GATS
GENERAL APPLICATIONS OF TECHNOLOGY & SCIENCE LTD
TESTING LABORATORIES - INSPECTION BODY

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Welding Procedure Qualification Record form (WPQR)

Welding procedure qualification - Test certificate

Manufacturer's WPQR No.: *rFW12*

Examiner or examining body: *GATS LTD*
Reference No.: *T22.614.PQR001*

Manufacturer:	*ELMEKAT SA*
Address:	*17.5 KM. THESSALONIKI - ASSIROS*
Code/ testing standard:	*EN ISO 15614-1:2017+A1:2019 & PED 2014/68/EU (§ 3.1.2)*
Level:	*2*
Date of welding:	*11-07-2022*

TEST PIECE

Product form: Fillet weld

	Welding processes used		
	No. 1	No. 2	No. 3
Welding process(es):	135		
Deposited metal thickness (mm)	4.5		

RANGE OF QUALIFICATION

Type of joint and weld:	*Fillet welds*
Parent material group (s) and sub-group(s):	*CEN ISO/TR 15608: Subgroup 1.1, (ReH ≤ 235 N/mm2)* *All Permutations Permitted*
Parent material thickness (mm):	*min 3.00mm - max 24.00mm*
	Welding process(es):
	Deposited metal thickness max (mm)
Throat thickness (mm)	*min 3.37mm - max 6.75mm*
Single /multi run:	*Single run*
Outside pipe diameter (mm):	*≥ 500 mm (≥ 150 mm welded in the PA or PC rotated position)*
Filler material designation:	*EN ISO 14341-A:2008: G 42 3 M21 G3Si1*
Filler material make:	*Any*
Filler material size:	*Any*
Designation of shielding gas/flux:	*ISO 14175:2008-M21-ArC-20*
Designation of backing gas:	*Without or ISO 14175:2008-I –N1 –N2 –N3*
Type of welding current and polarity:	*DC +*
Transfer mode:	*Spray, pulse or globular*
Heat input:	*No requirement for control*
Welding positions:	*All positions except vertical down*
Preheat temperature:	*≥ 10 °C*
Interpass temperature:	*≤ 300 °C*
Post-Heating	-
Post-weld heat treatment :	-
Other information:	-

We confirm that the statements in this record are correct and that the test pieces were prepared, welded, tested and have fulfilled the requirements in accordance with EN ISO 15614-1.

Location
THESSALONIKI

Date of issue
19/7/2022

Examiner or examining body
ANASTASIOS STRANTZAS

STRANTZAS A.
MECH. ENGINEER
GATS INSPECTOR

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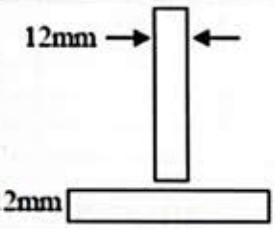
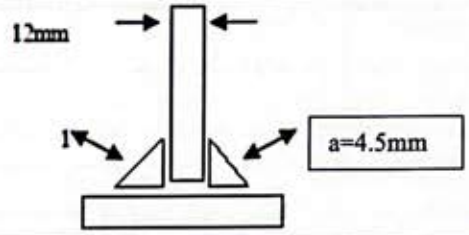
Record of weld test

Location:	*ELMEKAT*	Examiner or examining body:	*GATS LTD*
Manufacturer's pWPS No.:	*pFW12*	Method of preparation and cleaning:	*GRINDING & BRUSHING*
Manufacturer's WPQR No.:	*rFW12*	Parent material specification:	*S235JR (EN 10025-2 1.0038 1.1)*
Manufacturer:	*ELMEKAT SA*	Material thickness (mm):	*12 mm*
Welder's/operator's name:	*EL04*	Outside pipe diameter (mm):	*-*
Joint type and weld:	*FW PLATE*	Welding position:	*PB*

Weld preparation details (sketch)

Joint design	Welding sequences
	

Welding details

Run	Welding process	Size of filler metal	Current A	Voltage V	Type of current/Polarity	Wire feed speed m/min	Travel speed mm/min	Heat input KJ/mm	Metal transfer
1	135	1.2	210	24	DC +	4	360	0.67	Spray

Filler metal designation and Make: *EN ISO 14341-A G 42 3 M21 3Si1 (BOHLER SG 2)*

Any special baking or drying:		*N.A.*	Other information * e.g:
Gas/flux:	· Shielding:	*M21 (Ar 80%, CO2 20%)*	weaving (maximum width of run):
	· Backing:	*N.A.*	Oscillation (amplitude, frequency, dwell time):
Gas flow rate:	· Shielding:	*12-14 Lt/min*	Pulse welding details:
	· Backing:	*N.A.*	Distance contact tube/ workpiece:
Tungsten electrode type/size:		*N.A.*	Plasma welding details:
Details of back gouging/backing:		*N.A.*	Torch angle:
Preheat temperature:		*≥ 10 °C*	
Interpass temperature:		*≤ 250 °C*	
Post-Heating :		*N.A.*	
Post-weld heat treatment (PWHT)		*N.A.*	

Manufacturer

Examiner or examining body

ANASTASIOS STRANTZAS
19/7/2022

GENERAL APPLICATIONS OF TECHNOLOGY & SCIENCE LTD
STRANTZAS A.
MECH. ENGINEER
GATS INSPECTOR

ΕΣΥΔ Έλεγχος Αρ. Πιστ. 41

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Test results

Manufacturer's WPQR No.: *rFW12*

Examiner or examining body: *GATS LTD*

Reference No.: *T22.614.PQR001*

Type	Acceptable	Not-acceptable	Report No.
Visual examination:	✓		
Penetrant/ magnetic particle testing:	✓		T22.614.PT001
Radiographic/ ultrasonic testing			

Tensile tests

Type/No.	Re MPa	Rm MPa	A % on	Z %	Fracture location	Remarks
Requirement			-	-	-	

Bend tests

Type/No.	Bend angle	Former diameter *d*	Result

Macroscopic examination *T22.614.MC003* ACCEPTABLE

Impact Test Type : Size : Requirement :

Notch Location/Direction	Temp. °C	Values 1	2	3	Average	Remarks

Hardness Test	HV10 L1	*BASE M.*	*HAZ*	*WELD*	*HAZ*	*BASE M.*

Tests carried out in accordance with the requirements of: *EN ISO 15614-1:2017+A1:2019*
Laboratory report reference No.: *T22.614.PQR001*
Test results were acceptable/~~not acceptable~~
Tests carried out in the presence of: A. STRANTZAS

Examiner or examining body

19/7/2022
ANASTASIOS STRANTZAS

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STRANTZAS A.
MECH. ENGINEER
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