

CONSTRUCTION: JOINING OF PIPES BY WELDING

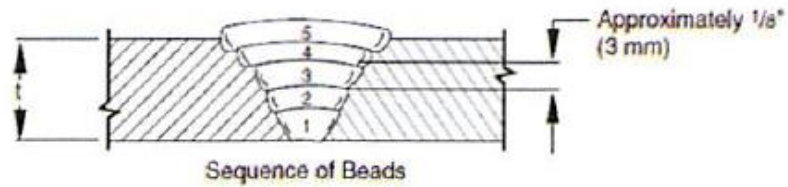
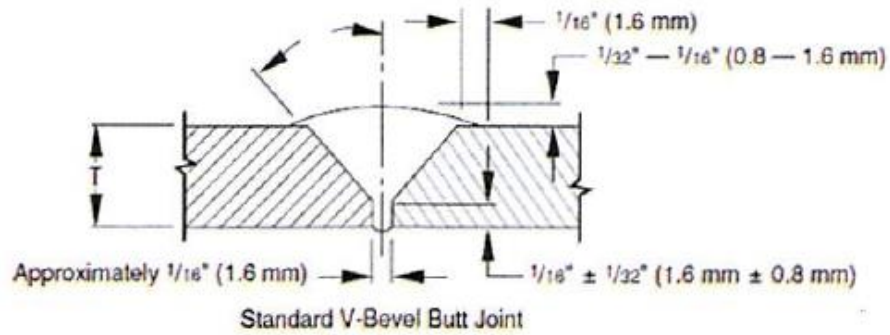
Issued: 11-16-2010 Revised: 12-13-2022 Number: 7B2 Page: _____

STANDARD WELDING PROCEDURE SPECIFICATION #: 7B2

- 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 less than 0.188 WT thru 0.500 WT
- D. Joint Design: Standard Vee Groove 30 degrees
- E. Filler Metal and Number of Beads: Electrode Classification Electrode E6010 & E8010
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 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: 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 32% or C+1/4 Mn exceeds 65%. Heating of X-rated pipe is limited to 600°F.

Number: 7B2 Page: _____

CONSTRUCTION: JOINING OF PIPES BY WELDING



Note: Dimensions are for example only.

Bead No.	Electrode Diameter	Amperage Range	Voltage Range	Type Rod	Notes
1	1/8	90-120	22-30	E6010 5P+	50
2	1/8	85-110	27-35	E8010	60
3	5/32	85-115	22-32	E8010	60
4	*				
5					

Bead No.	Notes
	Electrodes may be substituted within rod group 1&2 of AWS A5.1-A5.5
4	* If a fourth pass is needed – same voltage and amperage as #3

CONSTRUCTION: JOINING OF PIPES BY WELDING

WELD TEST REPORT

(USE SEPARATE FORM FOR EACH WELDING PROCEDURE)

DATE 11-15-10		WELDER'S NAME Timmy Light		SOCIAL SECURITY NUMBER 1323	
LOCATION Dallhart		NAME OF CONTRACTOR OR COMPANY Bennett Bros		RIGHT HANDED <input checked="" type="checkbox"/>	REQUALIFYING TEST <input type="checkbox"/>
POSITION INCLINED <input checked="" type="checkbox"/> FIXED <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		ELECTRIC ARC <input checked="" type="checkbox"/> INDOORS <input checked="" type="checkbox"/> OX-ACETYLENE <input type="checkbox"/> OUTDOORS <input type="checkbox"/>		WEATHER C1	TEMPERATURE 60
PIPE SPECIFICATION APE-SL GPX42		PIPE MANUFACTURER Bowman Manufacturing		WALL THICKNESS .188	DIAMETER (OD) 6 5/8
MAKE OF WELDING MACHINE Lin		SIZE 200		WELDING NOZZLE SIZE N/A	OX-ACETYLENE PRESSURE FLOWING 12.92
BRAND OF ELECTRODE Lin		BRAND OF OX-ACETYLENE ROD AND SIZE N/A		NUMBER OF PASSES - OX-ACETYLENE WELD N/A	WELDING PROCEDURE NO. 7B2

PIPE WELD	ELECTRODE TYPE AND SIZE		MACHINE SETTINGS		AMPERAGE RG.	VOLTAGE RG.
			COARSE	FINE		
1	STRINGER	1/8 50+ Lin.	120-190	40	90-120	22-30
2	HOT PASS	1/8 70+ Lin.	120-190	50	85-110	27-35
3	FILLER (S)	5/32 70+ Lin.	120-190	50	85-115	22-32
4	CAP PASS	if needed same as 3				

TENSILE TESTS	COUPON			CROSS SEC. AREA SQ. IN.	LOAD	% ELONG.	COMPUTED TENSIL PSI	REMARKS	AC-CEPTED	RE-JECTED
	LOCATION	LENGTH	WIDTH							
1	T3	8"					67,716	LAB		
2	B3	8"					69,531	LAB		
3										
4										

BEND TESTS	COUPON LOCATION	TYPE OF BEND	REMARKS	AC-CEPTED	RE-JECTED
	1	T1	Root	No defect	<input checked="" type="checkbox"/>
2	T2	Face	No defect	<input checked="" type="checkbox"/>	
3	B1	Root	Small opening on edge by ragged edge	<input checked="" type="checkbox"/>	
4	B2	Face	No defect	<input checked="" type="checkbox"/>	

NICK-BREAK TESTS	COUPON LOCATION	REMARKS	AC-CEPTED	RE-JECTED
	1	T4	Clean Metal No defect	<input checked="" type="checkbox"/>
2	B4	Clean Metal No defect	<input checked="" type="checkbox"/>	
3				
4				

TEE WELD TEST	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 checked="" type="checkbox"/> NOT QUALIFIED <input type="checkbox"/>	ELECTRIC ARC <input checked="" type="checkbox"/> OX-ACETYLENE <input type="checkbox"/>
TESTED BY	SIGNATURE <i>Timmy Light</i>		TITLE	Weld Insp. - Insp.	