



LIDCO, Pars SEE Zone, Assaluyeh,  
Integrated Methanol and Ammonia  
Plant 3000 MTPD MeOH / 900 MTPD NH3 PROJECT



WPQ

Document No. 17735-26

Page

Project No.	Vendor Doc.	P.O. No.	Department	Document Type	Serial No	Revision	Page
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**Airpack B.V. - Air Compressor –  
Integrated Methanol and Ammonia Plant  
17735-COM WPQ (K020)**

NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 130223	
SIGN: <i>[Signature]</i>	

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
01	12-12-2023	Issued for Information	S.K.	J.J.	S.K.



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1	X					26	X					51	X					76					
2	X					27	X					52	X					77					
3	X					28	X					53	X					78					
4	X					29	X					54	X					79					
5	X					30	X					55	X					80					
6	X					31	X					56	X					81					
7	X					32	X					57	X					82					
8	X					33	X					58	X					83					
9	X					34	X					59	X					84					
10	X					35	X					60	X					85					
11	X					36	X					61	X					86					
12	X					37	X					62	X					87					
13	X					38	X					63						88					
14	X					39	X					64						89					
15	X					40	X					65						90					
16	X					41	X					66						91					
17	X					42	X					67						98					
18	X					43	X					68						ATTACHMENT					
19	X					44	X					69						1					
20	X					45	X					70						2					
21	X					46	X					71						3					
22	X					47	X					72						4					
23	X					48	X					73						5					
24	X					49	X					74						6					
25	X					50	X					75						7					

NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. H. J.	
SIGN: <i>M. H. J.</i>	

# WPQ

	NARGAN COMPANY
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: 	

W P Q

SKID

	NARGAN COMPANY
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: 	

Welder's name	Berrevoets A.	Test date	28-11-2022
ID Number	Verified by DNV	WPQ record number	A1153205-2-61
Date of birth	27-3-1968	Standard test number	N.A.
Stamp number	BA	WPS record number	S2400
Company name	Airpack Netherlands BV	Qualification code	AWS D1.1: 2020
Division	N.A.		

**BASE METALS**

	Product form	Specification (type or grade)	P no.	Grp-no.	Size	Sch.	Thick. (mm)	Dia. (mm)
Welded to:	Plate	API 2H (50)	U	II	-	-	20	-
	Plate	API 2H (50)	U	II	-	-	20	-
Joint type	Fillet							

**VARIABLES**

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

**BASE METAL THICKNESS**

	Groove	Fillet	Groove	Fillet
Plate thickness (mm)	-	20	-	3 min.
Pipe/tube thickness (mm)	-	-	-	3 min.
Pipe size (mm)	-	-	-	600 min.

**PROCESS VARIABLES**

	Actual values	RANGE QUALIFIED
Welding process	GMAW	GMAW
Type	Semi-automatic	Semi-Automatic, Machine, Automatic
Backing	With	With
Filler metal specification	5.18	A5.xx
Filler metal classification	E70C-6MH4	All
Weld position (Actual position tested)	3F	F.H,V
Fillet - Plate & Pipe >= 610mm		F.H,V
Fillet - Pipe 73mm to 610mm		F.H,V
Fillet - Pipe < 73mm		Up
Progression	Up	Spray, pulse, globular
GMAW transfer mode	Spray	A5.xx approved
Shielding gas/flux	AC-20	

**TESTS**

Type of test	Acceptance criteria	Result	Comments
Visual examination per clause 4.9.1	clause 4.9.1.2.	Acceptable	ARL 2717
1x Break test acc. clause 4.31.4	clause 4.31.4.1	Acceptable	-
1x macroscopic examination acc. clause 4.31.2.3	clause 4.31.2.3	Acceptable	-

Notes: asdDDD

**CERTIFICATION**



Tests conducted by	Maik van den Branden	Laboratory test number	Report ARJ001-22-12-53197-6
Mechanical tests by	Element Breda (NLD)	Test file number	ARL2717

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.

NARGAN COMPANY	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI	DATE: 13 Dec 2023
SIGN: 	

**Signature 1**

**Signature 2**

Name	Signature	Name	Signature
F. van Toledo		M. van Ginneken DNV	
Date		Date	
19-12-2022		19-12-2022	

	<input checked="" type="checkbox"/> Witnessed	<input checked="" type="checkbox"/> Reviewed
	And found to comply with:	
	Date: 2022-12-21	Sign: M. van Ginneken

WPS record number	S2400	Revision 0	Qualified to	AWS D1.1/D1.1M:2010
Date	14-6-2012		Company name	Airpack Netherlands BV
Supporting PQR(s)	RET 0245029-001-26 - Rev 1			
Reference docs.				

Scope	Filletwelds single layer a <= 6 mm and multi layer filletwelds => 8 mm Fillet, no PWHT (As-welded)
Joint	Joint details for this welding procedure specification in: Production drawings

**BASE METALS**

Type	Plate	P-no. U	Grp-no. II
Welded to	Plate	P-no. U	Grp-no. II
Backing:	None	P-no.	Grp-no.
Retainers	None		
Notes			

**THICKNESS RANGE QUALIFIED (mm)**

	As-welded		With PWHT	
	Min.	Max.	Min.	Max.
Complete pen.	-	-	-	-
Impact tested	-	-	-	-
Partial pen.	-	-	-	-
Fillet welds	no min.	no max.	-	-

**DIAMETER RANGE QUALIFIED (mm)**



	As-welded		With PWHT	
	Min.	Max.	Min.	Max.
Nominal pipe size	610,	no max.	-	-

**FILLER METALS**

	SFA	Classification	F-no.	A-no.	Chemical analysis or Trade name	As-welded		With PWHT	
						Min.	Max.	Min.	Max.
GMAW	5.18	E70C-6MH4	6	-	Lincoln, Outershield MC715-H	3,	no max.	-	-
Sup. filler	-	-	-	-	-	- None -			

**WELDING PROCEDURE**

Welding process	GMAW	
Type	Semi-automatic	
Minimum preheat/interpass temperature (°C)	10	
Maximum interpass temperature (°C)	188	
Filler metal size (mm)	1,2	
Layer number	All	
Position	V	
Weld progression	Uphill	
Current/polarity	DCEP (reverse polarity)	
Waveform control		
Energy (J)		
Power (J/s)		
Amperes	127 - 157	
Volts	14,7 - 17,1	
Travel speed (mm/min)	54 - 112	
Maximum heat input (kJ/mm)	1,88	
Wire feed speed (m/min)	0,	
Arc transfer mode	Short-circuiting	
Shielding: Gas type	AC-20 (A5.32 SG-)	
Flow rate (l/min)	12 - 22	
Trailing: Gas type	None	
Flow rate (l/min)	-	
Backing: Gas type	None	
Flow rate (l/min)	-	
String or weave	Stringer or Weave	
Orifice/gas cup size	15	
C.T.W.D (mm)	15	
Multi/Single pass per side	Multiple passes	
Multi/single electrode	Single electrode	
Maximum pass thickness (mm)	5	
Weld deposit chemistry	-	
Notes		

	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec 2012	
SIGN: 	





WPS record number	S2400	Revision 0	Qualified to	AWS D1.1/D1.1M:2010
Date	14-6-2012		Company name	Airpack Netherlands BV

**PREHEAT TABLE**

Applicable standard	
AWS D1.1 (Category A)	For thickness 3 to 19(mm): 0(°C). Preheat to 20(°C) if the base metal temperature is below 0(°C). Over 19 thru 38.1(mm): 66(°C). Over 38.1 thru 63.5(mm): 107(°C). Over 63.5(mm): 150(°C).

**TECHNIQUE**

Peening	Not used
Surface preparation	Grinding
Initial/interpass cleaning	Brushing and Grinding
Back gouging method	None

**NOTES**

<b>NARGAN COMPANY</b>	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13/Dec./2023	
SIGN:	

**Signature 1**

**Signature 2**

Name	Signature	Name	Signature
Date		Date	

Arjan Roza Lastechniek  
 G. Sterkenburgstraat 38  
 4268 GS MEEUWEN

Date(s) tested : 13-12-2022  
 Date reported : 13-12-2022  
 Element report number : ARJ001-22-12-53197-6

Customer reference : ARL2717

### TEST REPORT

### WELDERS PERFORMANCE QUALIFICATION TEST RECORD

Testing in accordance with : AWS D1.1:2020  
 Purchaser : Arjan Roza Lastechniek BV  
 Purchase order no. : ARL2717

Manufacturer : Airpack Nederland BV.  
 WPS : S2400

Description of sample(s) : Plate with filletweld multipass  
 Dimension(s) : 380x150x20 mm  
 Group number : II -II  
 Material grade : API 2W grade 50 - API 2W grade 50

Welding process(es) : GMAW (metal cored)  
 Filler : SFA 5.18 : E70C-6MH4, F-number 6  
 Brand and type : Lincoln Electric Outershield MC715-H  
 Shielding gas : AC-20 (A5.32 SG-)  
 Backing gas : N.A.

Welding position : 3Fu  
 Preheat / Interpass temp. : 10 °C / 188 °C  
 Joint type : Fillet weld

#### Welder/Operator

Numbers(s)	Welder(s)	Specimen	Results
ARL2717-6	Berrevoets A.	53197-6 / 1,2	Acceptable
ARL2717-7	Wesdorp J.	53197-7 / 1,2	Acceptable

NARGAN COMPANY	
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BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: 	

### FILLET WELD BREAK TEST

Test method: AWS D1.1			Test temperature: R.T.
Specimen	Qty	Results	Remark
53197-6 / 1	1x	No weld defects observed.	Acceptable
53197-7 / 1	1x	No weld defects observed.	Acceptable

### MACRO EXAMINATION

Method: ASTM E3			Magnification: 5x	
Specimen	Qty	Etchant:	Observations:	Result
53197-6 / 2	1x	Nital	No significant inclusions or other defects	Acceptable
53197-7 / 2	1x	Nital	No significant inclusions or other defects	Acceptable

The above mentioned items satisfy the requirements.



Witnessed  Reviewed  
 And found to comply with:  
 Date: 2022-12-21  
 Sign: M. van Ginneken

### Element Materials Technology

All characteristics of the above object(s) have, as far as accessible and relevant, been verified by Element Materials Technology Rotterdam b.v. (Element). Other information was provided by the purchaser. This information was verified as far as possible and has been copied into this report, unchanged. Element does not bear responsibility for the correctness of this submitted information. Any kind of "witnessing" and conclusions by a third party is not covered by the RVA accreditation L063 and is no part of the Element report. We hereby certify that the reported test data is correct and that the above object(s) was (were) tested/examined in accordance with purchaser's requirements and/or the above procedure(s) and/or code(s)/specification(s). If a declaration of conformity is issued in the report with regard to compliance with a specification or standard, this declaration is only applicable to the product(s) examined. In this assessment, the decision rule is applied that assumes that the expanded measurement uncertainty is not included in the assessment. Unless otherwise stated in the test standard or accreditation rules, the rounding rule according to ISO 80000-1 Annex A Rule B is used. On occasion a test is subcontracted by Element, the accreditation number of the subcontracted party is reported. Interpretations, opinions, conclusions and advice are partly based on the examination results and partly on information supplied by the purchaser. This report has legal value only when furnished with an authorized signature. If, upon reproduction, only part of this report is copied, Element will not bear any responsibility for content, purport and conclusions of that reproduction.

NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI	DATE: 13 Dec. 2023
SIGN: <i>M. Rezaei</i>	



300 MM Plate



M-System: Certification as per ISO 9001

2/ Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

INSPECTION CERTIFICATE 3.2 AS PER EN 10204:2004  
 INSPECTION REPORT 3.2 AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

5 Established inspecting body LR  
 A06 Purchaser AM PROJECTS, HEIJNING A071 No 3200019765  
 Final receiver AM PROJECTS, ROTTERDA A072 No.

