

RAPORT DE CALIFICARE A PROCEDURII DE SUDARE (WPQR) WELDING PROCEDURE QUALIFICATION RECORD (WPQR)



Calificarea procedurii de sudare - Certificat de testare Welding procedure qualification - Test certificate

Specificatia procedurii de sudare <i>Manufacturer's Welding Procedure</i>	Inspectia Nr.: <i>Inspection No.</i>	2020-WPQR-013
Nr. Referinta : <i>Reference No.</i>	Examinator : <i>Examiner</i>	Ing. RADU LAURENTIU
Producator: <i>Manufacturer</i>	M STEEL S.R.L.	
Adresa: <i>Address</i>	DOLJ, ROMANIA	
Cod/Standard testare: <i>Code/Testing Standard</i>	EN ISO 15614-1 / 2004 + A1 / 2008 + A2 / 2012; (/ 2017 *)	
Data sudarii : <i>Date of Welding</i>	03.03.2020	
Domeniul de calificare: <i>Range of qualification</i>	Conform cu / According to EN ISO 15614-1 / 2004 + A1 / 2008 + A2 / 2012; (/ 2017 *)	
Procedeu de sudare : <i>Welding Process</i>	135	
Tipul imbinarii: <i>Joint Type</i>	Tabla - Plate (P), Colt - Fillet Weld (FW), Multi-strat - Multi-run weld (ml)	
Material(e) de baza : <i>Parent metal (s):</i>	S 235 JR+AR (Grupa-Group 1.1 cf-acc CEN ISO/TR 15608)	
Grosime material (mm): <i>Material Thickness (mm)</i>	12 mm	
Diametrul exterior (mm): <i>Outside Diameter (mm)</i>	FW: from 6,00 mm to 24,00 mm (from 3,00 mm to 24,00 mm *)	
Material de adaos: <i>Filler Material</i>	ESAB OK Autrod 12.56 (G 42 3 M21 3Si1 acc EN 14341-A)	
Gaz / Flux - De protectie/Shielding: <i>Gas / Flux - Suport la radacina/Backing:</i>	CORGON 18 (M21 acc EN 14175)	
Tip current / Polaritate: <i>Type of Welding Current / Polarity</i>	DC+	
Pozitia de sudare : <i>Welding Position:</i>	PB	
Temperatura de preincalzire: <i>Preheat Temperature</i>	20 °C	
Temperatura intre straturi: <i>Interpass Temperature</i>	Max. 250 °C	
Tratament termic dupa sudare: <i>Post-Weld Heat Treatment</i>	---	
Alte informatii : <i>Other Information:</i>	---	

TÜV AUSTRIA
ROMANIA S.R.L.

Organism
Notificat cf. PED
2014/68/UE
Nr. 2414
Notified Body Acc.
PED 2014/68/UE
No. 2414

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J40/22370/2007

Registration No.
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Confirmam ca probele au fost pregatite, sudate si testate in mod corespunzator, in conformitate cu cerintele codului/standardului de testare indicat mai sus.

We hereby certify that the test welds were prepared, welded and tested satisfactorily in accordance with the requirements of the code/testing standard indicated above.

* Mentionam ca standardul EN 15614-1 / 2017 nu face parte din standardele armonizate.

* We mention that the EN 15614-1 / 2017 standard is not part of the harmonized standards.

Loc/Place	Data/Date	Eng. MATEI D	Eng. RADU L	Eng. FULGARD
Bucuresti	03.04.2020	Intocmit nume si prenume/ Prepared, name & signature	Verificat intocmire raport nume si prenume/ Crosscheck, name & signature	Aprobat nume si prenume/ Approved, name & signature
		TÜV AUSTRIA ROMANIA	TÜV AUSTRIA ROMANIA	TÜV AUSTRIA ROMANIA
			TÜV AUSTRIA ROMANIA	Notified Body 2414

Bank Connections:

