

Welding Procedure Specification (wps) Yes ( X )  
 PREQUALIFIED \_\_\_\_\_ QUALIFIED BY TESTING  X   
 or PROCEDURE QUALIFICATION RECORD (PQR) YES ( )

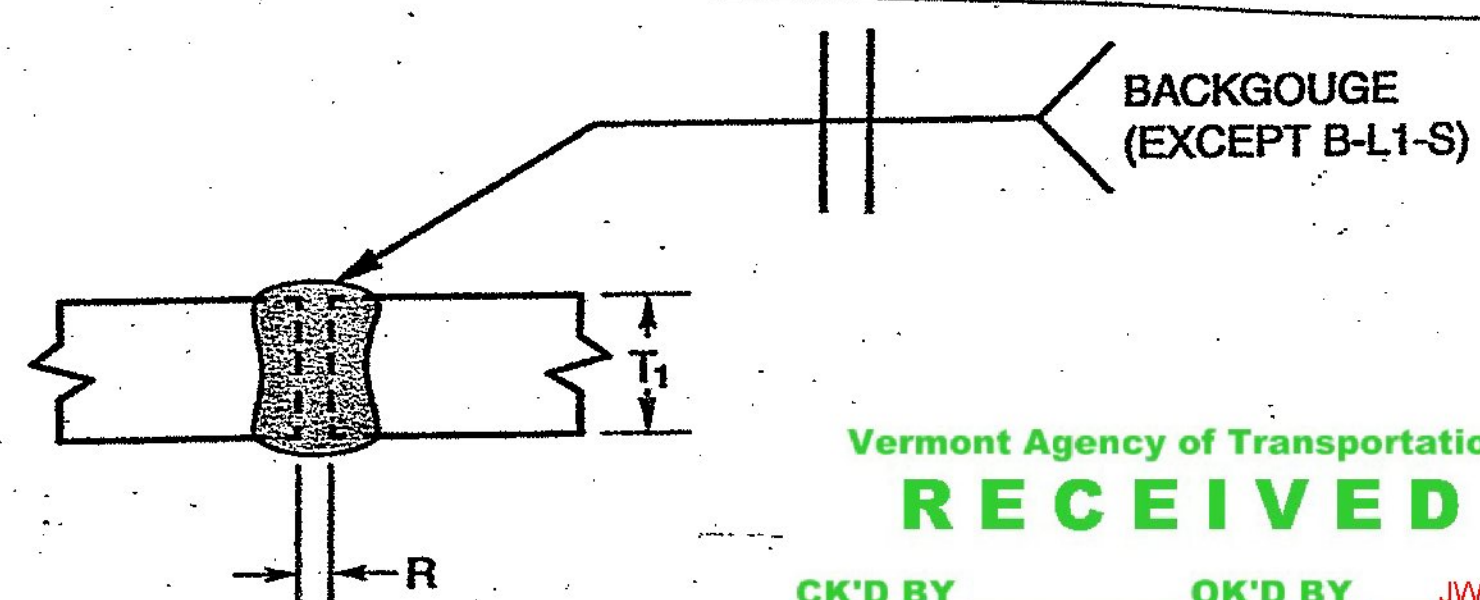
Company Name A.R.C. Enterprises, Inc. Identification # ARC WPS #45 b  
 Revision 5 Date 11/21/2012 By SVH  
 Welding Process(es) SAW Authorized by STEVE HOWARD Date 11/21/2012  
 Supporting PQR No.(s) ARC PQR # 45 Type - Manual ( ) Semi - Automatic ( )  
 Machine ( ) Automatic x

<b>JOINT DESIGN USED</b> Type <u>B-L1a-S</u> Single _____ Double Weld <u>( X )</u> Backing <u>( )</u> NO <u>( X )</u> Backing Material _____ Root Opening <u>0"</u> Root Face Dimension _____ Groove Angle <u>0</u> Radius ( J-U ) _____ Back Gouging <u>(YES)</u> Method <u>open</u>		<b>POSITION</b> Position of Groove <u>1G</u> Fillet _____ Vertical Progression <u>( )</u>	
<b>BASE METALS</b> Material Spec <u>A709</u> Type or Grade <u>50 50W</u> Thickness <u>Groove 5/8" max</u> Fillet _____ Diameter <u>( Pipe )</u>		<b>ELECTRICAL CHARACTERISTICS</b> Transfer Mode (FCAW) _____ Short Circuiting <u>( )</u> Globular <u>( )</u> Spray <u>( X )</u> Current : AC <u>( )</u> DCEP <u>( X )</u> DCEN <u>( )</u> Pulsed <u>( )</u> OTHER : _____	
<b>FILLER METALS</b> <u>Lincoln LA-75</u> AWS Specification <u>A5.23</u> AWS Classification <u>ENi1K-Ni1-H8</u>		<b>TECHNIQUE</b> 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 <u>Longitudinal</u> Lateral _____ Angle _____	
<b>SIELDING</b> Flux <u>960 Lincoln</u> Gas _____ Composition _____ Electrode - Flux (Class) <u>F8A2-ENi1K-Ni1-H8</u> Flow Rate _____ Gas Cup Size _____		Contact Tube to Work Distance <u>1"1/4 stickout +/-1/4"</u> Peening <u>none</u> Interpass Cleaning : <u>Hand or Power tools</u>	
Preheat <u>3/4" = 50 degrees 3/4" - 1 1/2" = 70 degrees.</u> <u>1 1/2" - 2 1/2" = 150 degrees Over 2 1/2" = 225 degrees F.</u>		<b>POSTWELD HEAT TREATMENT</b> Temp _____	

WELDING PROCEDURE Min. heat input=37.3 Kj/in. Max heat input=70.4 Kj/in.

Pass or Weld Layer(s)	S	Filler Metals		Current		Volts	Travel Speed	Joint Details	
		Class	Diameter	Type & Polarity	Amps or Wire Feed Speed			ROOT = 0	Tolerance + 1/16"
	SAW	ENi1K	3/32"	DCEP	360-440	28-32	14-16.2 ipm	ROOT = 0	Tolerance + 1/16"

Square-groove weld (1)  
 Butt joint (B)



Vermont Agency of Transportation

RECEIVED

OK'D BY \_\_\_\_\_ OK'D BY JWC

01/15/2013

RESUBMIT \_\_\_\_\_ APPROVED X  
 BY C. CARLSON DATE 01/16/2013