WELDING PROCEDURE SPECIFICATION (WPS)
PREQUALIFIED ☐ QUALIFIED BY TESTING ☒
or PROCEDURE QUALIFICATION RECORDS (PQR) Yes ☐
AASHTO/AWS D1.5 Qualification Type 5.12.1 ☐ – 5.12.2 ☐ – 5.13 ☐

Contractor/
Organization MERRIMACK SHEET METAL
Welding Process(es) GMAW
Type: Manual ☐ Semiautomatic ☒
Machine ☐ Automatic ☐
Tandem ☐ Parallel ☐

JOINT DESIGN USED
Single ☒ Double Weld ☒
Backing: Yes ☐ No ☒ Material
Root Opening NA Root Face Dimension NA
Groove Angle NA Radius (J–U)
Backgouging: Yes ☐ No ☒ Method
Root Treatment CLEAN TO BRIGHT METAL

BASE METALS
Material Spec. A36 ; A588 ; A709 ;
Type or Grade G50
Thickness: Groove NA Fillet UNLIMITED
Diameter (Pipe) NA

FILLER METALS
AWS Specification A5.28
AWS Classification ER80S-Ni1
Manufacturer Trade Name LINCOLN SUPERARC LA-75

SHIELDING
Flux NA Mfg. Trade Name NA
Electrode-Flux (Class) NA
Gas Composition 90% ARGON / 10% CO2
Flow Rate 45 CFH Gas Cup Size 3/4

Identification LA-5
Revision 0 Date 6/1/2010 By KK
Authorized by KK Date 6/1/2010
Supporting PQR No.(s) PQLA1

POSITION
Position of Groove NA Fillet 1F or 2F
Vertical Progression: Up ☒ Down ☐

ELECTRICAL CHARACTERISTICS
Transfer Mode (GMAW): Globular ☐ Spray ☒
Current: AC ☐ DCEP ☒ DCEN ☐ Pulsed ☐
Electrical Stick Out 3/4
Other

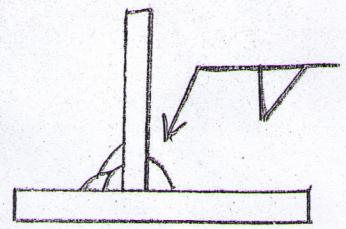
TECHNIQUE
Stringer or Weave Bead BOTH
Multi-pass or Single Pass (per side) BOTH
Number of Electrodes 1
Electrode Spacing: Longitudinal NA
Lateral NA Angle NA
Interpass Cleaning CLEAN WITH WIRE BRUSH

PREHEAT
Preheat Temp., Min. 70 F
Interpass Temp., Min. 70 F
Interpass Temp., Max. 400 F

POSTWELD HEAT TREATMENT
Temp. NA Hold Time NA
Heating/Cooling Rate NA

HEAT INPUT
Calculated Heat Input Value: kJ/in ☒ kJ/mm ☐
Max. Heat Input 42.7 Min. Heat Input 22.5

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals	Current		Volts	Travel Speed	Joint Details
		Diam.	Type & Polarity	Amps or Wire Feed Speed			
ROOT 3/16	GMAW	.045	DCEP	220- 260	26-29	15-18 IPM	LA-5-1F 
ROOT 1/4	GMAW	.045	DCEP	220- 260	26-29	14-17 IPM	
ROOT 5/16	GMAW	.045	DCEP	220-270	26-29	13-16 IPM	
ROOT 3/8	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	
2ND 3/8	GMAW	.045	DCEP	220-270	26-29	11-14 IPM	
3RD 3/8	GMAW	.045	DCEP	220-270	26-29	11-14 IPM	
ROOT 7/16	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	
2ND 7/16	GMAW	.045	DCEP	220-270	26-29	12-14 IPM	
3RD 7/16	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	

Form L-2

Form L-2—Sample Welding Procedure Specification