

CONSTRUCTION: JOINING OF PIPES BY WELDING

Issued: _____ Revised: 11-16-10 Number: 7B2F Page: _____

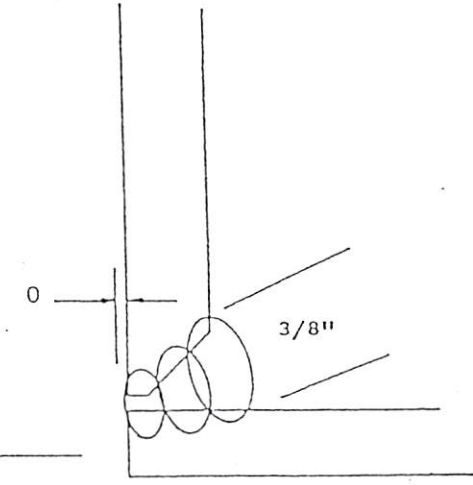
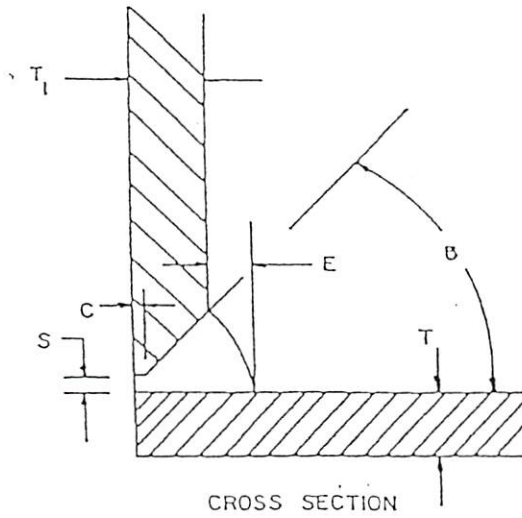
STANDARD WELDING PROCEDURE SPECIFICATION # 7B2F

- A. Process: Manual Electric Arc
- B. Material: 2 3/8 thru 12 in. header X 1 in. thru 4 in. branch
- C. Diameter and Wall Thickness: .188 thru .250 WT
- D. Joint Design: Vee Groove 35 degrees
- E. Filler Metal and Number of Beads: Electrode Classification
Electrode E6010 and E8010 AWS Class A Minimum of 3 Passes
- F. Electrical or Flame Characteristics: D.C. Reverse Polarity, Electrode Positive
- G. Position: n/a
- H. Direction of Welding: n/a
- I. Number of Welders: 1
- J. Time Lapse Between Passes: Maximum of 5 minutes between stringer and hot pass;
3 minutes maximum when temperature is below 35° F.
- K. Type of Line-Up Clamp: none
- L. Removal of Line-Up Clamp: n/a
- M. Cleaning: Taper grind starts and craters and flatten crown by grinding stringer bead,
power buff all remaining passes.
- N. Speed of Travel: String bead 10 inches per minute maximum.
- O. *Preheat, Stress Relief: Maximum of 300°F. Minimum of 150°F. Preheating shall
be done with device or equipment which will heat entire circumference(s) in single
application 2" back from pipe ends.
- P. Notes: Weld shall be completely protected from moisture until it has cooled to
ambient temperature. Weld zone shall be protected so that the wind velocity near it
does not exceed 8 miles per hour.

*X-Rated pipe must be stress relief if the carbon content exceeds 32% or C+1/4 Mn
exceeds 65%. Heating of X-Rated pipe is limited to 600°F.

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Main Wall Thickness	T	<u>.188 - .250</u>	
Fitting Wall Thickness	T	<u>.188 - .250</u>	
Bevel	B	<u>35° +5° -0°</u>	
Spacing	S	<u>1/32" and 1/32" - 0"</u>	
Root Face	C	<u>1/16" - 1/32"</u>	Protrusion O <u>1/32" Max</u>
Toe Extention	E	<u>1/4" Min. ~ 3/8" Max</u>	Note (A) Fitting shall be contoured to fit curvature of main. (B) Position tee and tack sufficiently to prevent shifting or pulling during welding.

