

CONSTRUCTION: JOINING OF PIPES BY WELDING

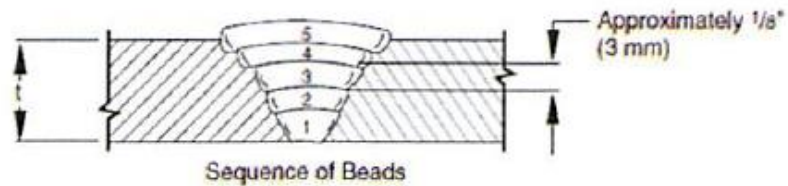
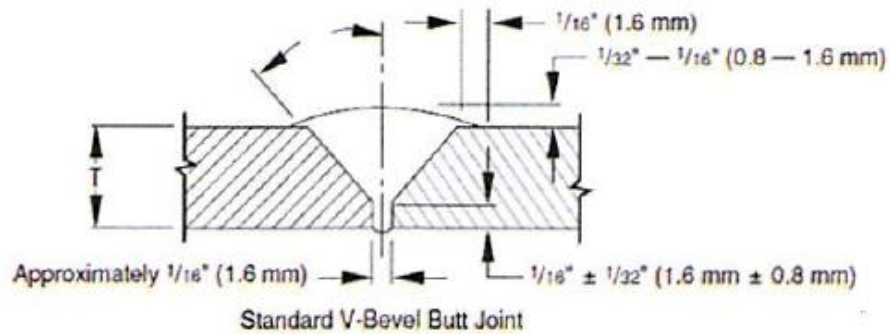
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STANDARD WELDING PROCEDURE SPECIFICATION #: 7A

- A. Process: Manual Electric Arc
 - B. Material: API-5L Grade A thru X42
 - C. Diameter and Wall Thickness: Less than 2 3/8 and less than 0.188 WT
 - D. Joint Design: Standard Vee Groove 30 degrees
 - E. Filler Metal and Number of Beads: Electrode Classification Electrode E6010 AWS Class A5.1 Minimum of 3 Passes
 - F. Electrical or Flame Characteristics: D.C. Reverse Polarity, Electrode Positive
 - G. Position: Inclined 45 degrees
 - H. Direction of Welding: Vertical 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: External
 - L. Removal of Line-up Clamp: After 50% completion of stringer bead
 - 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 N/A
 - 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: Welded pipe strings shall be temporarily capped to prevent air draft cooling of stringer beads. 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 8mph.
- * X-rated pipe must be stress relief if the carbon content exceeds 30% or C+1/4 Mn exceeds 65%. Heating of X-rated pipe is limited to 600°F.

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Note: Dimensions are for example only.

Bead No.	Electrode Diameter	Amperage Range	Voltage Range	Type Rod	Notes
1	3/32	65-80	20-25	E6010 5P+	
2	1/8**	80-100	25-35	E6010 5P+	
3	1/8	80-100	25-35	E6010 5P+	
4	1/8	80-105	27-37	E6010 5P+	
5					

Bead No.	Notes
2	Can be ran with 3/32 rod in the same class range at 75-85 amps and 22-27 vots

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WELD TEST REPORT

[USE SEPARATE FORM FOR EACH WELDING PROCEDURE]

DATE <i>Aug 14, 2007</i>		WELDER'S NAME <i>Darrell Loustford</i>		SOCIAL SECURITY NUMBER <i>XX-XX-2519</i>	
LOCATION <i>Common</i>		NAME OF CONTRACTOR OR COMPANY <i>West Texas Gas</i>		REQUALIFYING TEST <input checked="" type="checkbox"/> QUALIFYING TEST <input checked="" type="checkbox"/> LINE TEST <input type="checkbox"/>	
POSITION <input checked="" type="checkbox"/> INCLINED <input type="checkbox"/> FIXED <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		ELECTRIC ARC <input checked="" type="checkbox"/> INDOORS <input type="checkbox"/> OX-ACETYLENE <input type="checkbox"/> OUTDOORS <input type="checkbox"/>		WEATHER <i>CL</i> TEMPERATURE <i>101</i>	
PIPE SPECIFICATION <i>API 5L GR X42</i>		PIPE MANUFACTURER <i>Pop</i>		TIME OF DAY <i>2:00 PM</i>	
MAKE OF WELDING MACHINE <i>LIN</i>		SIZE <i>300</i>		WIND BREAK USED <i>N/A</i>	
BRAND OF ELECTRODE		MAKE OF OX-ACETYLENE APPARATUS <i>N/A</i>		WELDING NOZZLE SIZE <i>N/A</i>	
		BRAND OF OX-ACETYLENE ROD AND SIZE <i>N/A</i>		OX-ACETYLENE PRESSURE FLOWING <i>N/A</i>	
		NUMBER OF PASSES - OX-ACETYLENE WELD <i>N/A</i>		WELDING PROCEDURE NO. <i>7A</i>	

