



Welding Procedure Qualification Certificate

EN ISO 15614-1:2017+A1:2019

Manufacturer's WPQR no.: - Examining body Reference No: **NoBo 0343 / SQ0198324**

Manufacturer: **Vaartjes Transport B.V.**
Address: **Eggerinksweg 15,7556 AG Hengelo**
Code / Testing standard: **EN ISO 15614-1:2017+A1:2019, PED 2014/68/EU**
Level: **2**
Date of welding: **12 February 2021**

Range of qualification

Welding process(es): **135**
Type of joint and weld: **FW**
Deposited thickness (mm): **3 - 6**
Parent material group(s) and sub-group(s): **1 (Re ≤ 355 N/mm²) – 1 (Re ≤ 235 N/mm²)**
Parent material thickness (mm): **3.0-30.0 - 1.4-4.0**
Throat thickness (mm): **3 - 6**
Single layer / multi run: **Single layer**
Outside pipe diameter (mm): **>150 (PA rot., PC, PF rot.), > 500 (other positions)**
Filler material designation: **EN ISO 14341-A: G 46 4 M21 3Si 1 / G 42 3 C1 3Si**
Filler material make: **Solid**
Filler material size: **Satisfy the requirements of par. 8.4.7**
Designation of shielding gas / flux: **85% Ar + 15% CO₂ (±0.1% of any gas component, ±20% (rel.) of nom. comp. CO₂-content)**
Designation of backing gas: **I, N1, N2, N3, without**
Type of welding current and polarity: **DCEP**
Transfer mode: **Short-circuit**
Heat input: **Acc. par. 8.4.7**
Welding positions: **All excl. PG, PJ and J-L045**
Preheat temperature: **Min. 10°C**
Interpass temperature: **N.A.**
Post-Heating: **With, without**
Post-weld heat treatment: **Without**

Other information

WPS '21-013-003', report 'E100425 issue 1', PT-report 'WO681394979 rev. 0'

We confirm that the statements in this record are correct and that the test pieces were prepared, welded, tested and have fulfilled the requirements with the above indicated code / testing standard.

Location: **Elsloo**

Date of Issue: **30 March 2021**

Surveyor


Ralph Houtvast
Elsloo Office
Lloyd's Register Nederland B.V.

R.M.G.D. Houtvast

Surveyor to Lloyd's Register Nederland B.V., Notified Body no. 0343

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Examining Body **NoBo 0343**

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Details of test weld

Manufacturer's [p] WPS no.:	21-013-003		
Manufacturer's WPQR no.:	-	Method of preparation & cleaning:	Machining, brushing/grinding
Welder's / operator's name:	R. Kupers	Parent material specification: (attach material certificates)*	S355J2+AR / S235JR
Joint type and weld:	FW	Material thickness (mm):	15 / 2
Welding position:	PB	Outside pipe diameter (mm):	N.A.

Weld preparation details (Sketch)

Joint design	Welding sequences
See WPS '21-013-003'	See WPS '21-013-003'

Welding details

Run	Process	Size filler Material	Current [A]	Voltage [V]	Type current / polarity	Wire feed m/min	Travel speed mm/sec	Heat input kJ/mm	Metal transfer
tack	135	1.0 mm	170	21	DCEN	N.A.	N.A.	N.A.	short-circuit
root	135	1.0 mm	170	21	DCEN	N.A.	5.22	0.53	short-circuit

Filler material designation & make: (attach consumable certificate(s))*	EN ISO 14341-A: G 46 4 M21 3Si 1 / G 42 3 C1 3Si (SupraMig) - solid wire	
Any special baking or drying:	-	Weaving (max. with of run)
Gas / flux – shielding:	M20 (85% Ar + 15% CO2)	Oscillation: amplitude, frequency, dwell time
Gas / flux – backing:	Without	Pulse welding details:
Gas flow rate – shielding:	15 L/min	Distance contact tube / workpiece:
Gas flow rate – backing:	N.A.	Plasma welding details:
Tungsten electrode type / size:	N.A.	Torch angle:
Details of back gouging / backing:	N.A.	Post-Weld Heat Treatment and / or Ageing:
Preheat temperature:	Min. 15°C	Time, temperature and method:
Interpass temperature:	N.A.	Heating and cooling rates*:
Post-heating:	Without	
Power source:	-	
Manufacturer power source:	-	
Other information*:		

No
N.A.
N.A.
-
N.A.
-
Without
N.A.
N.A.

Manufacturer **Vaartjes Transport B.V.**
 Manufacturer's signature:

Surveyor **R.M.G.D. Houtvast**



Surveyor to Lloyd's Register Nederland B.V., Notified Body no. 0343

Date: **30 March 2021**

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Test results

Manufacturer's WPQR no.: -
 Visual examination: **Acceptable** Radiography:
 Penetrant / Magnetic particle test: **Acceptable** Ultrasonic examination:

Tensile tests

Type / No	Re N/mm ²	Rm N/mm ²	A% on	Z%	Fracture location	Temperature:	Remarks
Requirements							

Bend tests

Type / No	Bend Angle	Former Diameter	Elongation	Result

Macroscopic examination: **Acceptable**
 Microscopic examination:

Impact tests Type: Size: Requirement:

Notch location / direction	Temp °C	Values (J)			Average (J)	Remarks
		1	2	3		

Hardness Tests Other tests:

Type / Load: **HV10**
 Values - Parent metal: **116 up to and incl. 183**
 - H.A.Z.: **130 up to and incl. 369**
 - Weld metal: **220 up to and incl. 256**

Remarks*

Location of measurements (Sketch) see document / report:
 Tests carried out in accordance with the requirements of:
 Laboratory report reference no:
 Test results were:
 Test carried out in the presence of:

E100425 issue 1
EN ISO 15614-1:2017+A1:2019 level 2
E100425 issue 1
Acceptable
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Surveyor
 R.M.G.D. Houtvast



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