

WELDING PROCEDURE SPECIFICATION (WPS) YES (X)
 PREQUALIFIED _____ QUALIFIED BY TESTING _____
 or PROCEDURE QUALIFICATION RECORD (PQR) YES (X)

Company Name ARC Est. Inc. Identification # ARC WPS # 52
 Welding Process(es) SAW Revision 2 Date 1/24/2015 By SVH
 Supporting PQR No.(s) PQR # 52 Authorized by STEVE HOWARD Date 1/24/2015
 Type - Manual () Semi - Automatic ()
 Machine () Automatic (X)

JOINT DESIGN USED Type <u>B-Lbc-S</u> Single (X) Double Weld () Backing Yes () No (X) Backing Material <u>NO</u> Root Opening <u>0 - 1/16"</u> Root Face Dimension _____ Groove Angle <u>90 degrees</u> Radius (J-U) _____ Back Gauging (YES) Method _____		POSITION Position of Groove <u>1G</u> Fillet _____ Vertical Progression ()	
Material Spec <u>A 709</u> Type or Grade <u>HPS 70W</u> Thickness <u>U</u> Groove _____ Fillet _____ Diameter (Pipe) _____		ELECTRICAL CHARACTERISTICS Transfer Mode (FCAM) Short Circuiting () Globular () Spray (X) Current: AC () DCEP (X) DCEN () Pulsed () OTHER: _____	
FILLER METALS Lincoln <u>LA-85</u> AWS Specification <u>A 5.23</u> AWS Classification <u>ENS</u>		TECHNIQUE Stringer or Weave Bead <u>Stringer</u> Multi-pass or Single Pass (per side) <u>Multi</u> Number of Electrodes <u>ONE</u> Electrode Spacing Longitudinal _____ Lateral _____ Angle _____	
SHELDING Flux <u>MIL800-H</u> Gas _____ Electrode - Flux (Class) Composition _____ <u>FBAE-ENS-NIS-H2</u> Flow Rate _____ Gas Cup Size _____		Contact Tube to Work Distance <u>1" stickout +/- .14"</u> Peening _____ Interpass Cleaning: <u>hand or power tools</u>	
Preheat <u>3/4" = 50 degrees F 3/4 to 1 1/2" = 125 degn rees F</u> <u>1 1/2 to 2 1/2" = 175 degrees F over 2 1/2" = 225 degrees F</u>		POSTWELD HEAT TREATMENT Temp _____ Time _____	

Pass or Weld Layer(s)	S	Filler Metals				Current		Volts	Travel Speed	Joint Details
		Class	Diameter	Type & Polarity	Amps or Wire Feed Speed					
	SAW	ENS	3/32"	DCEN	360 - 440	28 - 32	12.4 - 16.6		Root = 0" Tolerance + 1/16" Face > 1/2" - 1" = 1/4" + 1/4" > 1" - 1 1/2" = 3/8" + 1/4" > 1 1/2" - 2" = 1/2" + 1/4" Angle = 60 degrees + 10 - 5	

VTrans Received JWC
 OK'D _____
 JAN 21 2015
 Resubmit _____ APPROVED _____
 BY _____ DATE 1/30/15