



WELDING PROCEDURE SPECIFICATION

WPS- 2010-1/5 **REV. NO.:** 0 **DATE:** 9/1/2004 ****APPLICABILITY****
WELDING PROCESS/ES GTAW- **and** GTAW- **ASME:** X **AWS:**
SUPPORTING PQ 200-5 **OTHER:** N/

JOINT This WPS shall be used in conjunction with the General Welding Standards (GWS) and Welding Fabrication Procedure (WFP) sections and criteria for joint details, repairs, NDE, inspection etc.

Weld Joint Type Butt/Fillet	Class:	Full or Partial Penetration
See GWS 1-06 for details	Preparation:	Thermal/Mechanical
Root Opening:	Backing:	With/Without
Backgrind root: N	Backing Mat.:	
Bkgrd Method:	GTAW Flux:	Backing Retainer:

FILLER METALS:	Class: ER502	and ER502
A No: 4 SFA Class: 5.9 and 0. F No: 6 and 0	Size: 3/32	1/8 1/8 1/8
Insert: N Insert Desc.: N/A	Weld Metal Thickness Range:	
Flux: Type: N/A	Size: 0	AWS: 0.000 thru 0.000
Filler Metal Note:		ASME: 0.062 thru 0.750

BASE MATERIAL	P No. 5 Gr No. All	to: P No. 1 Gr No. All
Spec. ASTM A-387	Grade: All	to: Spec. ASTM A-516 Grade: All
Pipe Dia Range: Groove >	0.5	
Thickness Range: Groove :	AWS: 0.000	thru 0.000 ASME: 0.062 thru 0.750

QUALIFIED POSITIONS All **Vertical Progression:** Up

Preheat Min. Temp.:	300 F	GAS: Shielding:	Argon	or N/A
Interpass Max. Temp.	500 F	Gas Composition:	100 %	0 % 0 %
Preheat Maintenance:	300 F	Gas Flow Rate cfh	15 to 25	
		Backing Gas/Comp:		%
PWHT: Time @ F Temp.		Backing Gas Flow cfh	5 to 8	
Temp. Range:	F to F	Trailing Gas/Comp:		%

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Note:For SC/SS/ML-1/ML-2 work, this WPS requires independent review.

WELDING CHARACTERISTICS:

Current: DCEN and NA Tungsten type: EWTH-2 Transfer Mode: N/A
 Ranges: Amps 100 to 180 Pulsing Cycle: 0 to 0
 Volts 12 to 20 Background Current: 0
 Fuel Gas: N/A Flame: N/A Braze temp. F to

WELDING TECHNIQUE: For cleaning, grinding, and inspection criteria refer to Volume 2, Welding Fabrication Procedures

Technique: Manual Cleaning Method: Wire Brush, File, Grind
 Single Pass of Multi Pass: M Stringer or Weave bead (S/W): S Oscillation: N
 GMAW Gun Angle °: 0 to 0 Forehand or Backhand for GMAW (F/B): NA
 Maximum K/J Heat Input Travel speed/ipm: 0 - 0 Gas Cup Size:

PROCEDURE QUALIFIED FOR:

Charpy "V" Notch: N Nil-Ductil Transition Temperature: N Dynamic Tear: N

Comments:

Weld Layer	Manual Process	Filler Metals	Size	Amp Range	Volt Range	Travel ipm	Nozzel Angle	Other
1	GTAW-	ER502	3/32	100 180	12 20	0 0	0	
2	GTAW-	ER502	1/8	100 180	12 20	0 0	0	
3			1/8					
4			1/8					
5								
6								
7								
8								

REM. * Weld layers are representative only - actual number of passes and layer sequence may vary due to variations in joint design, thickness and fitup.