gas : Argon (A5.32 SG-A)  
Backing gas : Not used

Welding position : 6G progression up  
Preheat / Interpass temp. : 10 °C / 166 °C  
Joint type : Single-V-groove

Welder : A. Sumantri  
Date / place of birth : 23-02-1962 / Oost- en West-Souburg  
Stamp. No. / ID : W-102 / ID Card IXH4P6551  
Testpiece marked with : ARL1559-1

#### NON DESTRUCTIVE EXAMINATION

\* Visual examination : performed by examiner

#### CROSS WELD TENSILE TESTS

Dimensions(s) [mm]	Rm [N/mm <sup>2</sup> ]	Fracture location
19.01 x 4.53	538	Base material
19.02 x 4.73	527	Base material
Requirements;	≥ 415	

#### TECHNOLOGICAL TESTS

Type	Former / Bending angle	Results
Face bend	4t / 180°	2 x acceptable
root bend	4t / 180°	2 x acceptable

### IMPACT TESTS - Type: Charpy KV

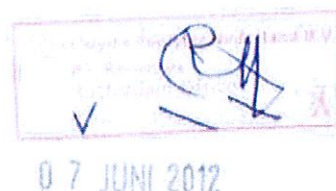
Notch location	Size [mm]	Test temp. [°C]	Results [J]	Average value [J]
Midweld	10 x 4	-55	52-19-55	42
Fusion line	10 x 4	-55	74-61-58	64
Requirements for size 10x10mm;			≥ 19	≥ 27
Requirements for size 10x4mm;			≥ 7.5	≥ 11

**Conclusion:** The results satisfy the requirements.

All characteristics of the above object(s) have, as far as accessible and relevant, been verified by Schielab b.v. Other information was provided by the purchaser. This information was verified as far as possible and has been copied into this report, unchanged. We hereby certify that the reported test data is correct and that the above object(s) was (were) tested/examined in accordance with purchasers requirements and/or the above procedure(s) and/or code(s)/specification(s). On occasion a destructive test is subcontracted by Schielab b.v. (marked 'U' on the report). Opinions, interpretations and advice expressed in this report are outside the scope of any possible RvA accreditation, but are presented in a true and fair manner based on the best knowledge of the Schielab personnel involved. If, upon reproduction, only part of this report is copied, Schielab will not bear any responsibility for content, purport and conclusions of that reproduction. This report has legal value only when printed on Schielab paper and furnished with an authorised signature. Digital versions of this report have no legal value. Unless explicitly agreed upon otherwise in writing, our "General conditions for activities performed by Schielab b.v.", deposited at the Chamber of Commerce in Rotterdam, under number 24170257, apply.

Breda, 07-06-2012

Witnessed and approved by; Mr.  
Representing: Lloyd's Register Nederland B.V.  
[RET 0245029]



Welder's name	A. Sumantri		Test date	25-5-2012	Rev. - Rev. 0
ID Number	ID Card IX:H4P6551		WPQ record number	RET 0245029-002-15	
Date of birth	23-02-1962		Standard test number	N.A.	
Stamp number	W-102		WPS record number	P2250	
Company name	Airpack Netherlands BV		Qualification code	ASME Section IX:2010 including	
Division	N.A.				

**BASE METALS (QW-403)**

	Product form	Specification (type or grade)	P no.	Grp-no.	Size	Sch.	Thick. (mm)	Dia. (mm)
Welded to:	Pipe	SA-333 (6)	1	1	63,50	160	9,53	73,03
	Pipe	SA-333 (6)	1	1	63,50	160	9,53	73,03
Joint type	Groove							

**VARIABLES**

	Actual values	RANGE QUALIFIED
Type of weld joint	Pipe - Groove	Groove and Fillet welds
Base metal	P1 to P1	P-no. 1 thru 15F, 34, 41 thru 49

**BASE METAL THICKNESS**

	Groove	Fillet	Overlay	Groove	Fillet	Overlay
Plate thickness (mm)	-	-	-	no limit	no limit	-
Pipe/tube thickness (mm)	9,53	-	-	no limit	no limit	-
Pipe diameter (mm)	73,03	-	-	73 min	no limit	-

**PROCESS VARIABLES**

	Actual values	RANGE QUALIFIED
Welding process	GTAW	GTAW
Type	Manual	Manual
Backing	No backing used	With, without
Filler metal specification	5.18	5.xx
Filler metal classification	ER70S-3	Any
Filler metal F-number	6	6
Filler metal variety (QW-404.23)	Bare (solid)	Solid, metal cored
Consumable insert	None	Without
Number of layers deposited	5	
Weld deposit thickness (mm)	9,53	19,06 max
Weld position (Actual position tested)	6G	
Groove - Plate & Pipe > 610mm		All
Groove - Pipe 73mm to 610mm		All
Groove - Pipe 73mm		All
Fillet - Plate & Pipe > 610mm		All
Fillet - Pipe 73mm to 610mm		All
Fillet - Pipe < 73mm		All
Progression	Up	Up
Backing gas	Without	With, without
GTAW welding current/polarity	DCEN (straight polarity)	DCEN (straight polarity)

