

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

Company Name College of Industrial Technology By Banjerd Rokprai
 Welding Procedure Specification No. W-01 Date 11/25/2013 Supporting PQR No.(s) P-01, P-02, P-03
 Revision No. _____ Date _____

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

<p>JOINTS (QW-402)</p> <p>Joint Design <u>Square-groove weld</u></p> <p>Root Spacing <u>2.4 mm</u></p> <p>Backing: Yes <u>-</u> No <u>-</u></p> <p>Backing Material (Type) <u>-</u> <small>(Refer to both backing and retainers.)</small></p> <p><input checked="" type="checkbox"/> Metal <input type="checkbox"/> Nonfusing Metal <input type="checkbox"/> Nonmetallic <input type="checkbox"/> Other</p> <p>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.</p> <p>[At the option of the manufacturer, sketches may be attached to illustrate joint design, weld layers, and bead sequence (e.g., for notch toughness procedures, for multiple process procedures, etc.)]</p>	<p>Details</p>
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***BASE METALS (QW-403)**

P-No. 1 Group No. 1 To P-No. 1 Group No. 1

OR

Specification and type/grade or UNS Number SA106 Grade B
 to Specification and type/grade or UNS Number SA106 Grade B

OR

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

Thickness Range:

Base Metal: Groove _____ Fillet _____

Maximum Pass Thickness $\leq 1/2$ inch (13 mm) (Yes) (No)

Other _____

*FILLER METALS (QW-404)	1	2
Spec. No. (SFA) _____	SFA-5.18	-
AWS No. (Class) _____	ER70S-6	-
F-No. _____	6	-
A-No. _____	-	-
Size of Filler Metals _____	2 mm	-
Filler Metal Product Form _____	Rod	-
Supplemental Filler Metal _____	-	-
Weld Metal		
Thickness Range:		
Groove _____		
Fillet _____		
Electrode-Flux (Class) _____		
Flux Type _____		
Flux Trade Name _____		
Consumable Insert _____		
Other _____		

*Each base metal-filler metal combination should be recorded individually.

QW-482 (Back)

WPS No. W-01 Rev. _____

POSITIONS (QW-405) Position(s) of Groove <u>1GR</u> Welding Progression: Up _____ - _____ Down _____ - _____ Position(s) of Fillet _____ - _____ Other _____ - _____	POSTWELD HEAT TREATMENT (QW-407) Temperature Range _____ - _____ Time Range _____ - _____ Other _____ - _____																								
PREHEAT (QW-406) Preheat Temperature, Minimum _____ - _____ Interpass Temperature, Maximim _____ - _____ Preheat Maintenance _____ - _____ Other _____ - _____ (Continuous or special heating, where applicable, should be recorded)	GAS (QW-408) <table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td align="center" colspan="3">Percent Composition</td> </tr> <tr> <td></td> <td align="center">Gas(es)</td> <td align="center">(Mixture)</td> <td align="center">Flow Rate</td> </tr> <tr> <td>Shielding</td> <td align="center"><u>Ar</u></td> <td align="center"><u>99.99%</u></td> <td align="center"><u>10 L/min</u></td> </tr> <tr> <td>Trailing</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> </tr> <tr> <td>Backing</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> </tr> <tr> <td>Other</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> </tr> </table>		Percent Composition				Gas(es)	(Mixture)	Flow Rate	Shielding	<u>Ar</u>	<u>99.99%</u>	<u>10 L/min</u>	Trailing	-	-	-	Backing	-	-	-	Other	-	-	-
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Other	-	-	-																						

ELECTRICAL CHARACTERISTICS (QW-409)
DCEN

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							
1	GTAW	ER70S-6	2 mm	DCEN	60-90	-	13.2-21.9	12.4-13.6	56 mm/min	
2	GTAW	ER70S-6	2 mm	DCEN	60-90	-	13.2-21.9	12.4-13.6	56 mm/min	

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

Pulsing Current _____ - _____ Heat Input (max.) 1.31 kJ/mm

Tungsten Electrode Size and Type 2.4 mm AWS A5.12 : EWT h 2
(Pure Tungsten, 2% Thoriated, etc.)

Mode of Metal Transfer for GMAW (FCAW) _____
(Spray Arc, Short Circuiting Arc, etc.)

Other _____ - _____

TECHNIQUE (QW-410)

String or Weave Bead _____ Weave Bead

Orifice, Nozzle, or Gas Cup Size _____ Nozzle #6

Initial and Interpass Cleaning (Brushing, Grinding, etc.) _____ Brushing

Method of Back Gouging _____ - _____

Oscillation _____ - _____

Contact Tube to Work Distance _____ - _____

Multiple or Single Pass (Per Side) _____ Multiple

Multiple or Single Electrodes _____ single

Electrode Spacing _____ - _____

Peening _____ - _____

Other _____ - _____