



WELDING PROCEDURE SPECIFICATION

WPS - 3007-2X **REV. NO.:** 0 **DATE:** 9/29/2004 ****APPLICABILITY****
WELDING PROCESS/ES GMAW and GMAW **ASME:** X **AWS:** X
SUPPORTING PQR: P-307-2x **OTHER:**

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: Groove/fillet	Class: Full & partial penetration
See GWS 1-06 for joint details	Preparation: Mechanical or Plasma cut
Root Opening:	Backing: Strap, ring or open butt
Backgrind root: N/A	Backing Mat.: Metal or Argon
Bkgrd Method: N/A	GTAW Flux: N/A Backing Retainer: N/A

FILLER METALS **Class:** ERXXXX and ERXXXX

A No: N/A	SFA Class: 5.10 and 5.10	F No: 2x and 2x	Size: .035 .045 .062
Insert: N/A	Insert Desc.: N/A		Weld Metal Thickness Range:
Flux: Type: N/A	Size: N/A		AWS: 0.125 thru 1.000
Filler Metal Note: ER1100, ER23XX, ER40XX, ER41XX, ER5XXX			ASME: 0.187 thru 1.000

BASE MATERIAL	P No. 2X	Gr No.	to: P No. 2X	Gr No.
Spec. Aluminum	Grade: All	to: Spec. Aluminum		Grade: All
Qualified Pipe Dia Range: = 24				
Qualified Thickness Range:	AWS: 0.125 thru 1.000		ASME: 0.187 thru 1.000	

QUALIFIED POSITIONS	All	All	Vertical Progression: Up
Preheat Min. Temp.: 50 °F		GAS: Shielding: Helium or Helium	
Interpass Max. Temp.: 750 °F		Gas Composition: 100 % % %	
Preheat Maintenance: 50 °F		Gas Flow Rate cfh: 25 to 50	
		Backing Gas/Comp: Argon 100 %	
PWHT: Time @ °F Temp. N/A		Backing Gas Flow cfh: 3 to 8	
Temp. Range: °F to °F		Trailing Gas/Comp: N/A %	

PREPARED BY <u>Kelly Bingham</u> Signature on file at FWO-DECS	DATE: 9/29/2004
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Note: For SC/SS/ML-1/ML-2 work, this WPS requires independent review.

WELDING CHARACTERISTICS:

Current: DCEP and DCEP **Tungsten type:** N/A **Transfer Mode:** Spray
Ranges: Amps 140 to 200 **Pulsing Cycle:** N/A to
Volts 25 to 31 **Background Current:** N/A
Fuel Gas: N/A **Flame:** N/A **Braze temp. °F** N/A to N/A

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

Technique: Semi-automatic **Cleaning Method:** Wire bursh, grind
Single Pass or Multi Pass: M **Stringer or Weave bead (S/W):** S/W **Oscillation:** N/A
GMAW Gun Angle °: 5 to 15 **Forehand or Backhand for GMAW (F/B):** F - only
GMAW/FCAW Tube to work distance: 3/8" to 5/8"
Maximum K/J Heat Input: N/A **Travel speed:** As required **Gas Cup Size:** 1/2 - 3/4

No single pass shall deposit greater than 1/2" thickness of material.

PROCEDURE QUALIFIED FOR:

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

Comments: Material greater than 0.75" requires preheat of 150°F and preheat maint. of 150°F min.

Weld Layer	Manual Process	Filler Metals	Size	Amp Range	Volt Range	Travel/ipm	Nozzel Angle	Other
1	GMAW	ERXXXX	.035	140 to 180	25 to 30	to	5 - 15	
2	GMAW	ERXXXX	.045	150 to 200	26 to 31	to		
3	GMAW	ERXXXX	.062	160 to 250	27 to 32	to		
4								
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.