**TESTS**

Type of test	Acceptance criteria	Result	Comments
Face bend test per QW-463.2(a)	QW-163	Acceptable	see -
Face bend test per QW-463.2(a)	QW-163	Acceptable	see -
Root bend test per QW-463.2(a)	QW-163	Acceptable	see -
Root bend test per QW-463.2(a)	QW-163	Acceptable	see -

Notes This WPQ is based on PQR RET 0245029-001-17

**CERTIFICATION**

Tests conducted by	Schiellab BV Breda (NLD)	Laboratory test number	SL 12.6044-1A
Mechanical tests by	N.A.	Test file number	ARL1559-2

We certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Code.

**Signature**

Name	Signature	Name	Signature
Franky van Toledo		A. Sumantri	
Date		Date	
8-6-2012		8-6-2012	



### WELDING PROCEDURE QUALIFICATION RECORD AND WELDERS PERFORMANCE QUALIFICATION TEST RECORD

Testing in accordance with : ASME IX:2010  
 Purchaser : Arjan Roza Lastetechniek BV  
 Purchase order no. : ARL1559-2

Manufacturer : Airpack Nederland BV.  
 WPS : P2250

Description of sample(s) : Pipe with Single-V-groove  
 Dimension(s) : 2,5" Sch 160 (Ø 73,03 x 9,52 mm)  
 Material grade : P1 Gr.1 – P1 Gr. 1  
 Material : ASTM SA-333 Gr. 6 - ASTM SA-333 Gr. 6

Welding process(es) : GTAW  
 Filler : F-no.6 A-no. 1  
 Brand and type : Lincoln Electric LNT 25, ER70S-3  
 Shielding gas : Argon (A5.32 SG-A)  
 Backing gas : Not used

Welding position : 6G progression up  
 Preheat / Interpass temp. : 10 °C / 156 °C  
 Joint type : Single-V-groove

Welder : A. Sumantri  
 Date / place of birth : 23-02-1962 / Oost- en West-Souburg  
 Stamp. No. / ID : W-102 / ID Card IXH4P6551  
 Testpiece marked with : ARL1559-2

#### NON DESTRUCTIVE EXAMINATION

\* Visual examination : performed by examiner

#### CROSS WELD TENSILE TESTS

Dimensions(s) [mm]	Rm [N/mm <sup>2</sup> ]	Fracture location
19.04 x 8.80	490	Base material
19.02 x 8.94	488	Base material
Requirements;	≥ 415	

#### TECHNOLOGICAL TESTS

Type	Former / Bending angle	Results
Face bend	4t / 180°	2 x acceptable
root bend	4t / 180°	2 x acceptable

### IMPACT TESTS - Type: Charpy KV

Notch location	Size [mm]	Test temp. [°C]	Results [J]	Average value [J]
Midweld	10 x 7.5	-49	141-170-212	174
Fusion line	10 x 7.5	-49	214-212-218	215
Requirements for size 10x10mm;			≥ 19	≥ 27
Requirements for size 10x7.5mm;			≥ 14	≥ 20

**Conclusion:** The results satisfy the requirements.

All characteristics of the above object(s) have, as far as accessible and relevant, been verified by Schielab b.v. Other information was provided by the purchaser. This information was verified as far as possible and has been copied into this report, unchanged. We hereby certify that the reported test data is correct and that the above object(s) was (were) tested/examined in accordance with purchasers requirements and/or the above procedure(s) and/or code(s)/specification(s). On occasion a destructive test is subcontracted by Schielab b.v. (marked 'U' on the report). Opinions, interpretations and advice expressed in this report are outside the scope of any possible RvA accreditation, but are presented in a true and fair manner based on the best knowledge of the Schielab personnel involved. If, upon reproduction, only part of this report is copied, Schielab will not bear any responsibility for content, purport and conclusions of that reproduction. This report has legal value only when printed on Schielab paper and furnished with an authorised signature. Digital versions of this report have no legal value. Unless explicitly agreed upon otherwise in writing our "General conditions for activities performed by Schielab b.v.", deposited at the Chamber of Commerce in Rotterdam, under number 24170257, apply.

Breda, 07-06-2012

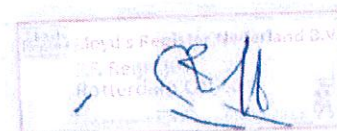
Witnessed and approved by; Mr.

Representing: Lloyd's Register Nederland B.V.

[RET 0245029]



A. Karstanje

07 JUNI 2012