

CONSTRUCTION: JOINING OF PIPES BY WELDING

Issued: 2-10-15 Revised: _____ Number: F-12/12 Page: _____

STANDARD WELDING PROCEDURE SPECIFICATION #F12/12__

- A. Process: Manual Electric Arc
- B. Material: Branch and Header 5L Grade A thru X42 Grade Material
- C. Diameter and Wall Thickness: Branch and Header 8" thru 12", .250 thru .500 WT
- D. Joint Design: Standard Vee Groove ----- FILLET WELD
- E. Filler Metal and Number of Beads: Electrode Classification
Electrode E 6010—E 8010 AWS Class A 5.1-A 5.5 Minimum of 3 Passes
- F. Electrical or Flame Characteristics: D.C. Reverse Polarity, Electrode Positive
- G. Position: Header on Horizontal-Branch 90 deg and downward
- H. Direction of Welding: Down
- 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: None
- M. Cleaning: Taper grind starts and craters and flatten crown by grinding stringer bead,
hot pass may be ground if desired, 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.

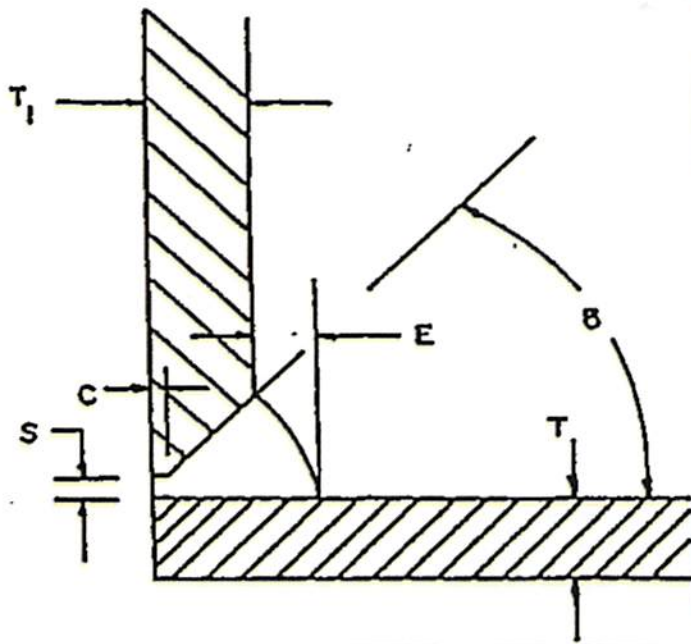
Notes: Tacks may be made with the branch in an upward position from the header
and in an area where samples will not be taken.

*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.

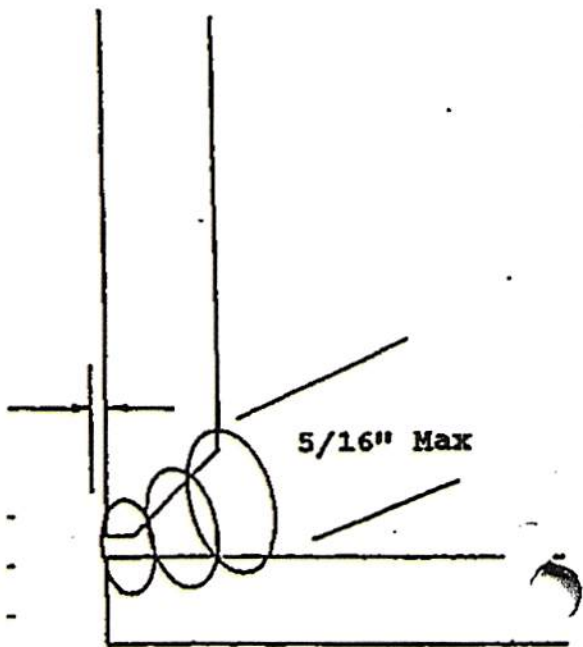
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Main wall thickness	<u>T .250 - .500</u>
Branch Wall Thickness	<u>T .250 - .500</u>
Bevel	<u>B 35deg +/- 5deg</u>
Spacing	<u>S 1/32 / 3/32</u>
Root Face	<u>C 1/16 +/- 1/32</u>
Toe Extention	<u>E 1/4 - 5/16</u>