2/ Steel design 2W-50-MOD  
 3 Any suppl requirements API-2W:06+OPTION-S1;S3;S4;S5;S8;S10;S12  
 AGREED MODIFICATIONS

**B01-B99 Description of the product**

14 B08 Item No.	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
1	30,00	X 2500	X 12000	7065	TM	362704	730557-02	
1	30,00	X 2500	X 12000	7065	TM	362705	730556-01	
1	30,00	X 2500	X 12000	7065	TM	362705	730556-02	
3				21195				
3				21195				

**B06 Marking of the product**  
 ITEM NO.: 04  
 STEEL DESIGNATION S355G10+M API 2W 50 Z LS MOD  
 TRADE MARK / ROLLED PLATE NO. - TEST NO. / INSPECTOR'S STAMP

**C10-C29 Tensile test**

14 B07.2 Item No.	B07.1 Rol.plate/ Test No.	B05 Reference (heat) treatment	C01 C02/ C03 C01 Temp. GR.C	C10 C11 MPA RP02	C12 C13 RM	A % LO=5D	A % LO=8IN	REH/RM	RP02/RM	Z %
362704	730557		K4 Q0 RT	449 468	537	29	27	0,87	0,83	70,7
			K2 Q0 RT	444 451	535		28			77,2
			F2 Q0 RT	454 473	537					76,2
			K2 S0 RT		516					74,4
			K2 S0 RT		518					70,0
			K2 S0 RT		511					68,0
			F2 S0 RT		525					
			F2 S0 RT		528					
			F2 S0 RT		528					

2012/02/203 We hereby certify with the terms of the certificate that the above mentioned materials have been delivered in accordance with the terms of the certificate.

TFK Manufacturer's name

GTS Industries - Groupe Dillinger Hütte  
 Port 3032  
 3032 rue du Comte Jean - CS 56317  
 F-59379 Dunkerque Cedex 1 - FRANCE  
 Service Qualité-Essais  
 Date 05.09.11

POISSONNET Test House Manager

Inspector

CONTROL NUMBERS  
 DNK 118134

Lloyd's Register

NARGAN COMPANY SECTION

REVISION WITH COMMENTS RELIABLE DATE: 13 Dec 2009

BY: [Signature] DATE: 13 Dec 2009











DILLINGER HÜTTE

M-System: Certification as per ISO 9001

Überprüfen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

INSPECTION CERTIFICATE 3.2 AS PER EN 10204:2004

INSPECTION REPORT 3.2 AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

A10 Advice of dispatch No / Date of dispatch: 2378342-02.09.11

A08/ Manufacturer's order/ A03 Certificate No: 366375-002

Sheet: 5/...

Established inspecting body: A06 Purchaser: AM PROJECTS, HEIJNING A07.1 No. 3200019765

LR: Final receiver: AM PROJECTS, ROTTERDA A07.2 No.

Steel design: 2W-50-MOD

Any suppl. requirements: API-2W:06+OPTION-S1;S3;S4;S5;S8;S10;S12

AGREED MODIFICATIONS

B01 Product: HOT ROLLED PLATES

C70-C99 Chemical composition % - Heat analysis

Table with columns: Element, C70, Ti, PB, B, SB, CA, BI, AL-T. Values for C, Mn, P, S, Ni, Mo, Cu, V, Nb, Ti, B.

C94 Heat analysis Carbon equivalent / Alloying restrictions

Table with columns: Element, C94, FO-02, FO-31, FO-51, FO-52. Values for C, Mn, P, S, Ni, Mo, Cu, V, Nb, Ti, B.

C95 Ladle treatment

ITEM NO.: 04
TREATMENT OF THE INDICATED ITEM: VACUUM DEGASSED

C70-C99 Chemical composition % - Product analysis

Table with columns: Element, C70-C99, C, Si, Mn, P, S, N, Ni, Mo, Cu, V, Nb, Ti, B. Values for C, Si, Mn, P, S, N, Ni, Mo, Cu, V, Nb, Ti, B.

C94 Product analysis Carbon equivalent / Alloying restrictions

Table with columns: Element, C94, FO-02, FO-31, FO-51, FO-52. Values for C, Mn, P, S, Ni, Mo, Cu, V, Nb, Ti, B.

above mentioned materials have been delivered in accordance



Manufacturer's

GTS Industries - Groupe Dillinger Hütte
Port 3032
3032 rue du Comte Jean - CS 56317
F-59379 Dunkerque Cedex 1 - FRANCE
Service Qualité-Essais
Date 05.09.11

CONTROL NUMBER: DNK110954
Lloyds Register
INSPECTION

REVISION: 01
WITNESSED BY:
RELEASED BY:
SIGNATURE:
DATE: 13 Dec 2003

INSPECTION
NARGAN COMPANY



V-System: Certification as per ISO 9001

Unterlagen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

INSPECTION CERTIFICATE 3.2 AS PER EN 10204:2004

INSPECTION REPORT 3.2 AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

A10	Advice of dispatch No./ Date of dispatch	2378342-02.09.11
A08/ A03	Manufacturer's order/ Certificate No.	366375-002

B01	Product	HOT ROLLED PLATES
-----	---------	-------------------

5	Established Inspecting body	A06 Purchaser	AM PROJECTS, HEIJNING	A07.1 No.	3200019765
LR	Final receiver	AM PROJECTS, ROTTERDA	A07.2 No.		

2/ Steel design. 2W-50-MOD

3 Any suppl. requirements API-2W:06+OPTION-S1;S3;S4;S5;S8;S10;S12

AGREED MODIFICATIONS

C94 Carbon equivalent formula / Alloying restrictions

- 02 = C+(MN/6) + (CR+MO+V) / 5+ (NI+CU) / 15
- 31 = C+SI/30+ (MN+CR+CU) / 20+MO/15+V/1.0+NI/60+5B
- 51 = V +NB
- 52 = V +NB+TI
- A1 = AT/N

D01 Marking and identification, surface appearance, shape and dimensional properties

TEM NO.: 04

RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS

RFACE AS PER EN-10163-A3

THICKNESS AS PER EN-10029:91-A

LENGTH AND WIDTH AS PER EN-10029:91

QUALITY AS PER EN-10029:91-T4L

D02 Non-destructive tests - Ultrasonic testing

TEM NO.: 04

UNSPECIFICATION : EN 10160 KLASSE S1/E2 AND API 2W APPENDIX A SUPPLEMENTARY REQUIREMENTS S1

WELDING PLAN BODY : LONGITUDINALLY SCAN LINES SPACING 75 MM

EDGES : 100 MM

PERSONNEL QUALIFICATION : LEVEL 2 IN ACC. TO EN 473 AND SNT-TC-1A

THE TEST RESULTS MEET THE REQUIREMENTS OF THE ORDER.

REV	DATE	BY

DATE: 23 Dec 2003

above mentioned materials have been delivered in accordance

Lloyd's Register  
CONTROL NUMBER  
ENK 100734  
Inspector

POISSONNET  
Test House Manager

TFK  
Manufacturer's

GTS Industries - Groupe Dillinger Hütte  
Port 3032  
3032 rue du Comte Jean - CS 56317  
F-59379 Dunkerque Cedex 1 - FRANCE  
Service Qualité-Essais  
Date 05.09.11

Welder's name	Wesdorp J.	Test date	28-11-2022
ID Number	Verified by DNV	WPQ record number	A1153205-2-62
Date of birth	12-9-1996	Standard test number	N.A.
Stamp number	JW	WPS record number	S2400
Company name	Airpack Netherlands BV	Qualification code	AWS D1.1:2020
Division	N.A.		

**BASE METALS**

	Product form	Specification (type or grade)	P no.	Grp-no.	Size	Sch.	Thick. (mm)	Dia. (mm)
Welded to:	Plate	API 2H (50)	U	II	-	-	20	-
	Plate	API 2H (50)	U	II	-	-	20	-
Joint type	Fillet							

**VARIABLES**

	Actual values	RANGE QUALIFIED
Type of weld joint	Plate - Fillet	Fillet welds
Base metal	Group II to Group II	Carbon and Low-Alloy Steel
<b>BASE METAL THICKNESS</b>	<b>Groove</b>	<b>Fillet</b>
Plate thickness (mm)	-	20
Pipe/tube thickness (mm)	-	-
Pipe size (mm)	-	-
		3 min.
		3 min.
		600 min.

**PROCESS VARIABLES**

	Actual values	RANGE QUALIFIED
Welding process	GMAW	GMAW
Type	Semi-automatic	Semi-Automatic, Machine, Automatic
Backing	With	With
Filler metal specification	5.18	A5.xx
Filler metal classification	E70C-6MH4	All
Weld position (Actual position tested)	3F	F.H,V
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	Spray	Spray, pulse, globular
Shielding gas/flux	AC-20	A5.xx approved

**TESTS**

Type of test	Acceptance criteria	Result	Comments
Visual examination per clause 4.9.1	clause 4.9.1.2.	Acceptable	ARL 2717
1x Break test acc. clause 4.31.4	4.31.4.1	Acceptable	-
1x macroscopic examination acc. clause 4.31.2.3	clause 4.31.2.3	Acceptable	-

Notes

**CERTIFICATION**

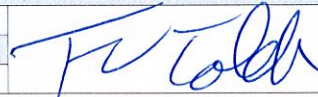

Tests conducted by	Maik van den Branden	Laboratory test number	Report ARJ001-22-12-53197-6
Mechanical tests by	Element Breda (NLD)	Test file number	ARL2717

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.

<b>NARGAN COMPANY</b>	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: 	

**Signature 1**

**Signature 2**

Name	Signature	Name	Signature
F. van Toledo		M. van Ginneken DNV	
Date		Date	
19-12-2022		19-12-2022	

<input type="checkbox"/> Witnessed <input checked="" type="checkbox"/> Reviewed And found to comply with: Date: 2022-12-21 Sign: M. van Ginneken
--



WPS record number	S2400	Revision 0	Qualified to	AWS D1.1/D1.1M:2010
Date	14-6-2012		Company name	Airpack Netherlands BV
Supporting PQR(s)	RET 0245029-001-26 - Rev 1			
Reference docs.				

Scope	Filletwelds single layer a <= 6 mm and multi layer filletwelds => 8 mm Fillet, no PWHT (As-welded)
Joint	Joint details for this welding procedure specification in: Production drawings

**BASE METALS**

Type	Plate	P-no. U	Grp-no. II
Welded to	Plate	P-no. U	Grp-no. II
Backing:	None	P-no.	Grp-no.
Retainers	None		
Notes			

**THICKNESS RANGE QUALIFIED (mm)**

	As-welded		With PWHT	
	Min.	Max.	Min.	Max.
Complete pen.	-	-	-	-
Impact tested	-	-	-	-
Partial pen.	-	-	-	-
Fillet welds	no min.	no max.	-	-

**DIAMETER RANGE QUALIFIED (mm)**

	As-welded		With PWHT	
	Min.	Max.	Min.	Max.
Nominal pipe size	610,	no max.	-	-

**FILLER METALS**

	SFA	Classification	F-no.	A-no.	Chemical analysis or Trade name	As-welded		With PWHT	
						Min.	Max.	Min.	Max.
GMAW	5.18	E70C-6MH4	6	-	Lincoln, Outershield MC715-H	3,	no max.	-	-
Sup. filler	-	-	-	-	-	- None -			

**WELDING PROCEDURE**

	GMAW
Welding process	Semi-automatic
Type	10
Minimum preheat/interpass temperature (°C)	188
Maximum interpass temperature (°C)	1,2
Filler metal size (mm)	All
Layer number	V
Position	Uphill
Weld progression	DCEP (reverse polarity)
Current/polarity	
Waveform control	
Energy (J)	
Power (J/s)	
Amperes	127 - 157
Volts	14,7- 17,1
Travel speed (mm/min)	54 - 112
Maximum heat input (kJ/mm)	1,88
Wire feed speed (m/min)	0,
Arc transfer mode	Short-circuiting
Shielding: Gas type	AC-20 (A5.32 SG-)
Flow rate (l/min)	12 - 22
Trailing: Gas type	None
Flow rate (l/min)	-
Backing: Gas type	None
Flow rate (l/min)	-
String or weave	Stringer or Weave
Orifice/gas cup size	15
C.T.W.D (mm)	15
Multi/Single pass per side	Multiple passes
Multi/single electrode	Single electrode
Maximum pass thickness (mm)	5
Weld deposit chemistry	-
Notes	

<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec 2022	
SIGN:	



WPS record number	S2400	Revision 0	Qualified to	AWS D1.1/D1.1M:2010
Date	14-6-2012		Company name	Airpack Netherlands BV

**PREHEAT TABLE**

Applicable standard	
AWS D1.1 (Category A)	For thickness 3 to 19(mm): 0(°C). Preheat to 20(°C) if the base metal temperature is below 0(°C). Over 19 thru 38.1(mm): 66(°C). Over 38.1 thru 63.5(mm): 107(°C). Over 63.5(mm): 150(°C).

