



WELDING PROCEDURE SPECIFICATION

WPS - 7000-Gasx-PPE **REV. NO.:** 0 **DATE:** 5/15/2008 ****APPLICABILITY****
WELDING PROCESS: TF **and TF** **ASME:** **AWS:** **OTHER:** 49 CFR192
SUPPORTING PQR: Driscopipe 8000 PQR Driscopipe 8100 PQR Bulliten 750

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 & side fusion	Class:	Full fusion
See GWS 1-06 and WFP's for joint details	Preparation:	Manufacturer machine face tool
Root Opening: 0	Backing:	N/A
Backgrind root: N/A	Backing Mat.:	N/A
Bkgrd Method: N/A	GTAW Flux: N/A	Backing Retainer: N/A

FILLER METALS		Class:	N/A	and	N/A
A No: N/A	SFA Class: N/A	F No: N/A	Size: 0	0	0
Insert: N/A	Insert Desc.: N/A	Weld Metal Thickness Ranges:			
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	0
		ASME Balance:	0	thru	0

BASE MATERIAL	P/S No. N/A	Gr No. N/A	to: P/S No. N/A	Gr No. N/A
Spec. PPE - 8000 or 8100	Grade: N/A	to: Spec. PPE - 8000 or 8100	Grade: N/A	
Qualified Pipe Dia. Range: ≥	AWS: 0	ASME: 0.5		
Qualified Thickness Range:	AWS: 0.000	thru 0.000	ASME: 0.090	thru 0.977

QUALIFIED POSITIONS:	AWS: N/A	ASME: N/A	Vert. Prog.:	N/A
Preheat Min. Temp.: 0 °F	GAS: Shielding:	N/A	or	N/A
Interpass Max. Temp.: 0 °F	Gas Composition:	0 / 0 / 0 %	0 / 0 / 0 %	
Preheat Maintenance: 0 °F	Gas Flow Rate cfh:	0	to 0	0
PWHT: Time @ °F Temp. 0	Backing Gas/Comp:	N/A		0 %
Temp. Range: 0 °F	Backing Gas Flow cfh:	0	to 0	
to 0 °F	Trailing Gas/Comp:	N/A		0 %

APPROVAL: Signatures on file at ENG **DATE:** 5/19/2008

WPS NO: 7000-Gasx-PPE

WELDING CHARACTERISTICS:

Current: N/A and N/A **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 **Flame:** 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 Machine **Cleaning Method:** Abrasive cloth/alcohol
Single Pass or Multi Pass: N/A **Stringer or Weave bead (S/W):** N/A or **Oscillation:** N/A
GMAW Gun Angle °: 0 to 0 **Forehand or Backhand for GMAW (F/B):** N/A
No Pass >1/2": N/A **GMAW/FCAW Tube to work distance:** N/A
Maximum K/J Heat Input: N/A **Travel speed:** N/A **Gas Cup Size:** 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 joining equipment or a manufacturer approved equivalent. Heating, pressure, holding, and time @ temperature shall be in accordance with manufacturers instructions/requirements.

Weld Layer	Manual Process	Filler Metals	Size	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	0 to 0		
2	TF	N/A	0	0 to 0	0 to 0	0 to 0	0 to 0	0 to 0		
3	TF	N/A	0	0 to 0	0 to 0	0 to 0	0 to 0	0 to 0		
4	TF	N/A	0	0 to 0	0 to 0	0 to 0	0 to 0	0 to 0		
5	TF	N/A	0	0 to 0	0 to 0	0 to 0	0 to 0	0 to 0		
6										

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 possession and use of LANL procedures and qualifications.