Bead No.	Electrode Diameter	Amperage Range	Voltage Range	Type Rod	Notes
1	1/8 5P+	90-120	25-33	E6010	
2	1/8 70+	94-120	26-34	E8010	
3	5/32 70+	110-145	22-30	E8010	
4	5/32 70+	95-120	22-30	E8010	
5	*				

Bead No.	Notes
* 5	Electrodes may be substituted within Rod group AWS A5.1—A5.5 If another pass is needed same amps and volts as pass #4



WELD TEST REPORT

(USE SEPARATE FORM FOR EACH WELDING PROCEDURE)

DATE <i>11-15-10</i>		WELDER'S NAME <i>Jimmy Light</i>			SOCIAL SECURITY NUMBER <i>1323</i>			
LOCATION <i>Dalhousie</i>		NAME OF CONTRACTOR OR COMPANY <i>Bonnett Bros</i>		RIGHT HANDED <input checked="" type="checkbox"/>	LEFT HANDED <input type="checkbox"/>	REQUALIFYING TEST <input type="checkbox"/>	QUALIFYING TEST <input checked="" type="checkbox"/>	LINE TEST <input type="checkbox"/>
POSITION INCLINED <input checked="" type="checkbox"/>	FIXED <input checked="" type="checkbox"/>	ELECTRIC ARC <input checked="" type="checkbox"/>	INDOORS <input checked="" type="checkbox"/>	WEATHER <i>C1</i>	TEMPERATURE <i>65</i>	TIME OF DAY <i>Afternoon</i>	WIND BREAK USED <i>Exhaust</i>	
PIPE SPECIFICATION <i>APE-5L X42</i>		PIPE MANUFACTURER		WALL THICKNESS <i>.188</i>		DIAMETER (OD) <i>6 5/8" / 4"</i>		WEIGHT PER FOOT
MAKE OF WELDING MACHINE <i>Lin</i>		SIZE <i>200</i>	MAKE OF OX-ACETYLENE APPARATUS <i>N/A</i>	WELDING NOZZLE SIZE <i>N/A</i>		OX-ACETYLENE PRESSURE FLOWING <i>N/A</i>		
BRAND OF ELECTRODE <i>Lin</i>		BRAND OF OX-ACETYLENE ROD AND SIZE <i>N/A</i>		NUMBER OF PASSES - OX-ACETYLENE WELD <i>N/A</i>			WELDING PROCEDURE NO. <i>TB2F-Fillet</i>	

QUALIFYING TEST FOR

	ELECTRODE TYPE AND SIZE				MACHINE SETTINGS		AMPERAGE RG.	VOLTAGE RG.
	COARSE		FINE					
1	STRINGER	<i>1/8</i>	<i>50+</i>	<i>Lin</i>	<i>120-190</i>	<i>60</i>	<i>90-120</i>	<i>25-33</i>
2	HOT PASS	<i>1/8</i>	<i>70+</i>	<i>Lin</i>	<i>120-190</i>	<i>60</i>	<i>94-120</i>	<i>26-34</i>
3	FILLER (S)	<i>5/32</i>	<i>70+</i>	<i>Lin</i>	<i>120-190</i>	<i>75</i>	<i>110-145</i>	<i>22-30</i>
4	CAP PASS	<i>5/32</i>	<i>70+</i>	<i>Lin</i>	<i>120-190</i>	<i>50</i>	<i>95-120</i>	<i>22-30</i>

TENSILE TESTS	COUPON			CROSS SEC. AREA SQ. IN.	LOAD	% ELONG.	COMPUTED TENSIL PSI	REMARKS	AC-CEPTED	RE-JECTED
	LOCATION	LENGTH	WIDTH							
1								<i>If Needed 5th Pass at 4 settings</i>		
2										
3										
4										

BEND TESTS	COUPON LOCATION	TYPE OF BEND	REMARKS	AC-CEPTED	RE-JECTED
	1				
2					
3					
4					

NICK-BREAK TESTS	COUPON LOCATION	REMARKS	AC-CEPTED	RE-JECTED
	1	<i>Top</i>	<i>Full Pen. clear metal</i>	
2	<i>Top</i>	<i>Full Pen. clear metal</i>		<input checked="" type="checkbox"/>
3	<i>Crotch</i>	<i>Full Pen. clear metal</i>		<input checked="" type="checkbox"/>
4	<i>Crotch</i>	<i>Full Pen. clear metal</i>		<input checked="" type="checkbox"/>

SIZE AND WALL THICKNESS OF MAIN	GAS PRESSURE ON MAIN PSIG	LOCATION OF FRACTURE WELD <input type="checkbox"/>	NIPPLE <input type="checkbox"/>	MAIN <input type="checkbox"/>
DID WELD CONTAIN: PINHOLES	COLDROLL	UNDERCUT	DEPTH OF UNDERCUT	LENGTH OF UNDERCUT
REMARKS ON TEE WELD				

PIPE WELD	QUALIFIED <input type="checkbox"/>	NOT QUALIFIED <input checked="" type="checkbox"/>	ELECTRIC ARC OX-ACETYLENE <input type="checkbox"/>	TEE WELD	QUALIFIED <input type="checkbox"/>	NOT QUALIFIED <input checked="" type="checkbox"/>	ELECTRIC ARC OX-ACETYLENE <input type="checkbox"/>
TESTED BY	SIGNATURE <i>Russell [Signature]</i>			TITLE	<i>Shop</i>		