

CONSTRUCTION: JOINING OF PIPES BY WELDING

Issued: 3-3-08 Revised: _____ Number: 7C Page: _____

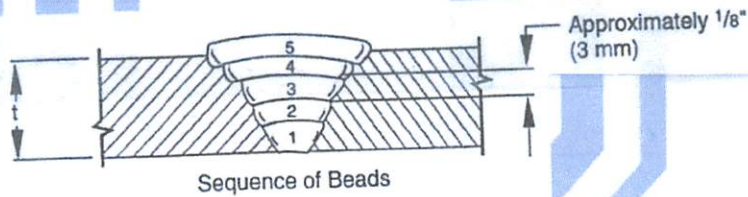
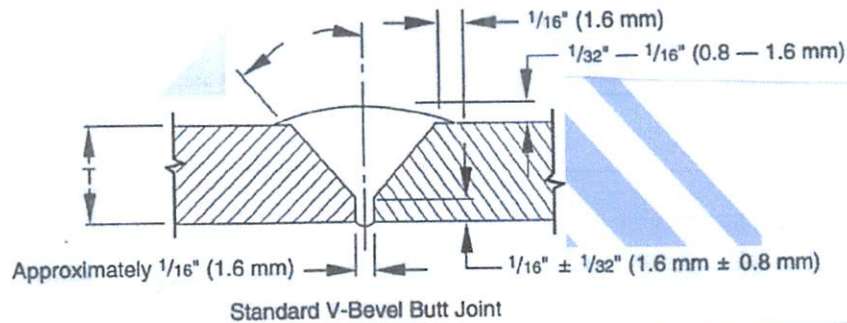
STANDARD WELDING PROCEDURE SPECIFICATION # 7C

- A. Process: Manual Electric Arc
- B. Material: API-5L Grade A thru X42
- C. Diameter and Wall Thickness: 2 3/8 THRU 6 5/8 and .188 WT THRU .500 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 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: 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 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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Number: 7C Page: _____



Note: Dimensions are for example only.

Bead No.	Electrode Diameter	Amperage Range	Voltage Range	Type Rod	Notes
1	1/8	95-110	22-26	E6010 5P+	
2	1/8	105-115	24-40	E6010 5P+	
3	1/8	105-120	25-40	E6010 5P+	
4	1/8	105-135	25-35	E6010 5P+	
5					

Bead No.	Notes
	Electrodes may be substituted within Rod group AWS A5.1–A5.5

WELD TEST REPORT

(USE SEPARATE FORM FOR EACH WELDING PROCEDURE)

DATE 3-4-08		WELDER'S NAME Darrell Lamsford			SOCIAL SECURITY NUMBER XXX XX 2519			
LOCATION Telham		NAME OF CONTRACTOR OR COMPANY West Texas Gas		RIGHT HANDED <input checked="" type="checkbox"/>	LEFT HANDED <input type="checkbox"/>	REQUALIFYING TEST <input checked="" type="checkbox"/>	QUALIFYING TEST <input type="checkbox"/>	LINE TEST <input type="checkbox"/>
POSITION INCLINED <input checked="" type="checkbox"/> FIXED <input checked="" type="checkbox"/> <input type="checkbox"/> HORIZONTAL	ELECTRIC ARC <input checked="" type="checkbox"/> INDOORS <input checked="" type="checkbox"/> OX-ACETYLENE <input type="checkbox"/> OUTDOORS <input type="checkbox"/>		WEATHER Cl	TEMPERATURE 60	TIME OF DAY 5:00		WIND BREAK USED N/A	
PIPE SPECIFICATION API 5L GR X42	PIPE MANUFACTURER Rep.		WALL THICKNESS .280		DIAMETER (OD) 6 5/8		WEIGHT PER FOOT 18.97	
MAKE OF WELDING MACHINE Linde		SIZE 300	MAKE OF OX-ACETYLENE APPARATUS N/A	WELDING NOZZLE SIZE N/A		QUALIFYING TEST FOR		
BRAND OF ELECTRODE Lind.		BRAND OF OX-ACETYLENE ROD AND SIZE N/A		NUMBER OF PASSES - OX-ACETYLENE WELD N/A			WELDING PROCEDURE NO. 7-C Qual.	

PIPE WELD	ELECTRODE TYPE AND SIZE		MACHINE SETTINGS		AMPERAGE RG.	VOLTAGE RG.
			COARSE	FINE		
	STRINGER	1/8 5P+	120-190	40	95-110	22-30
HOT PASS	1/8 5P+	120-190	50	105-115	24-40	
FILLER (S)	1/8 5P+	120-190	55	105-120	25-40	
CAP PASS	5/32 5P+	120-190	60	105-135	25-35	

TENSILE TESTS	COUPON			CROSS SEC. AREA SQ. IN.	LOAD	% ELONG.	COMPUTED TENSIL PSI	REMARKS	AC-CEPTED	RE-JECTED
	LOCATION	LENGTH	WIDTH							
1	T1	8"	1"	.280	18,200	12%	64,285	No defect	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	B1	8"	1"	.280	18,400	12%	65,714	No defect	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3										
4										

BEND TESTS	COUPON LOCATION	TYPE OF BEND	REMARKS	AC-CEPTED	RE-JECTED
	1	T2	Face	No defect	<input checked="" type="checkbox"/>
2	T3	Root	No defect	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	B2	Face	No defect	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	B3	Root	No defect	<input checked="" type="checkbox"/>	<input type="checkbox"/>

NICK-BREAK TESTS	COUPON LOCATION	REMARKS	AC-CEPTED	RE-JECTED
	1	T4	Clean Gray Metal	<input checked="" type="checkbox"/>
2	B4	" " "	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3				
4				

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 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>D. Murchak</i>		TITLE <i>Welding Inspector</i>		