**TECHNIQUE**

Peening	Not used
Surface preparation	Grinding
Initial/interpass cleaning	Brushing and Grinding
Back gouging method	None

**NOTES**

<b>NARGAN COMPANY</b>	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13/Dec./2023	
SIGN:	

**Signature 1**

**Signature 2**

Name	Signature	Name	Signature
Date		Date	

Arjan Roza Lastechniek  
 G. Sterkenburgstraat 38  
 4268 GS MEEUWEN

Date(s) tested : 13-12-2022  
 Date reported : 13-12-2022  
 Element report number : ARJ001-22-12-53197-6  
 Customer reference : ARL2717

**TEST REPORT**

**WELDERS PERFORMANCE QUALIFICATION TEST RECORD**

Testing in accordance with : AWS D1.1:2020  
 Purchaser : Arjan Roza Lastechniek BV  
 Purchase order no. : ARL2717

Manufacturer : Airpack Nederland BV.  
 WPS : S2400

Description of sample(s) : Plate with filletweld multipass  
 Dimension(s) : 380x150x20 mm  
 Group number : II -II  
 Material grade : API 2W grade 50 - API 2W grade 50

Welding process(es) : GMAW (metal cored)  
 Filler : SFA 5.18 : E70C-6MH4, F-number 6  
 Brand and type : Lincoln Electric Outershield MC715-H  
 Shielding gas : AC-20 (A5.32 SG-)  
 Backing gas : N.A.

Welding position : 3Fu  
 Preheat / Interpass temp. : 10 °C / 188 °C  
 Joint type : Fillet weld

Welder/Operator

Numbers(s)	Welder(s)	Specimen	Results
ARL2717-6	Berrevoets A.	53197-6 / 1,2	Acceptable
ARL2717-7	Wesdorp J.	53197-7 / 1,2	Acceptable

NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. van Ginneken	DATE: 13 Dec. 2022
SIGN: 	

 Witnessed  Revis   
 And found to comply with:  
 Date: 2022-12-21.  
 Sign: M. van Ginneken



**FILLET WELD BREAK TEST**

Test method: AWS D1.1			Test temperature: R.T.
Specimen	Qty	Results	Remark
53197-6 / 1	1x	No weld defects observed.	Acceptable
53197-7 / 1	1x	No weld defects observed.	Acceptable

**MACRO EXAMINATION**

Method: ASTM E3			Magnification: 5x	
Specimen	Qty	Etchant:	Observations:	Result
53197-6 / 2	1x	Nital	No significant inclusions or other defects	Acceptable
53197-7 / 2	1x	Nital	No significant inclusions or other defects	Acceptable

The above mentioned items satisfy the requirements.



**Element Materials Technology**

All characteristics of the above object(s) have, as far as accessible and relevant, been verified by Element Materials Technology Rotterdam b.v. (Element). Other information was provided by the purchaser. This information was verified as far as possible and has been copied into this report, unchanged. Element does not bear responsibility for the correctness of this submitted information. Any kind of "witnessing" and conclusions by a third party is not covered by the RVA accreditation L063 and is no part of the Element report. We hereby certify that the reported test data is correct and that the above object(s) was (were) tested/examined in accordance with purchaser's requirements and/or the above procedure(s) and/or code(s)/specification(s). If a declaration of conformity is issued in the report with regard to compliance with a specification or standard, this declaration is only applicable to the product(s) examined. In this assessment, the decision rule is applied that assumes that the expanded measurement uncertainty is not included in the assessment. Unless otherwise stated in the test standard or accreditation rules, the rounding rule according to ISO 80000-1 Annex A Rule B is used. On occasion a test is subcontracted by Element, the accreditation number of the subcontracted party is reported. Interpretations, opinions, conclusions and advice are partly based on the examination results and partly on information supplied by the purchaser. This report has legal value only when furnished with an authorized signature. If, upon reproduction, only part of this report is copied, Element will not bear any responsibility for content, purport and conclusions of that reproduction.

NARGAN COMPANY	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: <i>M. Rezaei</i>	



## M-System: Certification as per ISO 9001

21/ Steel design **2W-50-MOD**

3 Any suppl requirements **API-2W: 06+OPTION-S1; S3; S4; S5; S8; S10; S12**  
**AGREED MODIFICATIONS**

5 Established inspecting body **A06 Purchaser AM PROJECTS, HEIJNING A07 1 No 3200019765**  
**LR Final receiver AM PROJECTS, ROTTERDA A07 2 No.**

A10 Advice of dispatch No./ Date of dispatch **2378342-02.09.11**

A08/ Manufacturer's order/ A03 Certificate No. **366375-002**

B01 Product **HOT ROLLED PLATES**

Sheet **1/...**

### B01-B99 Description of the product

14 B08 Am No. of pieces	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
1	30,00	x 2500	x 12000	7065	TM	362704	730557-02	
1	30,00	x 2500	x 12000	7065	TM	362705	730556-01	
1	30,00	x 2500	x 12000	7065	TM	362705	730556-02	
3				21195				
3				21195				

### B06 Marking of the product

ITEM NO.: 04

STEEL DESIGNATION **S355G10+M API 2W 50 Z LS MOD**

MARKING / TRADEMARK / ROLLED PLATE NO.-TEST NO. / INSPECTOR'S STAMP

### C10-C29 Tensile test

14 B07.2 Am Heat No.	B07.1 Rol.plate/ Test No.	B05 Reference (heat) treatment	C01 C02/ C03 C01 Temp. G.R.C.	C10 C11 MPA RP02	C12 C13 RM	A % LO=5D	A % LO=8IN	C14-C15 REH/RM RP02/RM	Z %
362704	730557		K4 Q0 RT	449	537	29	27	0,87 0,83	70,7
			K2 Q0 RT	444	535		28		77,2
			F2 Q0 RT	454	537				76,2
			K2 SO RT		516				74,4
			K2 SO RT		518				70,0
			K2 SO RT		511				68,0
			F2 SO RT		525				
			F2 SO RT		528				
			F2 SO RT		528				

201Z02Z03 We hereby certify with the terms of the certificate that the above mentioned materials have been delivered in accordance with the terms of the certificate.

**TFK** Manufacturer's

INSPECTION

REVIEWED BY: [Signature]

DATE: 13 Dec 2011

BY: [Signature]

DATE: 13 Dec 2011

CONTROL NUMBER: DNK 110134

Inspector: [Signature]

POISSONNET Test House Manager

GTS Industries - Groupe Dillinger Hütte  
Port 3032  
3032 rue du Comte Jean - CS 56317  
F-59379 Dunkerque Cedex 1 - FRANCE  
Service Qualité-Essais

Date: 05.09.11

CD 1







M-System: Certification as per ISO 9001

Erklärungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

INSPECTION CERTIFICATE 3.2 AS PER EN 10204:2004  
INSPECTION REPORT 3.2 AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

A10 Advice of dispatch No./ Date of dispatch  
2378342-02.09.11

A08/ Manufacturer's order/ A03 Certificate No.  
366375-002

Sheet  
4/...

Established inspecting body A06 Purchaser AM PROJECTS, HEIJNING A07.1 No. 3200019765  
LR Final receiver AM PROJECTS, ROTTERDA A07.2 No.

Steel design. 2W-50-MOD  
Any suppl. API-2W:06+OPTION-S1;S3;S4;S5;S8;S10;S12 requirements AGREED MODIFICATIONS

B01 Product  
HOT ROLLED PLATES

C40-C49 Impact test

14	B07.2 Heat No.	B05 Reference (heat) treatment	C01	C02/ C01	C03 GR.C	C41 Width of test piece	C40 Type of test piece	C44 Testing method	C46 Energy Joule	C45 AV=J	Individual values	C43 Mean value
	362704	K4 QX	K4	QX	-40	CHP-V	CHP-V	600	AV 213	233	219	222
		K4 QM	K4	QM	-40	CHP-V	CHP-V	600	AV 161	206	171	179
		K4 QV	K4	QV	-40	CHP-V	CHP-V	600	AV 229	234	205	223
		K2 QX	K2	QX	-40	CHP-V	5, 0%-250C/60MN	600	AV 110	120	112	114
	362705	K4 QX	K4	QX	-40	CHP-V	CHP-V	600	AV 230	211	218	220
		K4 QM	K4	QM	-40	CHP-V	CHP-V	600	AV 136	133	142	137
		K4 QV	K4	QV	-40	CHP-V	CHP-V	600	AV 236	222	234	231
		K2 QX	K2	QX	-40	CHP-V	5, 0%-250C/60MN	600	AV 198	217	219	211

C66-C68 Supplementary tests on test samples

TEM NO.: 04  
TOP WEIGHT TEST (PELLINI)  
7.2 B07.1 RESULT  
2704 730557 T -35,0 C : NO BREAK  
2705 730556 T -35,0 C : NO BREAK  
TEM NO.: 04  
REP ETCH TESTING AS PER DH-STANDARD <=2B : SATISFACTORY

C70-C99 Chemical composition % - Heat analysis

07.2	C70	C	SI	MN	P	S	N	CU	MO	NI	CR	V	NB	AS	SN
2704	Y	0,081	0,384	1,54	0,013	0,0008	0,0047	0,040	0,013	0,064	0,038	0,001	0,020	0,002	0,001
2705	Y	0,081	0,381	1,54	0,014	0,0007	0,0038	0,039	0,022	0,058	0,036	0,001	0,019	0,003	0,001

REVIEWED	<input type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. B. / 13 Dec 2003	
SIGN:	

2011/202/203 We hereby certify that the above mentioned materials have been delivered in accordance with the terms of order.

TFK  
Manufacturer's

POISSONNET  
Test House Manager

GTS Industries - Groupe Dillinger Hütte  
Port 3032  
3032 rue du Comte Jean - CS 56317  
F-59379 Dunkerque Cedex 1 - FRANCE  
Service Qualité-Essais  
Date 05.09.11





M-System: Certification as per ISO 9001

Änderungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

INSPECTION CERTIFICATE 3.2 AS PER EN 10204:2004  
INSPECTION REPORT 3.2 AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

A10 Advice of dispatch No./  
Date of dispatch  
2378342-02.09.11

A08/ Manufacturer's order/  
A03 Certificate No.  
366375-002

Sheet  
6

Established inspecting body A08 Purchaser AM PROJECTS, HEIJNING A07.1 No. 3200019765  
LR Final receiver AM PROJECTS, ROTTERDA A07.2 No.

2/ Steel design. 2W-50-MOD  
API-2W:06+OPTION-S1;S3;S4;S5;S8;S10;S12  
3 Any suppl. requirements AGREED MODIFICATIONS

C94 Carbon equivalent formula / Alloying restrictions

- 02 = C + (MN/6) + (CR+MO+V) / 5 + (NI+CU) / 15
- 31 = C+SI / 30 + (MN+CR+CU) / 20 + MO / 15 + V / 10 + NI / 60 + 5B
- 51 = V +NB
- 52 = V +NB+TI
- A1 = AT/N

D01 Marking and identification, surface appearance, shape and dimensional properties

ITEM NO.: 04  
RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS  
SURFACE AS PER EN-10163-A3  
THICKNESS AS PER EN-10029:91-A  
LENGTH AND WIDTH AS PER EN-10029:91  
FINISH AS PER EN-10029:91-T4L

D02 Non-destructive tests - Ultrasonic testing

ITEM NO.: 04  
SPECIFICATION : EN 10160 KLASSE S1/E2 AND API 2W APPENDIX A SUPPLEMENTARY REQUIREMENTS S1  
WANNING PLAN BODY : LONGITUDINALLY SCAN LINES SPACING 75 MM  
EDGES : 100 MM  
PERSONNEL QUALIFICATION : LEVEL 2 IN ACC. TO EN 473 AND SNT-TC-1A  
THE TEST RESULTS MEET THE REQUIREMENTS OF THE ORDER.

REVIEWED	BY: MARGAN	DATE: 13 Dec 2003
WITNESSED		
RELEASED		
SIGNATURE		

TFK  
Manufacturer's mark

Z01/Z02/Z03 We hereby certify that the above mentioned materials have been delivered in accordance with the terms of the order.

Lloyd's Register  
CONTROL NUMBER  
DNK 110054  
Inspector: SHELL

POISSONNET  
Test House Manager

GTS Industries - Groupe Dillinger Hütte  
Port 3032  
3032 rue du Comte Jean - CS 56317  
F-59379 Dunkerque Cedex 1 - FRANCE  
Service Qualité-Essais  
Date 05.09.11



Welder's name	Berrevoets A.	Test date	28-11-2022
ID Number	Verified by DNV	WPQ record number	A1153205-2-63
Date of birth	27-3-1968	Standard test number	N.A.
Stamp number	BA	WPS record number	S2600
Company name	Airpack Netherlands BV	Qualification code	AWS D1.1:2020
Division	N.A.		

