

WELDING PROCEDURE SPECIFICATION

WPS - 7000-xxxx-PPE	REV. NO.: 1	DATE: 6/1	8/2009	**APPLICABILITY**						
WELDING PROCESS: TF	and TF	ASME: X	AWS: N	OTHER: ANSI B31.3 Ch. VII						
SUPPORTING PQR: 7000-PPE 2x/wall										

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: Square butt **Class:** Full fusion/double wall See GWS 1-06 and WFP's for joint details **Preparation:** Use facing tool to squre pipe ends 0 **Backing:** N/A **Root Opening:** N/A **Backgrind root:** N/A **Backing Mat.:** GTAW Flux: N/A **Bkgrd Method:** N/A Backing Retainer: N/A N/A N/A **FILLER METALS: Class:** and N/A and N/A 0 0 0 A No: N/A **SFA Class:** N/A and N/A Size: 0 F No: Insert: N/A Insert Desc.: N/A Weld Metal Thickness Ranges: 0 Flux: Type: N/A Size: N/A **AWS Root Pass:** 0 thru 0 Filler Metal Note: N/A **AWS Balance:** 0 thru 0 **ASME Root Pass:** 0 thru **ASME Balance:** 0 thru 0 P/S No. N/A Gr No. N/A **BASE MATERIAL** to: P/S No. N/A Gr No. N/A Grade: N/A Spec. Polypropylene- Pipe Grade: N/A to: Spec. Polypropylene- Pipe Qualified Pipe Dia. Range: \geq AWS: 0 ASME: 0.5 **Qualified Thickness Range:** AWS: 0.000 thru 0.000 ASME: 0.250 thru 1.500 **OUALIFIED POSITIONS:** AWS: N/A ASME: N/A Vert. Prog.: N/A Preheat Min. Temp.: 0°F **GAS: Shielding:** N/A N/A or 0 0 / 0°F 0 1 0 1 % 0 / 0 % **Interpass Max. Temp.:** Gas Composition: **Preheat Maintenance:** 0°F Gas Flow Rate cfh: 0 0 0 **to** 0 to **PWHT: Time** (a) °F Temp. 0 **Backing Gas/Comp:** N/A 0 % **Temp. Range:** 0°F **Backing Gas Flow cfh:** 0 0 to 0°F **Trailing Gas/Comp:** N/A 0 % to **APPROVAL:** Signatures on file at ENG DATE: 6/18/2009 WPS NO: 7000-xxxx-PPE

WELDING CHARACTERISTICS:

Thursday, June 18, 2009

Current: N/A	and N/A	4	Tungsten Type: N/A		Transfer Mode: N/A	
Ranges: Amps	0 to	0	Tungsten Dia.:	0	Pulsing Cycle: N/A	to N/A
Volts	0 to	0			Background Current: N/A	
Fuel Gas: N/A	Fla	ame: N/A			Braze temp. °F 0	to 0

WELDING TECHNIQUE: For fabrication specific requirements such as fittup, cleaning, grinding, PWHT and inspection criteria refer to Volume 2, Welding Fabrication Procedures

Technique: Automatic Macl	hine	Cleaning Method:	Abra	Abrasive cloth/alcohol			
Single Pass or Multi Pass:	S	Stringer or Weave bead (S/W):	S or	Oscillation:			
GMAW Gun Angle °:	0 to 0	Forehand or Backhand for GMA	W (F/B):		N/A		
No Pass >1/2":	N/A	GMAW/FCAW Tube to work di	stance:	N/A			
Maximum K/J Heat Input:	N/A	Travel speed: N/A	Gas Cup Size	e: N/A			

PROCEDURE QUALIFIED FOR:

Charpy "V" Notch: N/A

Nil-Ductil Transition Temperature: N/A

Dynamic Tear: N/A

Comments: Use piping manufacturer heating and joing equipment or a manufacturer approved equivelant. Heating, pressure, holding, and time @ temperature shall be in accordance with manufacturers and consensus standards, (ANSI/ASME/ASTM, etc.) WPS Data Sheets will be added for each type of plastic pipe, (i.e. PP/PE/PPE/PVDF/HDPE/etc.) that fall within the jurisdiction of ANSI/ASME B31.3 Chap. VII and are performed within the manufacturers instructions/requirements. Bonding must be done with clean, dry pipe above 40° F.

Weld Layer	Manual Process	Filler Metals	Size A		Amp Range			Volt Range			Travel/ipm			Nozzle Angle		Other
1	TF	N/A	0	0	to	0	0	to	0	0	to	0	0	to	0	
2	TF	N/A	0	0	to	0	0	to	0	0	to	0				
3 4	TF	N/A	0	0	to	0	0	to	0	0	to	0				
5	TF	N/A	0	0	to	0	0	to	0	0	to	0				

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

Use of LANL Welding Procedures and Welder Qualifications for non-LANL work shall be at the sole risk and responsibility of the Subcontractor, and the Subcontractor shall indemnify and save LANL and the Government harmless from any and all claims, demands, actions or causes of action, and for any expense or loss by reason of Subcontractor's and their employees posession and use of LANL procedures and qualifications.