

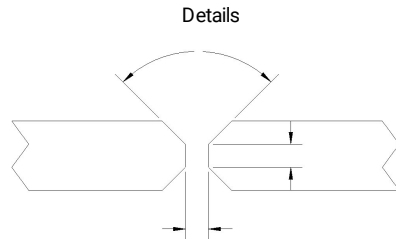
FORM QW-482 SUGGESTED FORMAT FOR WELDING PROCEDURE SPECIFICATIONS (WPS)
(See QW-200.1, Section IX, ASME Boiler and Pressure Vessel Code)

Organization Name Codeware, Inc. By _____
 Welding Procedure Specification No. GTAW_1203_1 Date September 3, 2018 Supporting PQR No.(s) GTAW-304Stainless
 Revision No. 0 Date _____

Welding Process(es) [1]GTAW Type(s) [1]Manual
 (Automatic, Manual, Machine, or Semi-Automatic)

JOINTS (QW-402)

Joint Design Double V-Groove
 Root Spacing (in) .0625
 Groove Angle (°) 60
 Backing Not Permitted
 Backing Material (Type) None
 Retainers None



Double V

Sketches, Production Drawings, Weld Symbols, or Written Description should show the general arrangement of the parts to be welded. Where applicable, the details of weld groove may be specified.

Sketches may be attached to illustrate joint design, weld layers, and bead sequence (e.g., for toughness procedures, for multiple process procedures, etc.)

***BASE METALS (QW-403)**

P-No. 8 Group No. _____ to P-No. 8 Group No. _____
 OR
 Specification and type, grade, or UNS Number _____
 to Specification and type, grade, or UNS Number _____
 OR
 Chem. Analysis and Mech. Prop. None
 to Chem. Analysis and Mech. Prop. None
 Thickness Range: (in) _____
 Base Metal: Groove [As-Welded] .0625 - 2 Fillet No Min - No Max
 Maximum Pass Thickness ≤ ½ in. (13 mm) (Yes) (No) _____
 Other _____

***FILLER METALS (QW-404)**

Spec. No. (SFA) [1]5.1
 AWS No. (Class) [1]E6012
 F-No. [1]2
 A-No. [1]1
 Size of Filler Metals (in) [1].125
 Filler Metal Product Form [1]Bare
 Supplemental Filler Metal None
 Weld Metal
 Deposited Thickness: (in)
 Groove [1]No Min - 0.25
 Fillet [1]No Min - 0.25
 Electrode-Flux (Class) None
 Flux Type None
 Flux Trade Name None
 Consumable Insert Size None
 Consumable Insert Shape None

* Each base metal filler metal combination should be recorded individually.
 NOTE: Bracketed [] numbers indicate process

POSITIONS (QW-405) Position(s) of Groove <u>[1]1G - Flat, 1G - Flat</u> Welding Progression <u>[1]N/A</u> Position(s) of Fillet <u>None</u>	POSTWELD HEAT TREATMENT (QW-407) Temperature Range (°F) <u>None</u> Time Range (hours/in) <u>None</u> Other <u>No PWHT Permitted</u>												
PREHEAT (QW-406) Preheat Temperature, Minimum (°F) <u>[1]50</u> Interpass Temperature, Maximum (°F) <u>[1]80</u> Preheat Maintenance <u>None</u> (Continuous or special heating, where applicable, should be specified)	GAS (QW-408) <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;"></th> <th style="width:35%;">Composition</th> <th style="width:35%;">Flow Rate (ft³/hr)</th> </tr> </thead> <tbody> <tr> <td>Shielding</td> <td><u>[1]Ar=100%</u></td> <td><u>[1]8</u></td> </tr> <tr> <td>Trailing</td> <td><u>[1]Not Used</u></td> <td><u>None</u></td> </tr> <tr> <td>Backing</td> <td><u>[1]Not Used</u></td> <td><u>None</u></td> </tr> </tbody> </table>		Composition	Flow Rate (ft ³ /hr)	Shielding	<u>[1]Ar=100%</u>	<u>[1]8</u>	Trailing	<u>[1]Not Used</u>	<u>None</u>	Backing	<u>[1]Not Used</u>	<u>None</u>
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Backing	<u>[1]Not Used</u>	<u>None</u>											

ELECTRICAL CHARACTERISTICS (QW-409)

Weld Pass(es)	Process	Filler Metal		Current Type and Polarity	Amps (Range)	Wire Feed Speed (Range)	Energy or Power (Range)	Volts (Range)	Travel Speed (Range)	Other (e.g., Remarks, Comments, Hot Wire Addition, Technique, Torch Angle, etc.)
		Classification	Diameter							
	GTAW	E6012	.125	DCEN	24	None	None	12	8	
	GTAW	E6012	.125	DCEN	24	None	None	12	8	

Amps and volts, or power or energy range, should be specified for each electrode size, position, and thickness, etc.

Pulsing Current [1]Not Permitted Heat Input (max.) (J/in) None
 Tungsten Electrode Type [1]EWTh-2 Size (in) [1]1/32

TECHNIQUE (QW-410)

String or Weave Bead [1]String/Weave
 Orifice, Nozzle, or Gas Cup Size [1]1/2
 Initial and Interpass Cleaning (Brushing, Grinding, etc.) [1]None
 Method of Back Gouging [1]Brushing, Grinding, Air-arc
 Contact Tube to Work Distance (in) None
 Multiple or Single Pass (Per Side) [1]Single/Multiple
 Multiple or Single Electrodes None
 Electrode Spacing (in) None
 Peening [1]Not Permitted

Date December 4, 2018 Certified by 