**BASE METALS**

	Product form	Specification (type or grade)	P no.	Grp-no.	Size	Sch.	Thick. (mm)	Dia. (mm)
Welded to:	Plate	API 2H (50)	U	II	-	-	20	-
	Plate	API 2H (50)	U	II	-	-	20	-
Joint type	Groove							

**VARIABLES**

Type of weld joint	Plate - Groove	Groove, Fillet, Plug and Slot welds ( T-,Y-,K-Groove PJP only)
Base metal	Group II to Group II	Carbon and Low-Alloy Steel

**BASE METAL THICKNESS**

		Groove	Fillet	Groove	Fillet
Plate thickness (mm)		20	-	3 - 40,0	3 min.
Pipe/tube thickness (mm)		-	-	3 - 40,0	no limit
Pipe size (mm)		-	-	600 min.	no limit

**PROCESS VARIABLES**

	Actual values	RANGE QUALIFIED
Welding process	GMAW	GMAW
Type	Semi-automatic	Semi-automatic, Machine, Automatic
Backing	With	With
Filler metal specification	5.18	A5.xx
Filler metal classification	E70C-6MH4	All
Weld position (Actual position tested)	2G	
Groove - Plate & Pipe >= 610mm		F,H
Groove - Pipe 73mm to 610mm		-
Groove - Pipe < 73mm		-
Fillet - Plate & Pipe >= 610mm		F,H
Fillet - Pipe 73mm to 610mm		F,H
Fillet - Pipe < 73mm		F,H
Progression	-	-
GMAW transfer mode	Short-circuiting	Short-circuiting
Shielding gas/flux	AC-20	A5.xx approved

**TESTS**

Type of test	Acceptance criteria	Result	Comments
2 transverse side bends acc. clause 4.9.3.1 Visual examination per clause 4.9.1	clause 4.9.3.3 clause 4.9.1.1	Acceptable Acceptable	- Report ARL2717

Notes

**CERTIFICATION**

Tests conducted by	Maik van den Branden	Laboratory test number	Report ARJ001-22-53197-3
Mechanical tests by	Element Breda (NLD)	Test file number	ARL2717

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
F. van Toledo	
Date	19-12-2022

**Signature 2**

Name	Signature
M. van Ginneken DNV	
Date	19-12-2022





WPS record number	S2600	Revision 1	Qualified to	AWS D1.1/D1.1M:2015
Date	1-6-2016		Company name	Airpack Netherlands BV
Supporting PQR(s)	RET0278790/TK/001 - Rev 1			
Reference docs.				

Scope	Groove, fillet, no PWHT (As-welded), impact testing
Joint	Joint details for this welding procedure specification in: Production drawings

**BASE METALS**

Type	Plate	P-no. U	Grp-no. II
Welded to	Plate	P-no. U	Grp-no. II
Backing:	None	P-no.	Grp-no.
Retainers	None		
Notes			

**THICKNESS RANGE QUALIFIED (mm)**

	As-welded		With PWHT	
	Min.	Max.	Min.	Max.
Complete pen.	3,	8,	-	-
Impact tested	3,	8,	-	-
Partial pen.	3,	8,	-	-
Fillet welds	no min.	no max.	-	-

**DIAMETER RANGE QUALIFIED (mm)**

	As-welded		With PWHT	
	Min.	Max.	Min.	Max.
Nominal pipe size	610,	no max.	-	-

**FILLER METALS**

	SFA	Classification	F-no.	A-no.	Chemical analysis or Trade name	As-welded		With PWHT	
						Min.	Max.	Min.	Max.
GMAW	5.18	E70C-6MH4	6	-	Lincoln, Outershield MC715-H	3,	8,	-	-
GMAW						-	-	-	-
GMAW						-	-	-	-
Sup. filler						- Required -			
Suppl. filler metal vol. (mm <sup>3</sup> )	-								

**THICKNESS RANGE QUALIFIED (mm)**

**WELDING PROCEDURE**

	GMAW	GMAW	GMAW
	Semi-automatic	Semi-automatic	Semi-automatic
Welding process	GMAW	GMAW	GMAW
Type	Semi-automatic	Semi-automatic	Semi-automatic
Minimum preheat/interpass temperature (°C)	10	10	10
Maximum interpass temperature (°C)	174	174	174
Filler metal size (mm)	1,2	1,2	1,2
Layer number	Root	Fill	Cap
Position	F,H	F,H	F,H
Weld progression	Not applicable	Not applicable	Not applicable
Current/polarity	DCEP (reverse polarity)	DCEP (reverse polarity)	DCEP (reverse polarity)
Waveform control	Not Used	Not Used	Not Used
Energy (J)	Not Used	Not Used	Not Used
Power (J/s)	Not Used	Not Used	Not Used
Amperes	80 - 100	175 - 185	175 - 185
Volts	14 - 17	19 - 21	10 - 21
Travel speed (mm/min)	110 - 120	460 - 500	440 - 470
Maximum heat input (kJ/mm)	0,57 - 0,70	0,40 - 0,49	0,44 - 0,53
Wire feed speed (m/min)	Not used	Not used	Not used
Arc transfer mode	Short-circuiting	Short-circuiting	Short-circuiting
Shielding: Gas type	AC-20 (A5.32 SG-)	AC-20 (A5.32 SG-)	AC-20 (A5.32 SG-)
Flow rate (l/min)	14 - 16	14 - 16	14 - 16
Trailing: Gas type	None	None	None
Flow rate (l/min)	-	-	-
Backing: Gas type	None	None	None
Flow rate (l/min)	-	-	-
String or weave	Stringer or Weave	Stringer or Weave	Stringer or Weave
Orifice/gas cup size	15	15	15
C.T.W.D (mm)	15	15	15
Multi/Single pass per side	Single pass	Multiple passes	Multiple passes
Multi/single electrode	Single electrode	Single electrode	Single electrode
Maximum pass thickness (mm)	5	5	5
Weld deposit chemistry	-	-	-
Notes			

NARGAN COMPANY	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec 2015	
SIGN: <i>M. Rezaei</i>	

WPS record number	S2600	Revision 1	Qualified to	AWS D1.1/D1.1M:2015
Date	1-6-2016		Company name	Airpack Netherlands BV

**PREHEAT TABLE**

Applicable standard	
AWS D1.1 (Category B)	For thickness 3 to 19(mm): 0(°C). Preheat to 20(°C) if the base metal temperature is below 0(°C). Over 19 thru 38.1(mm): 10(°C). Over 38.1 thru 63.5(mm): 66(°C). Over 63.5(mm): 107(°C).

**TECHNIQUE**


Peening	Not used
Surface preparation	Grinding
Initial/interpass cleaning	Brushing and Grinding
Back gouging method	None

**NOTES**

 NARGAN COMPANY	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13/Dec./2023	
SIGN: 	

**Signature 1**

**Signature 2**

Name	Signature	Name	Signature
F. van Toledo			
Date		Date	
1-6-2016			



Element Materials Technology  
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IBAN NL74ABNA0529117738  
BTW NL8056.95.333.B01  
KvK 24170257

Arjan Roza Lastechniek  
G. Sterkenburgstraat 38  
4268 GS MEEUWEN

Date(s) tested : 13-12-2022  
Date reported : 13-12-2022  
Element report number : ARJ001-22-12-53197-3

Customer reference : ARL2717

## TEST REPORT

### WELDERS PERFORMANCE QUALIFICATION TEST RECORD

Testing in accordance with : AWS D1.1:2020  
Purchaser : Arjan Roza Lastechniek BV  
Purchase order no. : ARL2717

Manufacturer : Airpack Nederland BV.  
WPS : S2600

Description of sample(s) : Plate with Single-V-groove  
Dimension(s) : 600x400x20 mm  
Group number : II -II  
Material grade : API 2W grade 50 - API 2W grade 50

Welding process(es) : GMAW (metal cored)  
Filler : SFA 5.18 : E70C-6MH4, F-number 6  
Brand and type : Lincoln Electric Outershield MC715-H  
Shielding gas : AC-20 (A5.32 SG-)  
Backing gas : N.A.

Welding position : 2G  
Preheat / Interpass temp. : 10 °C / 196 °C

Welder/Operator

Numbers(s)	Welder(s)	Specimen	Results
ARL2717-3	Berrevoets A.	53197-3 / 1,2,3,4	Acceptable

NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED with:	<input type="checkbox"/>
BY: M. REZAEI	DATE: 13 Dec 2022
Date: 13-12-2022	Sign: M. van Ginneken



ARJ001-22-12-53197-3  
page 1 of 2

**GUIDED BEND TEST**

Test method: ASME IX (QW-162)					Test temperature: R.T.		
Specimen	Type	Size [mm]	Former [mm]	Roller distance [mm]	Bend Angle [°]	Results	Remark
53197-3 / 1	Side bend	20x10	40	65	180	Acceptable	
53197-3 / 2	Side bend	20x10	40	65	180	Acceptable	



The above mentioned items satisfy the requirements.

**Element Materials Technology**

All characteristics of the above object(s) have, as far as accessible and relevant, been verified by Element Materials Technology Rotterdam b.v. (Element). Other information was provided by the purchaser. This information was verified as far as possible and has been copied into this report, unchanged. Element does not bear responsibility for the correctness of this submitted information. Any kind of "witnessing" and conclusions by a third party is not covered by the RVA accreditation L063 and is no part of the Element report. We hereby certify that the reported test data is correct and that the above object(s) was (were) tested/examined in accordance with purchaser's requirements and/or the above procedure(s) and/or code(s)/specification(s). If a declaration of conformity is issued in the report with regard to compliance with a specification or standard, this declaration is only applicable to the product(s) examined. In this assessment, the decision rule is applied that assumes that the expanded measurement uncertainty is not included in the assessment. Unless otherwise stated in the test standard or accreditation rules, the rounding rule according to ISO 80000-1 Annex A Rule B is used. On occasion a test is subcontracted by Element, the accreditation number of the subcontracted party is reported. Interpretations, opinions, conclusions and advice are partly based on the examination results and partly on information supplied by the purchaser. This report has legal value only when furnished with an authorized signature. If, upon reproduction, only part of this report is copied, Element will not bear any responsibility for content, purport and conclusions of that reproduction.

NARGAN COMPANY	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: 	



**M-System: Certification as per ISO 9001**

2/ **INSPECTION CERTIFICATE** 3.2 AS PER EN 10204:2004  
 3/ **INSPECTION REPORT** 3.2 AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

2/ Steel design **2W-50-MOD**  
 3/ Any suppl requirements **API-2W:06+OPTION-S1;S3;S4;S5;S8;S10;S12**  
**AGREED MODIFICATIONS**

5 Established inspecting body **AM PROJECTS, HEIJNING** A071 No **3200019765**  
 LR Final receiver **AM PROJECTS, ROTTERDA** A072 No.

A10 Advice of dispatch No./ Date of dispatch **2378342-02.09.11**  
 A08/ Manufacturer's order/ A03 Certificate No. **366375-002**  
 B01 Product **HOT ROLLED PLATES**  
 Sheet **1/...**

**B01-B99 Description of the product**

B08 Number of pieces	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
1	30,00	x 2500	x 12000	7065	TM	362704	730557-02	
1	30,00	x 2500	x 12000	7065	TM	362705	730556-01	
1	30,00	x 2500	x 12000	7065	TM	362705	730556-02	
3				21195				
3				21195				

**B06 Marking of the product**  
 ITEM NO.: 04  
 STEEL DESIGNATION **S355G10+M API 2W 50 Z LS MOD**  
 TRADE MARK / ROLLED PLATE NO. - TEST NO. / INSPECTOR'S STAMP

**C10-C29 Tensile test**

B07.2 Heat No.	B07.1 Rol. plate/ Test No.	B05 Reference (heat) treatment	C01 Temp. GR.C	C02/ C03	C10 MPA RP02	C11 REH	C12 RM	C13 A % L0=5D	C14-C15 REH/RM RP02/RM	Z %
362704	730557		K4 Q0	RT	449	468	537	29	0,87	0,83
			K2 Q0	RT	444	451	535	27		
			F2 Q0	RT	454	473	537	28		
			K2 SO	RT			516			70,7
			K2 SO	RT			518			77,2
			K2 SO	RT			511			76,2
			F2 SO	RT			525			74,4
			F2 SO	RT			528			70,0
			F2 SO	RT			528			68,0

above mentioned materials have been delivered in accordance

201202Z03 We hereby certify with the terms of

REVISED WITH EFFECT FROM RELEASE BY DATE: 13 Dec 2003

SECTION

NARGAN COMPANY

CONTROL NUMBER: DINK 1108154

Lloyd's Register

INSPECTOR: POISSONNET

Test House Manager

GTS Industries - Groupe Dillinger Hütte  
 Port 3032  
 3032 rue du Comte Jean - CS 56317  
 F-59379 Dunkerque Cedex 1 - FRANCE  
 Service Qualité-Essais

Date: 05.09.11

CD 1



DILLINGER HÜTTE

M-System: Certification as per ISO 9001

autorenngen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

2	INSPECTION CERTIFICATE 3.2 AS PER EN 10204:2004	A10	Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No	Sheet
	INSPECTION REPORT 3.2 AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		2378342-02.09.11	366375-002	2/...