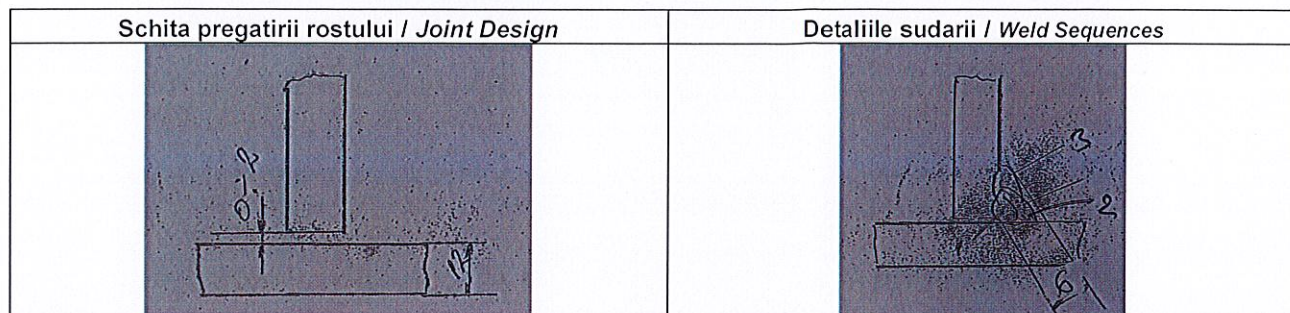
Unicredit Bank SA,
Grigore Mora

Account No.
RO67
BACX 0000 0000
9226 4250 RON

RO20
BACX 0000 0000
9226 4320 EUR

Raportul Testului de Sudare / Record of Weld Test

Locatia -Location:	PRUNET DOLJ	Inspectia Nr. - Inspection No.:	2020-WPQR-004
Nr. pWPS al producatorului: Manufacturer's pWPS No.	4	Examinator - Examiner:	Ing RADU LAURENTIU
Nr. Referinta: Reference No.	2020-1	Metoda de pregatire si curatare: Method of Preparation and Cleaning	Mecanica - Mechanical
WPQR al producatorului Nr.: Manufacturer's WPQR-No.:	---	Tip imbinare si sudura: Joint Type and weld	P, FW, ml
Procedeu sudare: Welding Process	135	Nume sudor (Poanson) Welder's Name (Stamp):	TRANDAFIR MIHAI CLAUDIU (TM)
Specificatia material de baza: Parent Material Specification	S 235 JR+AR (EN 10025-2)		
Pozitie sudare: Welding Position	PB	Grosime material (mm): Material Thickness (mm)	12 mm
Detalii pregatire sudura (schita): Weld Preparation Details (Sketch):	See herein below	Diametrul ext. al tevii (mm): Outside Pipe Diameter (mm)	--


Detalii de sudare / Welding Details

Pozitie sudare / rand Welding Position / Run	Procedeu sudare Welding Process	Dim. Mat. de adaos Size of Filler Material (mm)	Intensitate current sudare Current (A)	Tensiune Voltage (V)	Tip current / polaritate Type of current / Polarity	Vitza de avans sarma Wire Feed Speed (cm/min)	Viteza de sudare Travel Speed (cm/min)	Energia liniara de sudare Heat input (kJ/cm)
1	135	1,2	225-235	21-23	DC+	-	-	-
2-n	135	1,2	235-240	22-23	DC+	-	-	-
-	-	-	-	-	-	-	-	-

Simbolul si marca material de adaos:

Filler Material Designation and Make

ESAB FFB-IG (G 25 20 Mn acc EN 14343-A)

Cond. Special calcinare sau uscare:

Special Backing or Drying

Pendulare (latime max. rand):

Weaving (maximum width of run)

3 x Ø sr

 Oscilatie: Amplitudine, frecventa, temporizare:
Oscillation: Amplitude, Frequency, Dwell time

Detalii sudare in impulsuri:

Pulse welding details

Gaz-Gas:

 Protectie
Shielding

 Radacina
Backing

CORGON 18
M21/EN14175

Debit-Flow Rate :

18-20 l/min

Distanța contact duza/piesa:

Distance contact ube/workpiece

Flux-Flux Protectie-Shielding:

Radacina-Backing:

Detalii sudare cu plasma:

Plasma welding details

Tip/Dimensiune el. nefuzibil:

Tungsten Electrode Type / Size:

Mod transfer metal:

Mode of Metal transfer

Detalii scobire/support radacina:

Details of Back Gouging / Backing:

Unghi inclinare cap sudare:

Torch angle

Temperatura de preincalzire:

Preheat Temperature

20 °C

Temperatura intre straturi:

Interpass Temperature

Max. 250 °C

Post-incalzire - Post-Heating:

Tratament termic dupa sudare-Post-Weld Heat Treatment:

Temperatura, timp, metoda-Temperature, Time, Method:

Viteza incalzire / racire-Heating / Cooling Rates:

Alte informatii - Other Informations:

Loc/Place	Data/Date	Eng. MATEI D	Eng. RADU L	Eng. FULGA D
Bucuresti	03.04.2020	Intocmit nume si prenume/ Prepared, name & signature TÜV AUSTRIA ROMANIA	Verificat intocmire raport nume si prenume/ Crosscheck, name & signature TÜV AUSTRIA ROMANIA	Approbat nume si prenume/ Approved, name & signature TÜV AUSTRIA ROMANIA Notified Body 2414

Rezultatele incercarilor / Test Results

Nr. pWPS al producatorului: Manufacturer's pWPS No.	4	Inspectia Nr.: Inspection No.	2020-WPQR-013
Nr. Referinta - Reference No.	2020-1	Examinator - Examiner:	Ing RADU LAURENTIU
Examinare vizuala Visual Examination:	Acceptabil - Accepted	Examinare Radiografica: Radiography	---
Lichide penetrante/Pulberi magnetice: Penetrant/Magnetic Particle	Acceptabil - Accepted	Examinare cu ultrasunete: Ultrasonic	---

Incercari la tractiune / Tensile Tests

Temperatura - Temperature:

Pozitie sudare: Tip / Nr. Weld position: Type / No.	Re (N/mm ²)	Rm (N/mm ²)	A (%)	Z (%)	Locul ruperii Fracture Location	Observatii Remarks
Cerinta - Requirement						
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Incercari la indoire / Bend Tests

Diametru dorn - Former Diameter: ---

Pozitie sudare: Tip* / Nr. Weld position: Type* / No.	Unghi indoire Bend Angle	Alungire Elongation	Resultate Result
---	---	---	---
---	---	---	---

* Tip epruveta indoire - type of bending specimen:

TRB = Indoire frontala cu radacina intinsa - frontal root bend

TFB = Indoire frontala cu radacina intinsa - frontal face bend

SBB = Indoire laterala - side bend

LRB = Indoire laterala cu radacina intinsa - lateral root bend

LFB = Indoire laterala cu radacina intinsa - lateral face bend

Incercari la incovoiere prin soc / Impact Tests

Tipul - Type: ---

Dimensiuni - Size: ---

Cerinta - Requirement: ---

Poz. Sudare - Locatie si orientare crestatura Weld Position - Location & Notch orientation **	Temperatura Temperature (°C)	Valori - Values (J) 1 ; 2 ; 3	Media - Average (J)	Observatii *** Remarks ***
---	---	---	---	---
---	---	---	---	---

**Cf. - acc. to EN ISO 9016;

 *** Valorile obtinute se vor multiplica cu coeficientul de specimen redus asa cum este indicat de codul/standardul aplicat.
Impact test values shall be multiplied with the coefficient of reduced specimen as specified by applied code/standard.

Incercari de duritate / Hardness Tests

Tip/Sarcina - Type Load:

HV10

Locatia masuratorilor (schita) - Location of Measurements (sketch):

Metal de baza - Parent Metal:

Vezi Rapoartele de incercare nr.: Refer to Annex 2

ZIT - H.A.Z.:

Refer to Test Report nos:

Sudura - Weld Metal:

Examinare Macroscopica - Macro Examination : Acceptabil - Vezi Anexa / Accepted - Refer to Annex 1	Examinare microscopica - Micro Examination : ---
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Alte incercari:

Other Tests

Observatii:

Remarks

Rapoarte laborator - nr. de referinta / laboratory reports reference nos.:

Rapoarte examinare nedistructiva / Non-destructive examination reports:

PT: 32038 / 05.03.2020 ; RT: ---

Rapoartele de incercari mecanice / Destructive Test Reports:

Incercare la tractiune -Tensile Tests; --- ; Incercare la indoire-Bend Test:---

Incercarea rezilienta-Impact Test: --- ; Incercarea de duritate-Hardness Test : 2792 / 10.03.2020

Examinare Macroscopica si Microscopica - Macroscopic & Microscopic Examinations : 2791 /10.03.2020

REZULTATELE INCERCARILOR SUNT ACCEPTABILE - TEST RESULTS ARE ACCEPTABLE

Loc/Place

Data/Date

Eng. MATEI D

Eng. RADU L

Eng. FULGA D

Bucuresti

03.04.2020

 Intocmit nume si prenume/
Prepared, name & signature

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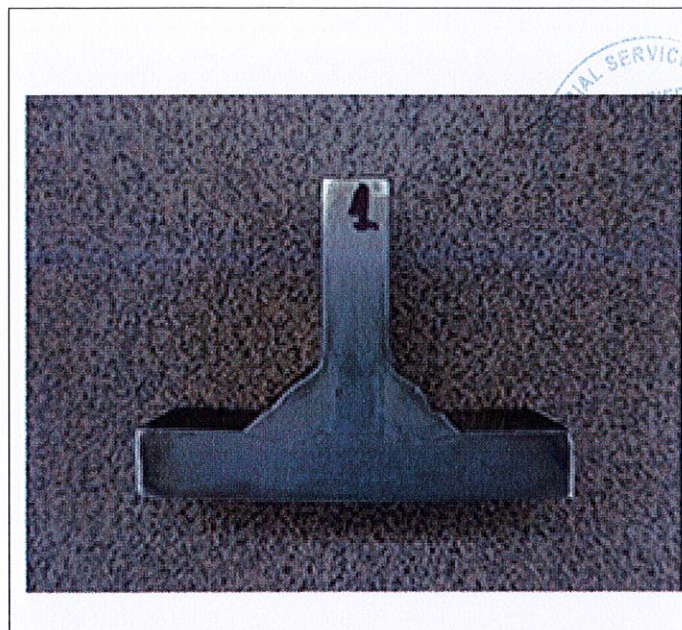
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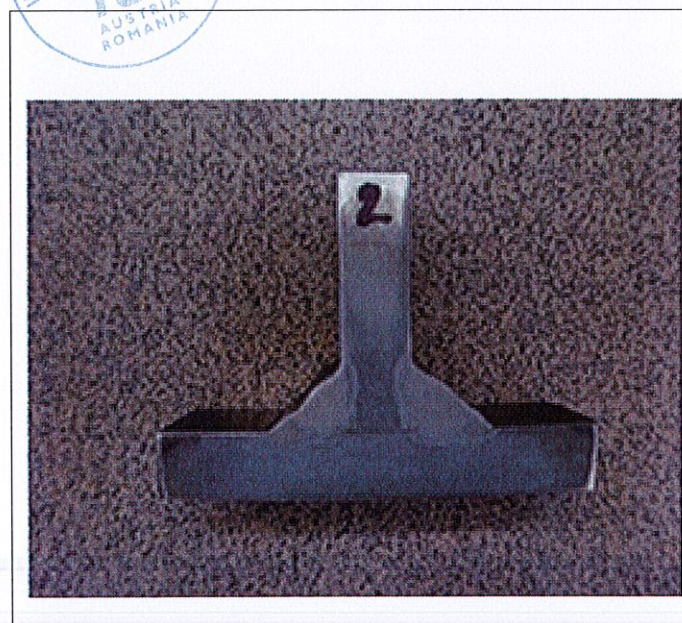
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EXAMINARE MACROSCOPICA - MACROSCOPIC EXAMINATION



Specimen Nr.: 1
Sample No.
Material: S 235 JR+AR (EN 10025-2)
Material
Atac chimic: Nital 5%
Etchant
Pozitia de sudare : PB
Welding Position



Specimen Nr.: 2
Sample No.
Material: S 235 JR+AR (EN 10025-2)
Material
Atac chimic: Nital 5%
Etchant
Pozitia de sudare : PB
Welding Position

Specimen nr.: 2792/10.03.2020
 Sample No:

Incercarea de duritate HV10
 Hardness Test

