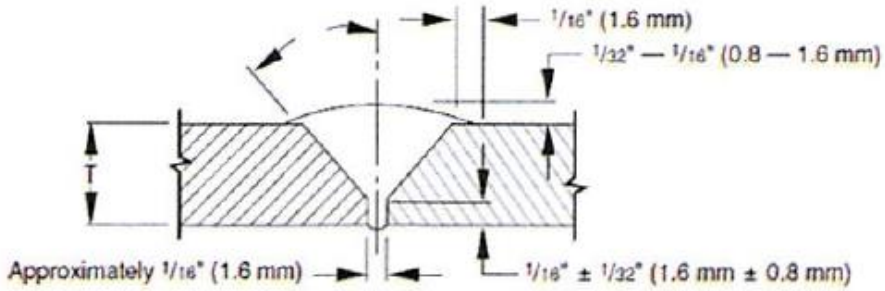
Issued: 3-03-2008 **Revised:** 12-13-2022 **Number:** 7B **Page:** _____

STANDARD WELDING PROCEDURE SPECIFICATION #: 7B

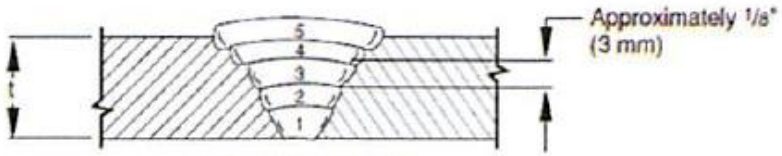
A. Process: Manual Electric Arc
B. Material: API-5L Grade A thru X42
C. Diameter and Wall Thickness: 2 3/8 thru 6 5/8 and less than 0.188 WT thru 0.500 WT
D. Joint Design: Standard Vee Groove 30 degrees
E. Filler Metal and Number of Beads: Electrode Classification Electrode E6010 & E8010 AWS Class A5.1 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.

CONSTRUCTION: JOINING OF PIPES BY WELDING



Standard V-Bevel Butt Joint



Sequence of Beads

Note: Dimensions are for example only.

Bead No.	Electrode Diameter	Amperage Range	Voltage Range	Type Rod	Notes
1	1/8	95-110	22-30	E6010 5P+	
2	1/8	105-115	24-40	E8010	
3	1/8	105-120	25-40	E8010	
4	1/8	105-135	25-35	E8010	
5					

Bead No.	Notes
	Electrodes may be substituted within rod group 1&2 of AWS A5.1-A5.5

WELD TEST REPORT

(USE SEPARATE FORM FOR EACH WELDING PROCEDURE)

DATE: 3-3-08	WELDER'S NAME: Darrell Lunsford		SOCIAL SECURITY NUMBER: 2519
LOCATION: Guymon	NAME OF CONTRACTOR OR COMPANY: WTG	RIGHT HANDED ☐ LEFT HANDED ☐	REQUALIFYING TEST ☑ QUALIFYING TEST ☐ LINE TEST ☐
POSITION: INCLINED ☑ FIXED ☑ HORIZONTAL ☐	ELECTRIC ARC ☑ INDOORS ☑ OX-ACETYLENE ☐ OUTDOORS ☐	WEATHER: cl / TEMPERATURE: 72	TIME OF DAY: Morn / 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: Lin.	SIZE: 300 / MAKE OF OX-ACETYLENE APPARATUS: N/a	WELDING NOZZLE SIZE: N/a	OX-ACETYLENE PRESSURE FLOWING: QUALIFYING TEST FOR
BRAND OF ELECTRODE: Lin	BRAND OF OX-ACETYLENE ROD AND SIZE: N/a	NUMBER OF PASSES - OX-ACETYLENE WELD: N/a	WELDING PROCEDURE NO.: 7B Qual

PIPE WELD

	ELECTRODE TYPE AND SIZE	MACHINE SETTINGS COARSE	MACHINE SETTINGS FINE	AMPERAGE RG.	VOLTAGE RG.
STRINGER	1/8 Lin 5P+	120-190	40	90-115	20-35
HOT PASS	1/8 Lin 70+	120-190	30	100-118	20-43
FILLER (S)	1/8 Lin 70+	120-190	55	105-125	20-45
CAP PASS	1/8 Lin 70+	120-190	60	100-135	20-45

TENSILE TESTS

	COUPON LOCATION	COUPON LENGTH	COUPON WIDTH	CROSS SEC. AREA SQ. IN.	LOAD	% ELONG.	COMPUTED TENSIL PSI	REMARKS	ACCEPTED	REJECTED
1	T1	8"	1"	.280	17,500	20%	62,500	No defect	✓	
2	B1	8"	1"	.280	17,500	15%	62,500	No defect	✓	
3										
4										

BEND TESTS

	COUPON LOCATION	TYPE OF BEND	REMARKS	ACCEPTED	REJECTED
1	T2	Face	No defect	✓	
2	T3	Root	No defect	✓	
3	B2	Face	No defect	✓	
4	B3	Root	No defect	✓	

NICK-BREAK TESTS

	COUPON LOCATION	REMARKS	ACCEPTED	REJECTED
1	T4	Clean No defects	✓	
2	B4	Clean " "	✓	
3				
4				

TEE WELD TEST

SIZE AND WALL THICKNESS OF MAIN	GAS PRESSURE ON MAIN PSIG	LOCATION OF FRACTURE WELD ☐ NIPPLE ☐ MAIN ☐	
DID WELD CONTAIN: PINHOLES COLDROLL UNDERCUT		DEPTH OF UNDERCUT	LENGTH OF UNDERCUT
REMARKS ON TEE WELD			

PIPE WELD	QUALIFIED ☑ NOT QUALIFIED ☐	ELECTRIC ARC ☑ OX-ACETYLENE ☐	TEE WELD	QUALIFIED ☐ NOT QUALIFIED ☐	ELECTRIC ARC ☐ OX-ACETYLENE ☐
TESTED BY	SIGNATURE: Ed Maschek		TITLE: Insp		