5	Established Inspecting body	A06 Purchaser	AM PROJECTS, HEIJNING	A071 No.	3200019765
	L.R	Final receiver	AM PROJECTS, ROTTERDA	A072 No	

2/ Steel design 2W-50-MOD  
 3 Any suppl requirements AGREED MODIFICATIONS  
 API-2W: 06+OPTION-S1; S3; S4; S5; S8; S10; S12

C10-C29 Tensile test

14	B07.2	B07.1	B05	C01	C02/	C03	C10	C11	C12	C13	A	A	C14-C15	Z
Heat No.	Roll-plate/ Test No.	Reference (heat) treatment	C01	C02/	C03	C10	C11	MPA	RM		LO=5D	LO=8IN	REH/RM	RP02/RM
			GR.C	Temp.	RT	RT	RT	RP02			%	%	0,86	0,83
362705	730556				K4	QO	RT	450	537		29			
					K2	QO	RT	449	537			27		
					F2	QO	RT	452	540			24		
					K2	SO	RT		521					69,8
					K2	SO	RT		520					60,5
					K2	SO	RT		520					75,5
					F2	SO	RT		530					65,4
					F2	SO	RT		524					74,5
					F2	SO	RT		536					70,5

C30-C39 Further information about hardness test

TEM NO.:	B07.1	C33	C01	C02/C01	RESULTS	AVERAGE
17.2	2707	HV10	K9	QO	164/170/167/165	167
	2707	HV10	K9	QU	181/186/184/179	183
	2446	HV10	K9	QO	187/182/185/188	186
	2446	HV10	K9	QU	198/196/197/199	198
	2702	HV10	K9	QO	181/175/170/177	176
	2702	HV10	K9	QU	174/176/180/183	178
	2446	HV10	K9	QO	196/189/189/182	189
	2446	HV10	K9	QU	186/191/184/180	185

TEM NO.: 04

HARDNESS TEST INFORMATIVE

201202Z03 We hereby certify that the materials mentioned materials have been delivered in accordance with the terms of the contract.

**TFK** Manufacturer's mark

INSPECTION

NARGAN COMPANY

CONTROL NUMBER: 201202Z03

DATE: 05.09.11

POISSONNET Test House Manager

GTS Industries - Groupe Dillinger Hütte  
 Port 3032  
 3032 rue du Comte Jean - CS 56317  
 F-59379 Dunkerque Cedex 1 - FRANCE  
 Service Qualifié-Essais

Date 05.09.11





M-System: Certification as per ISO 9001

Erklärungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

INSPECTION CERTIFICATE 3.2 AS PER EN 10204:2004
INSPECTION REPORT 3.2 AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

Table with columns: A10 Advice of dispatch No./Date of dispatch, A08/ Manufacturer's order/ A03 Certificate No., Sheet

Established inspecting body A06 Purchaser AM PROJECTS, HEIJNING A07.1 No. 3200019765
L.R. Final receiver AM PROJECTS, ROTTERDA A07.2 No.

Steel design. 2W-50-MOD
Any suppl. API-2W:06+OPTION-S1;S3;S4;S5;S8;S10;S12
requirements AGREED MODIFICATIONS

C40-C49 Impact test

Table with columns: B05 Reference (heat) treatment, C01 C02/C01, C03 Temp. GR.C, C40 Type of test piece, C41 Width of test piece, C44 Testing method, C45 C42 Individual values AV=J, C46 Energy Joule, C43 Mean value

C66-C68 Supplementary tests on test samples

ITEM NO.: 04
TOP WEIGHT TEST (PELLINI)
7.2 B07.1 RESULT
2704 730557 T -35,0 C : NO BREAK
2705 730556 T -35,0 C : NO BREAK
ITEM NO.: 04
REP ETCH TESTING AS PER DH-STANDARD <=2B : SATISFACTORY

C70-C99 Chemical composition % - Heat analysis

Table with columns: C70, C, SI, MN, P, S, N, CU, MO, CR, NI, NB, V, AS, SN

REVISION CONTROL, NARGAN COMPANY, SECTION, WITNESSED BY, RELEASED BY, BY: M. HELMUT, DATE: 13 Dec. 2003, SIGN: [Signature]

CONTROL NUMBER, Lloyds Register, DNK110034, NARGAN COMPANY, Test House Manager, POISSONNET

GTS Industries - Groupe Dillinger Hütte
Port 3032
3032 rue du Comte Jean - CS 56317
F-59379 Dunkerque Cedex 1 - FRANCE
Service Qualité-Essais
Date 05.09.11



M-System: Certification as per ISO 9001

Untersuchungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

INSPECTION CERTIFICATE 3.2 AS PER EN 10204:2004
INSPECTION REPORT 3.2 AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

A10 Advice of dispatch No./ Date of dispatch 2378342-02.09.11
A08/ Manufacturer's order/ A03 Certificate No 366375-002

Sheet 5/...

Established inspecting body A06 Purchaser AM PROJECTS, HEIJNING A07.1 No 3200019765
LR Final receiver AM PROJECTS, ROTTERDA A07.2 No

Steel design 2W-50-MOD
Any suppl requirements API-2W:06+OPTION-S1;S3;S4;S5;S8;S10;S12
AGREED MODIFICATIONS

B01 Product
HOT ROLLED PLATES

C70-C99 Chemical composition % - Heat analysis

Table with columns: Test No., C70, TI, PB, B, SB, CA, BI, AL-T. Values for 2704 and 2705.

C94 Heat analysis Carbon equivalent / Alloying restrictions

Table with columns: Test No., C94, FO-02, FO-31, FO-51, FO-52. Values for 2704 and 2705.

C95 Ladle treatment

ITEM NO.: 04
AT OF THE INDICATED ITEM: VACUUM DEGASSED

C70-C99 Chemical composition % - Product analysis

Table with columns: Test No., C01, C, SI, MN, P, S, N, CU, MO, NI, CR, V, NB, TI, B. Values for 2704 and 2705.

C94 Product analysis Carbon equivalent / Alloying restrictions

Table with columns: Test No., C01, FO-31, FO-51, FO-52. Values for 2704 and 2705.

Control form with fields: REVIEWED, WITNESSED, RELEASED, DATE, SIGNATURE.



Manufacturer's

Z011Z02/Z03 We hereby certify that the above mentioned materials have been delivered in accordance with the terms of order

GTS Industries - Groupe Dillinger Hütte
Port 3032
3032 rue du Comte Jean - CS 56317
F-59379 Dunkerque Cedex 1 - FRANCE
Service Qualité-Essais
Date 05.09.11

Signature of POISSONNET, Test House Manager

### M-System: Certification as per ISO 9001

Autentizierungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

2/ INSPECTION CERTIFICATE 3.2 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION REPORT 3.2 AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		2378342-02.09.11	366375-002	6
5 Established Inspecting body	A06 Purchaser	B01 Product		
LR	Final receiver	HOT ROLLED PLATES		
	AM PROJECTS, HEIJNING	A07.1 No. 3200019765		
	AM PROJECTS, ROTTERDA	A07.2 No.		

2/ Steel design. 2W-50-MOD  
 3 Any suppl requirements AGREED MODIFICATIONS  
 API-2W:06+OPTION-S1;S3;S4;S5;S8;S10;S12

### C94 Carbon equivalent formula / Alloying restrictions

- 02 = C + (MN/6) + (CR+MO+V) / 5 + (NI+CU) / 15
- 31 = C+SI/30 + (MN+CR+CU) / 20 + MO/15 + V/10 + NI/60 + SB
- 51 = V +NB
- 52 = V +NB+TI
- A1 = AT/N

### D01 Marking and identification, surface appearance, shape and dimensional properties

EM NO.: 04  
 RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS  
 RFACE AS PER EN-10163-A3  
 THICKNESS AS PER EN-10029:91-A  
 NGTH AND WIDTH AS PER EN-10029:91  
 AITNESS AS PER EN-10029:91-T4L

### D02 Non-destructive tests - Ultrasonic testing

EM NO.: 04  
 -SPECIFICATION : EN 10160 KLASSE S1/E2 AND API 2W APPENDIX A SUPPLEMENTARY REQUIREMENTS S1  
 ANNING PLAN BODY : LONGITUDINALLY SCAN LINES SPACING 75 MM  
 EDGES : 100 MM  
 PERSONNEL QUALIFICATION : LEVEL 2 IN ACC. TO EN 473 AND SNT-TC-1A  
 (E TEST RESULTS MEET THE REQUIREMENTS OF THE ORDER.

REVIEWED	BY: MARGAN	DATE: 13 Dec 2003
WITNESSED	BY: MARGAN	DATE: 13 Dec 2003
RELEASED	BY: MARGAN	DATE: 13 Dec 2003
SIGNATURE		

above mentioned materials have been delivered in accordance

CONTROL NUMBER  
 DNK 110754  
 Inspector: MARGAN

Lloyd's Register

GTS Industries - Groupe Dillinger Hütte  
 Port 3032  
 3032 rue du Comte Jean - CS 56317  
 F-59379 Dunkerque Cedex 1 - FRANCE  
 Service Qualité-Essais

Date 05.09.11

POISSONNET  
 Test House Manager

Manufacturer's mark



# WPQ

# CS PIPING

	NARGAN COMPANY
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: 	

Welder's name	J. Wesdorp	Test date	1/14/2020
ID Number	5171457148	WPQ record number	A0790090-1
Date of birth	9-12-1996	Standard test number	N.A.
Stamp number	JW	WPS record number	P2250
Company name	Airpack Netherlands BV	Qualification code	ASME Section IX: 2019
Division			

**BASE METALS (QW-403)**

	Product form	Specification (type or grade)	P no.	Grp-no.	Size	Sch.	Thick. (mm)	Dia. (mm)
Welded to:	Pipe	SA-106 (B)	1	1	50,80	XS	5,54	60,33
	Pipe	SA-106 (B)	1	1	50,80	XS	5,54	60,33
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)	5,54	-	-	no limit	no limit	-
Pipe diameter (mm)	60,33	-	-	25,4 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	3	
Weld deposit thickness (mm)	5,54	11,08 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
2 traverse face bends per QW-161.2, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
2 traverse root bends per QW-161.3, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
Visual examination per QW-302.4	QW-194	Acceptable	

Notes: This WPQ is based on PQR RET 0245029-001-18

**CERTIFICATION**

Tests conducted by	Element Breda (NLD)	Laboratory test number	ARJ001-20-01-39594-2
Mechanical tests by	N.A.	Test file number	ARI 2503-3

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.

<b>NARGAN COMPANY</b>	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN:	

**Signature 1**

Name	Signature
F. van Toledo	
Date	9/4/2023

**Signature 2**

Name	Signature
M. van Ginneken DNV	
Date	9/4/2023



for DNV  
 This document has been digitally signed and is therefore not to be hand-dated then  
 Signatures:  
 M. van Ginneken  
 Surveyor

Welder's name	R. Ali	Test date	1/14/2020
ID Number	4882630217	WPQ record number	A0790090-2
Date of birth	8/9/1957	Standard test number	N.A.
Stamp number	RA	WPS record number	P2250
Company name	Airpack Netherlands BV	Qualification code	ASME Section IX: 2019
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-106 (B)	1	1	50,80	XS	5,54	60,33
	Pipe	SA-106 (B)	1	1	50,80	XS	5,54	60,33
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)	5,54	-	-	no limit	no limit	-
Pipe diameter (mm)	60,33	-	-	25,4 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	3	
Weld deposit thickness (mm)	5,54	11,08 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
2 traverse face bends per QW-161.2, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
2 traverse root bends per QW-161.3, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
Visual examination per QW-302.4	QW-194	Acceptable	

Notes: This WPQ is based on PQR RET 0245029-001-18

**CERTIFICATION**

Tests conducted by	Element Breda (NLD)	Laboratory test number	ARJ001-20-01-39594-2
Mechanical tests by	N.A.	Test file number	ARL2503-3

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 1**

Name	Signature
F. van Toledo	
Date	
9/4/2023	

**Signature 2**


Name	Signature
M. van Ginneken DNV	
Date	
9/4/2023	



for DNV  
 This document has been digitally signed and  
 will therefore not have handwritten  
 signatures.  
 N. van Ginneken  
 Surveyor



**Airpack Netherlands BV**  
 Groeneweegje 19 - 25, 4301 RN Zierikzee, The Netherlands  
**ASME Section IX - Welder Performance Qualification (WPQ)**  
 WeldOffice WPQ

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.	Rev. -
Stamp number	W-102		WPS record number	P2000	Rev. 0
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)	Di. (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.

