

CONSTRUCTION: JOINING OF PIPES BY WELDING

Issued: 8-20-08 Revised: _____ Number: 6AH52 Page: _____

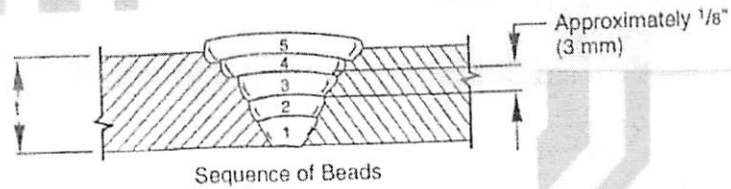
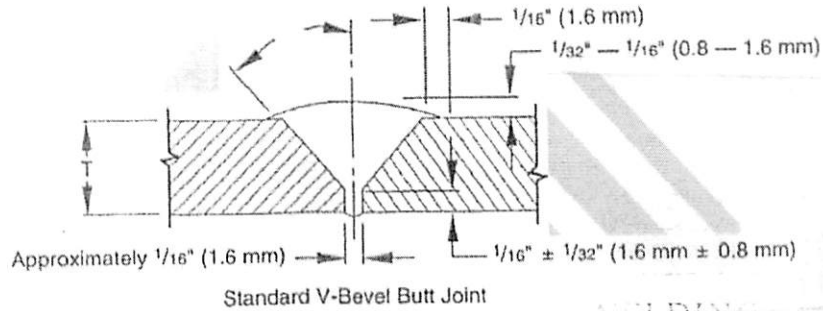
STANDARD WELDING PROCEDURE SPECIFICATION # 6AH52

- A. Process: Manual Electric Arc
- B. Material: API 5L Grade X52
- C. Diameter and Wall Thickness: Greater than 12" and .188 thru .500 Wall Thickness
- D. Joint Design: Standard Vee Groove, 30 Degree Bevel
- E. Filler Metal and Number of Beads: Electrode Classification
Electrode E6010/E8010 AWS Class A5.1, Minimum of 4 Passes
- F. Electrical or Flame Characteristics: Reverse Polarity, Electrode Positive
- G. Position: Fixed Horizontal
- 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--12 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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Note: Dimensions are for example only.

Bead No.	Electrode Diameter	Amperage Range	Voltage Range	Type Rod	Notes
1	5/32	110-135	22-32	E6010 5P+	
2	5/32	120-155	24-32	E8010 70+	
3	5/32	120-150	24-32	E8010 70+	
4	3/16	130-175	27-35	E8010 70+	
5					

Bead No.	Notes
5	Additional passes may be made using the same settings as pass 4

WELD TEST REPORT

(USE SEPARATE FORM FOR EACH WELDING PROCEDURE)

DATE 8-20-08		WELDER'S NAME Derrill Lawford			SOCIAL SECURITY NUMBER 2519			
LOCATION Sumner		NAME OF CONTRACTOR OR COMPANY WTG		RIGHT HANDED <input checked="" type="checkbox"/>	LEFT HANDED <input type="checkbox"/>	REQUALIFYING TEST <input type="checkbox"/>	QUALIFYING TEST <input checked="" type="checkbox"/>	LINE TEST <input type="checkbox"/>
POSITION INCLINED <input type="checkbox"/> FIXED <input checked="" type="checkbox"/> HORIZONTAL <input checked="" type="checkbox"/>	ELECTRIC ARC <input checked="" type="checkbox"/> INDOORS <input checked="" type="checkbox"/> OX-ACETYLENE <input type="checkbox"/> OUTDOORS <input type="checkbox"/>		WEATHER CL	TEMPERATURE 80	TIME OF DAY MORN		WIND BREAK USED N/A	
PIPE SPECIFICATION API 5L X 52		PIPE MANUFACTURER Rip		WALL THICKNESS .281		DIAMETER (OD) 20		WEIGHT PER FOOT 59.18
MAKE OF WELDING MACHINE Lin		SIZE 200	MAKE OF OX-ACETYLENE APPARATUS N/A	WELDING NOZZLE SIZE N/A		OX-ACETYLENE PRESSURE FLOWING N/A		
BRAND OF ELECTRODE Lin		BRAND OF OX-ACETYLENE ROD AND SIZE N/A		NUMBER OF PASSES - OX-ACETYLENE WELD N/A			WELDING PROCEDURE NO. GAH 52	

PIPE WELD	ELECTRODE TYPE AND SIZE			MACHINE SETTINGS		AMPERAGE RG.	VOLTAGE RG.	QUALIFYING TEST FOR GAH 52 <i>20:5 weld pass 11:50 AM 8/20/08</i>
				COARSE	FINE			
STRINGER	Lin	5pt	5/32	120-190	60	110-135	22-32	
HOT PASS	Lin	70t	5/32	160-240	70	120-155	24-32	
FILLER(S)	Lin	70t	5/32	160-240	70	120-150	24-30	
CAP PASS	Lin	70t	3/16	160-240	80	130-175	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"	.290	20,000	20%	68,965	No defect	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	T2	8	1"	.290	20,000	"	68,965	"	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	B1	8	1"	.290	21,000	"	72,413	"	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	B2	8	1"	.290	20,000	"	68,965	"	<input checked="" type="checkbox"/>	<input type="checkbox"/>

BEND TESTS	COUPON LOCATION	TYPE OF BEND	REMARKS	AC-CEPTED	RE-JECTED
	1	R1	Root x 2	No defects	<input checked="" type="checkbox"/>
2	R2	Root x 2	No defects	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	F1	FACC x 2	No defects	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	F2	FACC x 2	Small opening on edge x 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>

NICK-BREAK TESTS	COUPON LOCATION	REMARKS	AC-CEPTED	RE-JECTED
	1	TR1	clean metal no defects	<input checked="" type="checkbox"/>
2	TL2	"	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	BR1	"	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	BL2	"	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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 <input type="checkbox"/> COLDROLL <input type="checkbox"/> UNDERCUT <input type="checkbox"/>		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 Ed Mack		TITLE Welding Inspector		