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Bead No.	Electrode Diameter	Amperage Range	Voltage Range	Type Rod	Notes
1	1/8 5P+	90-115	25-33	E 6010	
2	1/8 70+	95-130	20-30	E 8010	
3	5/32 70+	95-130	20-30	E 8010	
4	5/32 70+	75-120	20-35	E 8010	
5*					

Bead No.	Notes
1	Electrodes may be substituted within Rod group AWS A5.1—A5.5
*	Additional passes may be made at same settings as Bead #4

WELD TEST REPORT

(USE SEPARATE FORM FOR EACH WELDING PROCEDURE)

DATE 2-10-15	WELDER'S NAME Chris Epps	SOCIAL SECURITY NUMBER			
LOCATION Dalhousie	NAME OF CONTRACTOR OR COMPANY WTC	RIGHT HANDED <input checked="" type="checkbox"/> LEFT HANDED <input type="checkbox"/>	REQUALIFYING TEST <input checked="" type="checkbox"/> QUALIFYING TEST <input type="checkbox"/>	<input checked="" type="checkbox"/> Procedure <input type="checkbox"/> LINE TEST <input type="checkbox"/> Qualification	
POSITION INCLINED <input type="checkbox"/> FIXED <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> HORIZONTAL	ELECTRIC ARC <input checked="" type="checkbox"/> OX-ACETYLENE <input type="checkbox"/>	INDOORS <input checked="" type="checkbox"/> OUTDOORS <input type="checkbox"/>	WEATHER CL	TEMPERATURE 75	TIME OF DAY 11:20
PIPE SPECIFICATION API 5L X42	PIPE MANUFACTURER Tax Tube	WALL THICKNESS .250	DIAMETER (OD) 12 3/4	WEIGHT PER FOOT 33.88	
MAKE OF WELDING MACHINE Lid	SIZE 200	MAKE OF OX-ACETYLENE APPARATUS N/A	WELDING NOZZLE SIZE N/A	OX-ACETYLENE PRESSURE FLOWING N/A	
BRAND OF ELECTRODE Lid	BRAND OF OX-ACETYLENE ROD AND SIZE N/A	NUMBER OF PASSES - OX-ACETYLENE WELD N/A	WELDING PROCEDURE NO. E 12/12		

PIPE WELD	ELECTRODE TYPE AND SIZE	MACHINE SETTINGS		AMPERAGE RG.	VOLTAGE RG.	QUALIFYING TEST FOR
		COARSE	FINE			
STRINGER	Lid 5P + 1/8	120-190	45	90-115	25-33	QUALIFYING TEST FOR Visually Inspect API 1104 Pass
HOT PASS	Lid 70 + 1/8	120-190	60	95-130	20-30	
FILLER (S)	Lid 70 + 5/32	120-190	50	95-130	20-30	
CAP PASS	Lid 70 + 5/32	120-190	50	75-120	20-35	

TENSILE TESTS	COUPON			CROSS SEC. AREA SQ. IN.	LOAD	% ELONG.	COMPUTED TENSIL PSI	REMARKS	AC-CEPTED	RE-JECTED	
	LOCATION	LENGTH	WIDTH								
1	Branch										
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 N1	Crack - Clean Metal no defect		<input checked="" type="checkbox"/>
2 N2	Crack - " "		<input checked="" type="checkbox"/>	
3 N3	Tip - " "		<input checked="" type="checkbox"/>	
4 N4	Tip - " "		<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 <input type="checkbox"/> COLDROLL <input type="checkbox"/> UNDERCUT <input type="checkbox"/>		DEPTH OF UNDERCUT	LENGTH OF UNDERCUT	
REMARKS ON TEE WELD				

PIPE WELD	<input checked="" type="checkbox"/> QUALIFIED <input type="checkbox"/> NOT QUALIFIED	<input checked="" type="checkbox"/> ELECTRIC ARC <input type="checkbox"/> OX-ACETYLENE	TEE WELD	<input type="checkbox"/> QUALIFIED <input type="checkbox"/> NOT QUALIFIED	<input type="checkbox"/> ELECTRIC ARC <input type="checkbox"/> OX-ACETYLENE
TESTED BY	SIGNATURE <i>Dwight Taylor</i>		TITLE <i>Asst. Dist. Mgr.</i>		