	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec 2012	
SIGN: 	

**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

NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2012	
SIGN: <i>M. Rezaei</i>	

### 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]




NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec 2012	
SIGN: 	



**Airpack Netherlands BV**  
 Groeneweegje 19 - 25, 4301 RN Zierikzee, The Netherlands  
**ASME Section IX - Welder Performance Qualification (WPQ)**  
 WeldOffice WPQ

Welder's name	A. Sumantri		Test date	25-5-2012	
ID Number	ID Card IX:H4P6551		WPQ record number	RET 0245029-002-15	
Date of birth	23-02-1962		Standard test number	N.A.	Rev. -
Stamp number	W-102		WPS record number	P2250	Rev. 0
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	Schielab 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.

NARGAN COMPANY	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec 2023	
SIGN: 	

**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 Lastechniek 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

NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: <i>M. Rezaei</i>	

## 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.

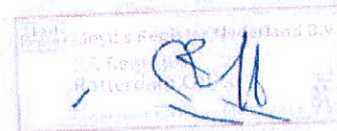
All characteristics of the above object(s) have, as far as accessible and relevant, been verified by Schielab b.v. Other information was provided by the purchaser. This information was verified as far as possible and has been copied into this report, unchanged. We hereby certify that the reported test 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

 <b>NARGAN COMPANY</b>	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI	DATE: 13 Dec 2023
SIGN:	



Ingeschreven in het RvA register voor laboratoria onder nr. L 063 voor gebieden zoals nader omschreven in de erkenning. Entered in the RvA register for laboratories under number L 063 for the areas outlined in the approval.

Schielab-Breda Voorerf 18-20, 4824 GN Breda, Tel. 076 - 5424 300, Fax 076 - 5424 848  
Schielab b.v. Handelsregister/Register of Commerce Rotterdam nr. 24170257



Welder's name	A. Sumantri		Test date	9/22/2020	
ID Number	ID Card IXH4P6551		WPQ record number	A0790090-58	
Date of birth	23-02-1962		Standard test number	N.A.	Rev. -
Stamp number	W-102		WPS record number	PGF-2000	Rev. 0
Company name	Airpack Netherlands BV		Qualification code	ASME Section IX: 2019	
Division	N.A.				

**BASE METALS (QW-403)**

	Product form	Specification (type or grade)	P no.	Grp.no.	Size	Sch.	Thick. (mm)	Dia. (mm)
<b>Welded to:</b>	Pipe	SA-333 (6)	1	1	101.60	40	6.02	114.30
	Pipe	SA-350 (LF2)	1	2	101.60	40	6.02	114.30
<b>Joint type</b>	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)	6.02	-	-	no limit	no limit	-
Pipe diameter (mm)	114.30	-	-	73 min	no limit	-

**PROCESS VARIABLES**

	Actual values		RANGE QUALIFIED	
Welding process	GTAW	FCAW	GTAW	FCAW
Type	Manual	Semi-automatic	Manual	Semi-automatic
Backing	Without	With	With, without	With
Filler metal specification	5.18	5.20	5.xx	5.xx
Filler metal classification	ER70S-3	E71T-9M-J	Any	Any
Filler metal F-number	6	6	6	6
Filler metal variety (QW-404.23)	Bare (solid)	-	Solid, metal cored	-
Consumable insert	None	-	Without	-
Number of layers deposited	1	2	-	-
Weld deposit thickness (mm)	2.02	4.0	4.04 max	8.0 max
Weld position (Actual position tested)	1G Rotated	1G Rotated		
Groove - Plate & Pipe > 610mm			F	F
Groove - Pipe 73mm to 610mm			F	F
Groove - Pipe 73mm			F	F
Fillet - Plate & Pipe > 610mm			F	F
Fillet - Pipe 73mm to 610mm			F	F
Fillet - Pipe < 73mm			F	F
Progression	-	-	-	-
Backing gas	Without	Without	With, without	With, without
GMAW transfer mode (QW-409)	-	-	-	Spray, pulse, globular
GTAW welding current/polarity	DCSP	-	DCSP	-

**TESTS**

Type of test	Acceptance criteria	Result	Comments
1 transverse face bend per QW-161.2 and QW-462.3(a)	QW-163	Acceptable	see - ASME IX - QW-452.1 (a)
1 transverse root bend per QW-161.3 and QW-462.3(a)	QW-163	Acceptable	see - ASME IX - QW-452.1 (a)
Visual examination per QW-302.4	QW-194	Acceptable	see - ASME IX - QW-452.1 (a)

**Notes**

**CERTIFICATION**

Tests conducted by	Daniel Schutt	Laboratory test number	ARJ001-20-09-42663-1
Mechanical tests by	Element Breda (NLD)	Test file number	ARL2542-1A0790090-60

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.

NARGAN COMPANY

**INSPECTION**

REVIEWED  
 WITNESSED  
 RELEASED

BY: M. REZAEI DATE: 13 Dec 2023

Sign:

Witnessed  Rev

And found to comply with

Date: 7/10/20  
Sign: L. Knops

**Signature 1**

Name	Signature
F. van Toledo (Airpack)	
Date	9/22/2020

**Signature 2**

Name	Signature
L. Knops (DNVGL)	
Date	10/6/2020

Welder's name	J. Wesdorp	Test date	9/22/2020
ID Number	5171457148	WPQ record number	A0790090-60
Date of birth	9-12-1996	Standard test number	N.A.
Stamp number	JW	WPS record number	PGF-2000
Company name	Airpack Netherlands BV	Qualification code	ASME Section IX: 2019
Division			

**BASE METALS (QW-403)**

	Product form	Specification (type or grade)	P no.	Grp-no.	Size	Sch.	Thick. (mm)	Dia. (mm)
	Pipe	SA-333 (6)	1	1	101,60	40	6,02	114,30
Welded to:	Pipe	SA-350 (LF2)	1	2	101,60	40	6,02	114,30
Joint type	Groove							

**VARIABLES**

Type of weld joint	Pipe - Groove	RANGE QUALIFIED
Base metal	P1 to P1	Groove and Fillet welds 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)	6,02	-	-	no limit	no limit	-
Pipe diameter (mm)	114,30	-	-	73 min	no limit	-

**PROCESS VARIABLES**

	Actual values		RANGE QUALIFIED	
	GTAW	FCAW	GTAW	FCAW
Welding process	Manual	Semi-automatic	Manual	Semi-automatic
Type	Manual	Semi-automatic	Manual	Semi-automatic
Backing	Without	With	With, without	With
Filler metal specification	5.18	5.20	5.xx	5.xx
Filler metal classification	ER70S-3	E71T-9M-J	Any	Any
Filler metal F-number	6	6	6	6
Filler metal variety (QW-404.23)	Bare (solid)	-	Solid, metal cored	-
Consumable insert	None	-	Without	-
Number of layers deposited	1	2		
Weld deposit thickness (mm)	2,02	4,0	4,04 max	8,0 max
Weld position (Actual position tested)	1G Rotated	1G Rotated		
Groove - Plate & Pipe > 610mm			F	F
Groove - Pipe 73mm to 610mm			F	F
Groove - Pipe 73mm			F	F
Fillet - Plate & Pipe > 610mm			F	F
Fillet - Pipe 73mm to 610mm			F	F
Fillet - Pipe < 73mm			F	F
Progression	-	-	-	-
Backing gas	Without	Without	With, without	With, without
GMAW transfer mode (QW-409)	-	Spray	-	Spray, pulse, globular
GTAW welding current/polarity	DCEN (straight polarity)	-	DCEN (straight polarity)	-

**TESTS**

Type of test	Acceptance criteria	Result	Comments
1 traverse face bends per QW-161.2, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
1 traverse root bends per QW-161.3, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
Visual examination per QW-302.4	QW-194	Acceptable	

**Notes**


**CERTIFICATION**

Tests conducted by	Daniel Schutt	Laboratory test number	ARJ001-20-09-42663-2
Mechanical tests by	Element Breda (NLD)	Test file number	ARL2542-2

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 1**

Name	Signature
F. van Toledo	
Date	
9/4/2023	

**Signature 2**

Name	Signature
M. van Ginneken DNV	
Date	
9/4/2023	



Welder's name	R. Ali	Test date	9/22/2020
ID Number	4882630217	WPQ record number	A0790090-62
Date of birth	8/9/1957	Standard test number	N.A.
Stamp number	RA	WPS record number	PGF-2000
Company name	Airpack Netherlands BV	Qualification code	ASME Section IX: 2019
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	101,60	40	6,02	114,30
	Pipe	SA-350 (LF2)	1	2	101,60	40	6,02	114,30
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)	6,02	-	-	no limit	no limit	-
Pipe diameter (mm)	114,30	-	-	73 min	no limit	-

**PROCESS VARIABLES**

	Actual values		RANGE QUALIFIED	
	GTAW	FCAW	GTAW	FCAW
Welding process	GTAW	FCAW	GTAW	FCAW
Type	Manual	Semi-automatic	Manual	Semi-automatic
Backing	Without	With	With, without	With
Filler metal specification	5.18	5.20	5.xx	5.xx
Filler metal classification	ER70S-3	E71T-9M-J	Any	Any
Filler metal F-number	6	6	6	6
Filler metal variety (QW-404.23)	Bare (solid)	-	Solid, metal cored	-
Consumable insert	None	-	Without	-
Number of layers deposited	1	2		
Weld deposit thickness (mm)	2,02	4,0	4,04 max	8,0 max
Weld position (Actual position tested)	1G Rotated	1G Rotated		
Groove - Plate & Pipe > 610mm			F	F
Groove - Pipe 73mm to 610mm			F	F
Groove - Pipe 73mm			F	F
Fillet - Plate & Pipe > 610mm			F	F
Fillet - Pipe 73mm to 610mm			F	F
Fillet - Pipe < 73mm			F	F
Progression	-	-	-	-
Backing gas	Without	Without	With, without	With, without
GMAW transfer mode (QW-409)	-	Spray	-	Spray, pulse, globular
GTAW welding current/polarity	DCEN (straight polarity)	-	DCEN (straight polarity)	-

**TESTS**

Type of test	Acceptance criteria	Result	Comments
1 traverse face bends per QW-161.2, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
1 traverse root bends per QW-161.3, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
Visual examination per QW-302.4	QW-194	Acceptable	

**Notes**

**CERTIFICATION**

Tests conducted by	Daniel Schutt	Laboratory test number	ARJ001-20-09-42663-3
Mechanical tests by	Element Breda (NLD)	Test file number	ARL2542-3

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.

<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZZAEI DATE: 13 Dec 2023	
SIGN:	

**Signature 1**

Name	Signature
F. van Toledo	
Date	9/4/2023

**Signature 2**

Name	Signature
M. van Ginneken DNV	
Date	9/4/2023



for DNV  
 This document has been digitally signed and  
 will therefore not have handwritten  
 signatures.  
 M. van Ginneken  
 Supervisor

# WPQ

# SS PIPING

	NARGAN COMPANY
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN:	

Welder's name	J. Wesdorp	Test date	1/14/2020
ID Number	5171457148	WPQ record number	A0790090-3
Date of birth	9-12-1996	Standard test number	N.A.
Stamp number	JW	WPS record number	P3000
Company name	Airpack Netherlands BV	Qualification code	ASME Section IX: 2019
Division			

**BASE METALS (QW-403)**

	Product form	Specification (type or grade)	P no.	Grp-no.	Size	Sch.	Thick. (mm)	Dia. (mm)
Welded to:	Pipe	SA-312 (TP316L)	8	1	50,80	XS	5,54	60,33
	Pipe	SA-312 (TP316L)	8	1	50,80	XS	5,54	60,33
Joint type	Groove							

**VARIABLES**

	Actual values	RANGE QUALIFIED
Type of weld joint	Pipe - Groove	Groove and Fillet welds
Base metal	P8 to P8	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)	5,54	-	-	no limit	no limit	-
Pipe diameter (mm)	60,33	-	-	25,4 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	5.9	5.xx
Filler metal classification	ER316LSi	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	3	
Weld deposit thickness (mm)	5,54	11,08 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	With	With
GTAW welding current/polarity	DCEN (straight polarity)	DCEN (straight polarity)

**TESTS**

Type of test	Acceptance criteria	Result	Comments
2 traverse face bends per QW-161.2, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
2 traverse root bends per QW-161.3, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
Visual examination per QW-302.4	QW-194	Acceptable	

Notes: This WPQ is based on PQR RET 0245029-001-21

**CERTIFICATION**

Tests conducted by	Element Breda (NLD)	Laboratory test number	ARJ001-20-01-39594-1
Mechanical tests by	N.A.	Test file number	ARL2503-2

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.