PIPE WELD	ELECTRODE TYPE AND SIZE		MACHINE SETTINGS		AMPERAGE RG.	VOLTAGE RG.
			COARSE	FINE		
STRINGER	<i>LIN 3/32</i>	<i>5PT</i>	<i>10-190</i>	<i>30</i>	<i>65-80</i>	<i>20-25</i>
HOT PASS	<i>LIN 1/8</i>	<i>5PT</i>	<i>120-190</i>	<i>40</i>	<i>80-100</i>	<i>25-35</i>
FILLER (S)	<i>LIN 1/8</i>	<i>5PT</i>	<i>120-190</i>	<i>40</i>	<i>80-100</i>	<i>25-35</i>
CAP PASS	<i>LIN 1/8</i>	<i>5PT</i>	<i>120-190</i>	<i>45</i>	<i>80-105</i>	<i>27-37</i>

Tested Under API 1104 2004 Edition

TENSILE TESTS	COUPON			CROSS SEC. AREA SQ. IN.	LOAD	%ELONG.	COMPUTED TENSIL PSI	REMARKS	AC-CEPTED	RE-JECTED
	LOCATION	LENGTH	WIDTH							
1	<i>T1</i>	<i>8"</i>	<i>1"</i>	<i>.160</i>	<i>10,200</i>	<i>25%</i>	<i>63,500</i>	<i>No defect</i>	<input checked="" type="checkbox"/>	
2	<i>T2</i>	<i>8"</i>	<i>1"</i>	<i>.160</i>	<i>10,200</i>	<i>25%</i>	<i>63,500</i>	<i>No defect</i>	<input checked="" type="checkbox"/>	
3										
4										

BEND TESTS	COUPON LOCATION	TYPE OF BEND	REMARKS	AC-CEPTED	RE-JECTED
	1	<i>R1</i>	<i>Root</i>	<i>No Cracks Full Pen.</i>	<input checked="" type="checkbox"/>
2	<i>R2</i>	<i>Root</i>	<i>" "</i>	<input checked="" type="checkbox"/>	
3	<i>F1</i>	<i>Face</i>	<i>No defect</i>	<input checked="" type="checkbox"/>	
4	<i>F2</i>	<i>Face</i>	<i>" "</i>	<input checked="" type="checkbox"/>	

NICK-BREAK TESTS	COUPON LOCATION	REMARKS	AC-CEPTED	RE-JECTED
	1	<i>N1</i>	<i>Clean Volut texture</i>	<input checked="" type="checkbox"/>
2	<i>N2</i>	<i>" "</i>	<input checked="" type="checkbox"/>	
3				
4				

This weld has been visually and destructively tested in accordance with API-1104

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
REMARKS ON TEE WELD				LENGTH OF UNDERCUT		

PIPE WELD	QUALIFIED <input checked="" type="checkbox"/> NOT QUALIFIED <input type="checkbox"/>	ELECTRIC ARC <input checked="" type="checkbox"/> OX-ACETYLENE <input type="checkbox"/>	TEE WELD	QUALIFIED <input type="checkbox"/> NOT QUALIFIED <input type="checkbox"/>	ELECTRIC ARC <input type="checkbox"/> OX-ACETYLENE <input type="checkbox"/>
TESTED BY	SIGNATURE <i>Darrell Loustford</i>		TITLE <i>Welding Inspector</i>		