

WELDING PROCEDURE SPECIFICATION WPS
(See QW-200.1, Section IX, ASME Boiler and Pressure Vessel Code)

Organization Name METALURGICA PROSERMACO S.R.L. Prepared by Pedro Huber
Welding Procedure Specification No. 10 Date June 20, 2014
Revision No. 0 Date June 20, 2014 Supporting PQRs 10

Welding Process (es) GTAW & SMAW Type Manual Type Manual

JOINTS (QW-402)

Joint Design Groove and Fillet
Root Spacing See Fabrication Drawings
Backing ☒ Yes SMAW ☒ No GTAW
Backing Material Type Base or Weld Metal
☒ Metal ☐ Nonfusing Metal
☐ Nonmetallic ☐ Other _____
Retainers ☐ Yes ☒ No

DETAILS

*SEE FABRICATION DRAWINGS
OR WELDING SKETCHES*

BASE METALS (QW-403)

P No. 1 Group No. 1 & 2 To P No. 1 Group No. 1 & 2

OR

Specification and type/grade or UNS Number _____
to Specification and type/grade or UNS Number _____

OR

Chem. Analysis and Mech. Prop. _____
to Chem. Analysis and Mech. Prop. _____

Thickness Range:

Base Metal : Groove From: 0.1875 in. up to 8.000 in. Fillet: All

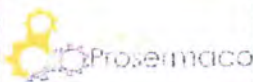
Maximum Pass Thickness ≤ 1/2 in. ☒ Yes ☐ No

Other _____

FILLER METALS (QW-404)

	<u>GTAW</u>	<u>SMAW</u>
Specification No. (SFA)	<u>5.18</u>	<u>5.1</u>
Classification (AWS No.)	<u>ER70S-2 or ER70S-3</u>	<u>E7018 or E7018-1</u>
F No.	<u>6</u>	<u>4</u>
A-No.	<u>1</u>	<u>1</u>
Size of filler metal	<u>1/16in., 3/32in., 1/8in.</u>	<u>3/32in., 1/8in., 5/32in., 3/16in.</u>
Filler Metal product form	<u>Solid Rod</u>	-----
Supplemental filler metal	-----	-----
Groove weld metal deposited thickness	<u>1 1/2 in. Max.</u>	<u>1 1/2 in. Max.</u>
Fillet weld metal deposited thickness	<u>1 1/2 in. Max.</u>	<u>1 1/2 in. Max.</u>
Electrode flux classification	-----	-----
Flux type	<u>None</u>	-----
Flux trade name	-----	-----
Consumable insert	<u>None</u>	-----
Other	<u>Only with filler metal</u>	-----

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QC1 EXP. 8/1/2019



FORM QW-482 (BACK)

WPS No. 10

Revision No. 0

POSITIONS (QW-405)

Position(s) of groove: All
Welding progression: ☒ Up ☐ Down ☐ Both
Position(s) of fillet: All
Other:

POSTWELD HEAT TREATMENT (QW-407)

Temperature range: Not Performed
Time range: -----
Other: -----

PREHEAT (QW-406)

Minimum preheat temperature: $10^{\circ}\text{C} \text{ \& } 100^{\circ}\text{C } T > 1\frac{1}{2}\text{in.}$
Maximum interpass temperature: Not required
Preheat maintenance: Not required
Other:

GAS (QW-408)

Percent composition

Gas(es)	(Mixture)	Flow rate
Shielding	Argon	Pure
Trailing	None	-----
Backing	None	-----
Other	QW-408.9: N.A. & QW-408.10 N.A.	

ELECTRICAL CHARACTERISTICS

Weld pass(es)	Process	Filler metal		Current, type, and polarity	Amperage range	Voltage range	Wire feed speed range	Energy or power range	Travel speed range	Other
		Classification	Diameter							
All	GTAW	ER70S-2 or ER70S-3	1/16in.	DCEN	60-100	---	---	---	---	---
All	GTAW	ER70S-2 or ER70S-3	3/32in.	DCEN	80-140	---	---	---	---	---
All	GTAW	ER70S-2 or ER70S-3	1/8in.	DCEN	100-160	---	---	---	---	---
All	SMAW	E7018 or E7018-1	3/32in.	DCEP	70-110	---	---	---	---	---
All	SMAW	E7018 or E7018-1	1/8in.	DCEP	90-150	---	---	---	---	---
All	SMAW	E7018 or E7018-1	5/32in.	DCEP	120-190	---	---	---	---	---
All	SMAW	E7018 or E7018-1	3/16in.	DCEP	170-280	---	---	---	---	---

Pulsing current: No
Tungsten electrode type: SFA-5.12, EWTh-2 or EWLa1.5
Size: 3/32 in.
Heat Input Maximum: Any
Mode of metal transfer for GMAW/FCAW: -----
Other: None

TECHNIQUE (QW-410)

	GTAW	SMAW
String or weave bead	Both	Both
Orifice, nozzle or gas cup size	1/4" - 1/2"	-----
Initial cleaning	Grinding and brushing	Grinding and brushing
Interpass cleaning	Brushing	Brushing
Method of back gouging	Grinding	Grinding
Oscillation	-----	-----
Contact tube to work distance	-----	-----
Multiple or single pass per side	Single and multiple	Single and multiple
Multiple or single electrodes	Single	Single
Electrode spacing	-----	-----
Peening	Not allowed	Not allowed
Other	Thermal process: any QW-410.11: N.A.	Thermal process: any

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