<b>NARGAN COMPANY</b>	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec 2023	
SIGN:	

**Signature 1**

Name	Signature
F. van Toledo	
Date	9/4/2023

**Signature 2**

Name	Signature
M. van Ginneken DNV	
Date	9/4/2023



for DNV  
 This document has been digitally signed and  
 it therefore not have handwritten  
 signatures.  
**M. van Ginneken**  
 Surveyor



Welder's name	R. Ali	Test date	1/14/2020
ID Number	4882630217	WPQ record number	A0790090-4
Date of birth	8/9/1957	Standard test number	N.A.
Stamp number	RA	WPS record number	P3000
Company name	Airpack Netherlands BV	Qualification code	ASME Section IX: 2019
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-312 (TP316L)	8	1	50,80	XS	5,54	60,33
	Pipe		SA-312 (TP316L)	8	1	50,80	XS	5,54	60,33
Joint type	Groove								

VARIABLES	Actual values	RANGE QUALIFIED
Type of weld joint	Pipe - Groove	Groove and Fillet welds
Base metal	P8 to P8	P-no. 1 thru 15F, 34, 41 thru 49

		BASE METAL THICKNESS			BASE METAL THICKNESS		
		Groove	Fillet	Overlay	Groove	Fillet	Overlay
Plate thickness (mm)	-	-	-	-	no limit	no limit	-
Pipe/tube thickness (mm)	5,54	-	-	-	no limit	no limit	-
Pipe diameter (mm)	60,33	-	-	-	25,4 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	5.9	5.xx
Filler metal classification	ER316LSi	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	3	
Weld deposit thickness (mm)	5,54	11,08 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	With	With
GTAW welding current/polarity	DCEN (straight polarity)	DCEN (straight polarity)

TESTS	Type of test	Acceptance criteria	Result	Comments
	2 traverse face bends per QW-161.2, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
	2 traverse root bends per QW-161.3, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
	Visual examination per QW-302.4	QW-194	Acceptable	

Notes: This WPQ is based on PQR RET 0245029-001-21

CERTIFICATION			
Tests conducted by	Element Breda (NLD)	Laboratory test number	ARJ001-20-01-39594-1
Mechanical tests by	N.A.	Test file number	ARL2503-2

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.

**NARGAN COMPANY**

**INSPECTION**

REVIEWED

WITNESSED

RELEASED

BY: M. REZAEI DATE: 13 Dec 2023

SIGN:

Signature 1		Signature 2	
Name	Signature	Name	Signature
F. van Toledo		M. van Ginneken DNV	
Date	9/4/2023	Date	4/9/2023

# WELDER PERFORMANCE QUALIFICATION CERTIFICATE ASME BPVC.IX

Welder's identification: ID card Verified  
 Employer: Airpack  
 Welder's name: A. Sumantri  
 Place of birth and date: Oost- en West Souburg / 23-02-1962

Specification and type/grade or UNS number of base metal(s): A106-Gr.B / AISI 316 Thickness(mm): 1: 10 2: 5,08


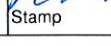
Welding variables (QW-350)	Actual Values				Range qualified			
Welding process(es)	1: GTAW	2: -	1: GTAW	2: -				
Transfer mode	1: -	2: -	1: -	2: -				
Product type (Plate/Pipe)	Pipe - Fillet				Plate & Pipe- Fillet or Tack			
Backing (with/ without)	1: Without	2: -	1: With/ without	2: -				
Base metal P-No. to P-No.	1: P-No.1	2: P-No.8	P-No.1 through P-No.15F, P-No.34, or P-No.41 through P-No.49					
Filler metal specification(s) (SFA)	1: SFA-5.9	2: -	For information only					
Filler metal classification(s)	1: ER 309LSi	2: -						
Filler metal F-number(s)	1: F-No.6	All F-No.6						
	2: -	-						
Consumable insert (GTAW or PAW)	Without				With, Without			
Filler Metal Product Form (QW-404.23) (GTAW or PAW)	1: Solid	2: -	1: Solid, Metal cored	2: -				
Deposited thickness (mm) 3 layers minimum	1: -	1: -	All fillet sizes					
Deposited thickness (mm) 3 layers minimum	2: -	2: -	-					
Outside pipe diameter [O.D.] (mm)	48,3				≥25			
Welding position(s)	1: 2F	2: -	(Fillet/ Tack) F, H					
Vertical progression (uphill/downhill)	1: -	2: -	1: -	2: -				
Type of fuel gas (OFW only)	-				-			
Use of backing gas (GTAW, PAW, GMAW)	Without				With, Without			
GTAW current type and polarity	DCEN				DCEN			
Type (manual, semi-automatic)	1: Manual	2: -	1: -	2: -				
Date of welding	26-04-2023						Examiner: M. van Ginneken	
Place of welding	Rotterdam							


Photo (if required)

Identification of test pieces:  
QSH 23-131

Identification of WPS followed:  
SP 4000

Test coupon   
 Production weld

Type of inspection/ test	Performed & accepted / Not tested		Place: Barendrecht
Visual examination (QW-302.4)	Performed & accepted	-	Date: 16-05-2023
Radiography (QW-191)	-	Not tested	Qualification valid until:
Ultrasonic (QW-191)	-	Not tested	26-04-2025
Macro examination (QW-184)	Performed & accepted	-	DNV Netherlands B.V. Signature:  Stamp: 
Fracture test (QW-181.2)	Performed & accepted	-	
Bend tests (QW-462)	-	Not tested	
Other tests	-	Not tested	

NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI	DATE: 13 Dec 2023
SIGN: 	

We certify that the statements in this record are correct and that the test coupons were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME BOILER AND PRESSURE VESSEL CODE.

See reverse side for confirmation statement by employer and prolongation by DNV Netherlands B.V.  
 Additional information may also be stated in the column "Supplementary remarks".

Quality Support Holleman  
Lavendelberg 26  
4708 LE ROOSENDAAL

Date(s) tested : 4-5-2023  
Date reported : 4-5-2023  
Element report number : QUA002-23-05-55363-1

Customer reference : QSH 23-131

## TEST REPORT

### TEST REPORT FOR THE PURPOSE OF: WELDERS PERFORMANCE QUALIFICATION

Testing in accordance with: - NEN-EN-ISO 9606-1  
- ASME-IX

pWPS No.: SP 4000  
Test No.: QSH 23-131  
Manufacturer: Airpack Nederland B.V.  
Item Description: Pipe on plate with fillet weld  
Dimensions : Pipe Ø 48.3 x 5.08 mm  
Plate thickness = 10 mm  
Material type and grade: Plate = S355MC, Heat no.: 208954  
Pipe = AISI 316L, Heat no.: 53298

Identification on Sample: Test no.  
Welding Process(es): 141 / GTAW  
Welding Consumable: Lincoln Electric LNT309LSi / W 23 12 Lsj, Batch no.: 8011096  
Shieldinggas: I1 / 99,996%Ar  
Welding position: PB / 2F  
Joint Type: FW, ml  
Welder: A. Sumantri  
Place and D.O.B.: Oost- en West Souburg, 23-02-1962

#### NON-DESTRUCTIVE TEST

- Visual examination:	Performed on site
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**Note:** The above mentioned data is only for information and is no part of the examination in this test report

NARGAN COMPANY	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: 	

**MACRO EXAMINATION**

Method: ISO 17639 / ASTM E3 / ISO 5817 / ISO 6520-1			Magnification: 5x
Specimen	Etchant:	Observations:	Remark
55363 / 1	Adler	No significant inclusions or other defects	Acceptable
55363 / 2	Adler	No significant inclusions or other defects	Acceptable

**FILLET WELD BREAK TEST**

Test method: ISO 9017			Test temperature: R.T.
Specimen	Qty	Results	Remark
55363 / 3	1x	No weld defects observed.	Acceptable

The above mentioned items satisfy the requirements.



Jens de Koning

**Element Materials Technology**

All characteristics of the above object(s) have, as far as accessible and relevant, been verified by Element Materials Technology Rotterdam b.v. (Element). Other information was provided by the purchaser. This information was verified as far as possible and has been copied into this report, unchanged. Element does not bear responsibility for the correctness of this submitted information. Any kind of "witnessing" and conclusions by a third party is not covered by the RVA accreditation L063 and is no part of the Element report. We hereby certify that the reported test data is correct and that the above object(s) was (were) tested/examined in accordance with purchaser's requirements and/or the above procedure(s) and/or code(s)/specification(s). If a declaration of conformity is issued in the report with regard to compliance with a specification or standard, this declaration is only applicable to the product(s) examined. In this assessment, the decision rule is applied that assumes that the expanded measurement uncertainty is not included in the assessment. Unless otherwise stated in the test standard or accreditation rules, the rounding rule according to ISO 80000-1 Annex A Rule B is used. On occasion a test is subcontracted by Element, the accreditation number of the subcontracted party is reported. Interpretations, opinions, conclusions and advice are partly based on the examination results and partly on information supplied by the purchaser. This report has legal value only when furnished with an authorized signature. If, upon reproduction, only part of this report is copied, Element will not bear any responsibility for content, purport and conclusions of that reproduction.

NARGAN COMPANY	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: 	





**Airpack Netherlands BV**  
 Groeneweegje 19 - 25, 4301 RN Zierikzee, The Netherlands  
**ASME Section IX - Welder Performance Qualification (WPQ)**  
 WeldOffice WPQ

Welder's name	A. Sumantri		Test date	25-5-2012	Rev. - Rev. 0
ID Number	ID Card IXH4P6551		WPQ record number	RET 0245029-002-18	
Date of birth	23-02-1962		Standard test number	N.A.	
Stamp number	W-102		WPS record number	P3000	
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-312 (TP316L)	8	1	63,50	160	9,53	73,03
	Pipe	SA-312 (TP316L)	8	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	P8 to P8	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	5.9	5.xx
Filler metal classification	ER316LSi	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 0245029-001-21


**CERTIFICATION**

Tests conducted by	Schielab BV Breda (NLD)	Laboratory test number	SL 12.6047-1A
Mechanical tests by	N.A.	Test file number	ARL1559-5

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.


<b>NARGAN COMPANY</b>	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec. 2023	
SIGN: 	

**Signature**

Name	Signature
Franky van Toledo	
Date	
8-6-2012	



**Signature Welder**

Name	Signature
A. Sumantri	
Date	
8-6-2012	





## 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. : ARL1559-5

Manufacturer : Airpack Nederland BV.  
 WPS : P3000

Description of sample(s) : Pipe with Single-V-groove  
 Dimension(s) : 2,5" Sch 160 (Ø 73,03 x 9,52 mm)  
 Material grade : P8 gr. 1 - P8 gr. 1  
 Material : ASTM SA-312 TP316L - ASTM SA-312 TP316L

Welding process(es) : GTAW  
 Filler : F-no.6 A-no. 8  
 Brand and type : Lincoln Electric LNT 316LSi , ER316LSi  
 Shielding gas : Argon (A5.32 SG-A)  
 Backing gas : 95% N<sub>2</sub> + 5% H<sub>2</sub>

Welding position : 6G progression up  
 Preheat / Interpass temp. : 10 °C / 132 °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 : ARL1559-5

### NON DESTRUCTIVE EXAMINATION

\* Visual examination : performed by examiner

### CROSS WELD TENSILE TESTS

Dimensions(s) [mm]	Rm [N/mm <sup>2</sup> ]	Fracture location
19.00 x 9.42	555	Base material
19.00 x 9.30	581	Base material
Requirements;	≥ 515	

### TECHNOLOGICAL TESTS

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

### 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 to 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 responsibility for content, purport and conclusions of that reproduction. This report has legal value only when printed on Schielab paper and furnished with an authorized 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.

NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 13 Dec 2012	

Breda, 07-06-2012

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



Ingeschreven in het RvA register voor laboratoria onder nr. L 063 voor gebieden zoals nader omschreven in de erkenning.  
 Entered in the RvA register for laboratories under number L 063 for the areas outlined in the approval.





**Airpack Netherlands BV**  
 Groeneweegje 19 - 25, 4301 RN Zierikzee, The Netherlands  
**ASME Section IX - Welder Performance Qualification (WPQ)**  
 WeldOffice WPQ

Welder's name	A. Sumantri		Test date	25-5-2012	Rev. - Rev. 0
ID Number	ID Card IXH4P6551		WPQ record number	RET 0245029-002-24	
Date of birth	23-02-1962		Standard test number	N.A.	
Stamp number	W-102		WPS record number	P3000	
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-312 (TP316)	8	1	12,70	160	4,78	21,34
	Pipe	SA-312 (TP316)	8	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	P8 to P8	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	5.9	5.xx
Filler metal classification	ER316LSi	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	
Notes			

**CERTIFICATION**

Tests conducted by	Schielab BV Breda (NLD)	Laboratory test number	SL 12.6404-1
Mechanical tests by	N.A.	Test file number	ARL1559-9

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.

<b>NARGAN COMPANY</b>	
<b>INSPECTION</b>	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI	DATE: 13 Dec. 2023
SIGN: 	

**Signature**

Name: *F.v Toledo*  
 Date: \_\_\_\_\_



**Signature Welder**

Name: \_\_\_\_\_  
 Date: \_\_\_\_\_



## WELDERS PERFORMANCE QUALIFICATION TEST RECORD

Testing in accordance with : ASME IX:2012

Purchaser : Arjan Roza Lastechniek BV

Purchase order no. : ARL1559-9

Manufacturer : Airpack Nederland BV.

WPS : P3000

Description of sample(s) : Pipe with Single-V-groove

Dimension(s) : 1/2" Sch 160 (Ø 21,3 x 4,78 mm)

Material grade : P8 gr. 1 - P8 gr. 1

Material : ASTM SA-312 TP316L - ASTM SA-312 TP316L

Welding process(es) : GTAW

Filler : F-no.6 A-no. 8

Brand and type : Lincoln Electric LNT 316LSi , ER316LSi

Shielding gas : Argon (A5.32 SG-A)

Backing gas : Argon (A5.32 SG-A)

Welding position : 6G progression up

Preheat / Interpass temp. : 10 °C / 150 °C

Joint type : Single-V-groove

Welder : A. Sumantri

Date / place of birth : 23-02-1962 / Oost- en West-Souburg

Stamp. No. / ID : A1 / ID Card IXH4P6551

Testpiece marked with : ARL1559-9

### NON DESTRUCTIVE EXAMINATION

\* Visual examination : performed by examiner

\* Radiographic examination : acceptable, see RTD report 1213-2012-24-020, film no. 6404

**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.

Breda, 13.06.2012

Testing witnessed by; Mr.

Representing; Lloyd's Register (RET 0245029)

S. Wevers

Lloyd's Register  
P. Schmitz  
Green Office  
Reviewed/Examined

NARGAN COMPANY	
INSPECTION	
REVIEWED	<input checked="" type="checkbox"/>
WITNESSED	<input type="checkbox"/>
RELEASED	<input type="checkbox"/>
BY: M. REZAEI DATE: 18 Dec 2022	
SIGN:	



Ingeschreven in het RvA register voor laboratoria onder nr. L 063 voor gebieden zoals nader omschreven in de erkenning.  
Entered in the RvA register for laboratories under number L 063 for the areas outlined in the approval.

Welder's name	A. Sumantri		Test date	9/22/2020	Rev. - Rev. 0
ID Number	ID Card IXH4P6551		WPQ record number	A0790090-59	
Date of birth	23-02-1962		Standard test number	N.A.	
Stamp number	W-102		WPS record number	PGF-3000	
Company name	Airpack Netherlands BV		Qualification code	ASME Section IX	
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-312 (TP316L)	8	1	101.60	40S	6.02	114.30
	Pipe	SA-312 (TP316L)	8	1	101.60	40S	6.02	114.30
Joint type	Groove							

**VARIABLES**

	Actual values	RANGE QUALIFIED
Type of weld joint	Pipe - Groove	Groove and Fillet welds
Base metal	P8 to P8	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)	6.02	-	-	no limit	no limit	-
Pipe diameter (mm)	114.30	-	-	73 min	no limit	-

**PROCESS VARIABLES**

	Actual values		RANGE QUALIFIED	
	GTAW	FCAW	GTAW	FCAW
Welding process	Manual	Semi-automatic	Manual	Semi-automatic
Type	Without	With	With, without	With
Backing	5.9	5.22	5.xx	5.xx
Filler metal specification	ER316LSi	E316LT0-1	Any	Any
Filler metal classification	6	6	6	6
Filler metal F-number	Bare (solid)	-	Solid, metal cored	-
Filler metal variety (QW-404.23)	None	-	Without	-
Consumable insert	1	2	-	-
Number of layers deposited	2.02	4	4.04 max	8.0 max
Weld deposit thickness (mm)	1G Rotated	1G Rotated		
Weld position (Actual position tested)				
Groove - Plate & Pipe > 610mm			F	F
Groove - Pipe 73mm to 610mm			F	F
Groove - Pipe 73mm			F	F
Fillet - Plate & Pipe > 610mm			F	F
Fillet - Pipe 73mm to 610mm			F	F
Fillet - Pipe < 73mm			F	F
Progression	-	-	-	-
Backing gas	Without	Without	With, without	With, without
GMAW transfer mode (QW-409)	-	Spray	-	Spray, pulse, globular
GTAW welding current/polarity	DCSP	-	DCSP	-

**TESTS**

Type of test	Acceptance criteria	Result	Comments
1 transverse face bend per QW-161.2 and QW-462.3(a)	QW-163	Acceptable	see - ASME IX - QW-452.1 (a)
1 transverse root bend per QW-161.3 and QW-462.3(a)	QW-163	Acceptable	see - ASME IX - QW-452.1 (a)
Visual examination per QW-302.4	QW-194	Acceptable	see - ASME IX - QW-452.1 (a)
Notes			

**CERTIFICATION**

Tests conducted by	Daniel Schutt	Laboratory test number	ARJ001-20-09-42663-4
Mechanical tests by	Element Breda (NLD)	Test file number	ARL2542-4

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.

**INSPECTION**

REVIEWED    
 WITNESSED    
 RELEASED

BY: M. REZAEI DATE: 13 Dec. 2023

Sign:

Date: 7/10/20  
 Sign: L. Knops

**Signature 1**

Name	Signature
F. van Toledo (Airpack)	
Date	10/6/2020

**Signature 2**

Name	Signature
L. Knops (DNVGL)	
Date	10/6/2020



Welder's name	J. Wesdorp	Test date	9/22/2020
ID Number	5171457148	WPQ record number	A0790090-61
Date of birth	9-12-1996	Standard test number	N.A.
Stamp number	JW	WPS record number	PGF-3000
Company name	Airpack Netherlands BV	Qualification code	ASME Section IX: 2019
Division			

**BASE METALS (QW-403)**

	Product form	Specification (type or grade)	P no.	Grp-no.	Size	Sch.	Thick. (mm)	Dia. (mm)
Welded to:	Pipe	SA-312 (TP316L)	8	1	101,60	40S	6,02	114,30
	Pipe	SA-312 (TP316L)	8	1	101,60	40S	6,02	114,30
Joint type	Groove							

**VARIABLES**

Type of weld joint	Pipe - Groove	RANGE QUALIFIED
Base metal	P8 to P8	Groove and Fillet welds 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)	6,02	-	-	no limit	no limit	-
Pipe diameter (mm)	114,30	-	-	73 min	no limit	-

**PROCESS VARIABLES**

	Actual values		RANGE QUALIFIED	
	GTAW	FCAW	GTAW	FCAW
Welding process	Manual	Semi-automatic	Manual	Semi-automatic
Type	Without	With	With, without	With
Backing	5,9	5,22	5,xx	5,xx
Filler metal specification	ER316LSi	E316LT0-1	Any	Any
Filler metal classification	6	6	6	6
Filler metal F-number	Bare (solid)	-	Solid, metal cored	-
Filler metal variety (QW-404.23)	None	-	Without	-
Consumable insert	1	2		
Number of layers deposited	2,02	4,0	4,04 max	8,0 max
Weld deposit thickness (mm)	1G Rotated	1G Rotated		
Weld position (Actual position tested)				
Groove - Plate & Pipe > 610mm			F	F
Groove - Pipe 73mm to 610mm			F	F
Groove - Pipe 73mm			F	F
Fillet - Plate & Pipe > 610mm			F	F
Fillet - Pipe 73mm to 610mm			F	F
Fillet - Pipe < 73mm			F	F
Progression	-	-	-	-
Backing gas	With	With	With	With
GMAW transfer mode (QW-409)	-	Spray	-	Spray, pulse, globular
GTAW welding current/polarity	DCEN (straight polarity)	-	DCEN (straight polarity)	-

**TESTS**

Type of test	Acceptance criteria	Result	Comments
1 traverse face bends per QW-161.2, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
1 traverse root bends per QW-161.3, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
Visual examination per QW-302.4	QW-194	Acceptable	

**Notes**

**CERTIFICATION**

Tests conducted by	Daniel Schutt	Laboratory test number	ARJ001-20-09-42663-5
Mechanical tests by	Element Breda (NLD)	Test file number	ARL2542-5

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 1**

**Signature 2**

Name	Signature	Name	Signature
F. van Toledo		M. van Ginneken DNV	
Date		Date	
9/4/2023		9/4/2023	



Welder's name	R. Ali	Test date	9/22/2020
ID Number	4882630217	WPQ record number	A0790090-63
Date of birth	8/9/1957	Standard test number	N.A.
Stamp number	RA	WPS record number	PGF-3000
Company name	Airpack Netherlands BV	Qualification code	ASME Section IX: 2019
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-312 (TP316L)	8	1	101,60	40S	6,02	114,30
	Pipe	SA-312 (TP316L)	8	1	101,60	40S	6,02	114,30
Joint type	Groove							

**VARIABLES**

	Actual values	RANGE QUALIFIED
Type of weld joint	Pipe - Groove	Groove and Fillet welds
Base metal	P8 to P8	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)	6,02	-	-	no limit	no limit	-
Pipe diameter (mm)	114,30	-	-	73 min	no limit	-

**PROCESS VARIABLES**

	Actual values		RANGE QUALIFIED	
	GTAW	FCAW	GTAW	FCAW
	Manual	Semi-automatic	Manual	Semi-automatic
Welding process	GTAW	FCAW	GTAW	FCAW
Type	Manual	Semi-automatic	Manual	Semi-automatic
Backing	Without	With	With, without	With
Filler metal specification	5.9	5.22	5.xx	5.xx
Filler metal classification	ER316LSi	E316LT0-1	Any	Any
Filler metal F-number	6	6	6	6
Filler metal variety (QW-404.23)	Bare (solid)	-	Solid, metal cored	-
Consumable insert	None	-	Without	-
Number of layers deposited	1	2		
Weld deposit thickness (mm)	2,02	4,0	4,04 max	8,0 max
Weld position (Actual position tested)	1G Rotated	1G Rotated		
Groove - Plate & Pipe > 610mm			F	F
Groove - Pipe 73mm to 610mm			F	F
Groove - Pipe 73mm			F	F
Fillet - Plate & Pipe > 610mm			F	F
Fillet - Pipe 73mm to 610mm			F	F
Fillet - Pipe < 73mm			F	F
Progression	-	-	-	-
Backing gas	With	With	With	With
GMAW transfer mode (QW-409)	-	Spray	-	Spray, pulse, globular
GTAW welding current/polarity	DCEN (straight polarity)	-	DCEN (straight polarity)	-

**TESTS**

Type of test	Acceptance criteria	Result	Comments
1 traverse face bends per QW-161.2, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
1 traverse root bends per QW-161.3, QW-463.2(d) and QW-462.3(a)	QW-163	Acceptable	see - ASME IX QW-452.1(a) Note 1
Visual examination per QW-302.4	QW-194	Acceptable	

**Notes**

Tests conducted by	Daniel Schutt	Laboratory test number	ARJ001-20-09-42663-6
Mechanical tests by	Element Breda (NLD)	Test file number	ARL2542-6

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 1**

Name	Signature
F. van Toledo	
Date	9/4/2023

**Signature 2**

Name	Signature
M. van Ginneken DNV	
Date	9/4/2023



for DNV  
 This document has been digitally signed and  
 it is therefore not have handwritten  
 signatures.  
 M. van Ginneken  
 Surveyor