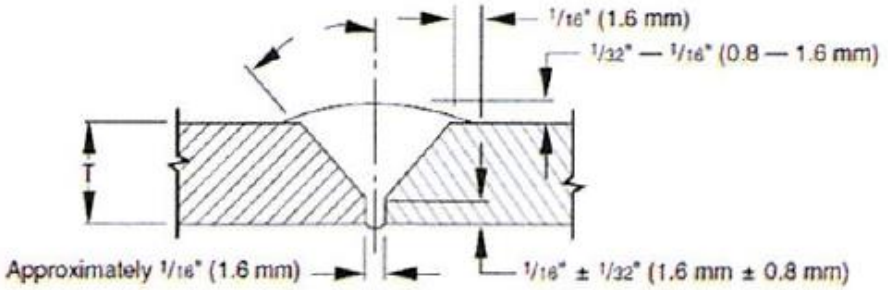
Issued: 11-18-2008 **Revised:** 11-22-2010 **Number:** 52G **Page:** _____

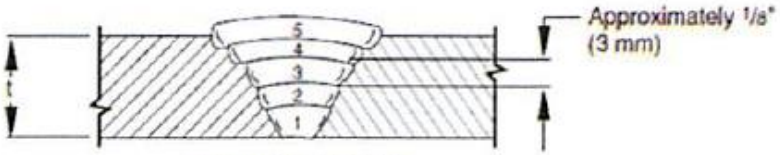
STANDARD WELDING PROCEDURE SPECIFICATION #: 52G

A. Process: Manual Electric Arc
B. Material: API-5L Grade X52
C. Diameter and Wall Thickness: Branch and Header 8" thru 12" and 0.188 thru 0.500 WT
D. Joint Design: Standard Vee Groove 30 degrees
E. Filler Metal and Number of Beads: Electrode Classification Electrode E6010 and 8010, AWS Class A5.1 – A5.5
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 to 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 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.

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	100-120	25-35	E6010 5P+	
2	1/8	105-130	25-38	E8010	
3	5/32	115-140	25-38	E8010	
4	5/32	115-140	25-40	E8010	
5*					

Bead No.	Notes
	Additional passes may be made using 8010 3/16 at amperage range 132-170 and 25-35 volt range
	The above may also be substituted for pass #4
	Electrodes may be substituted within rod group 1&2 of AWS specification A5.1-A5.5

CONSTRUCTION: JOINING OF PIPES BY WELDING

West Texas Gas Utility, LLC

Revised 11/22/2010

WELD TEST REPORT

(USE SEPARATE FORM FOR EACH WELDING PROCEDURE)

DATE: 11-22-10	WELDER'S NAME: Darrell Lunsford		SOCIAL SECURITY NUMBER: 2519
LOCATION: Dalhart	NAME OF CONTRACTOR OR COMPANY: West Texas Gas	RIGHT HANDED ☑ LEFT HANDED ☐	REQUALIFYING TEST ☑ QUALIFYING TEST ☐ LINE TEST ☐
POSITION INCLINED ☑ 45° FIXED ☐ HORIZONTAL ☐	ELECTRIC ARC ☐ INDOORS ☑ OX-ACETYLENE ☐ OUTDOORS ☐	WEATHER: CL / TEMPERATURE: 75	TIME OF DAY: Afternoon / WIND BREAK USED: Indoors
PIPE SPECIFICATION: API 5L-X52	PIPE MANUFACTURER: American Steel	WALL THICKNESS: .219	DIAMETER (OD): 12.75 / WEIGHT PER FOOT: 29.31
MAKE OF WELDING MACHINE: Lin	SIZE: 300 / MAKE OF OX-ACETYLENE APPARATUS: N/A	WELDING NOZZLE SIZE: N/A	OX-ACETYLENE PRESSURE FLOWING: Re-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.: 526

PIPE WELD

	ELECTRODE TYPE AND SIZE	MACHINE SETTINGS COARSE	MACHINE SETTINGS FINE	AMPERAGE RG.	VOLTAGE RG.
STRINGER	1/8 5P+	120-190	50	100-120	25-35
HOT PASS	1/8 70+	120-190	60	105-130	25-38
FILLER (S)	5/32 70+	120-190	65	115-140	25-38
CAP PASS	5/32 70+	120-190	65	115-140	25-40

TENSILE TESTS

	COUPON LOCATION	COUPON LENGTH	COUPON WIDTH	CROSS SEC. AREA SQ. IN.	LOAD	%ELONG.	COMPUTED TENSIL PSI	REMARKS	ACCEPTED	REJECTED
1	T1	8"	1.10	240	16,200	1	67,500	New Gauge	✓	
2	B7	8"	1.10	.240	16,200	1	67,500	New Gauge	✓	
3										
4										

BEND TESTS

	COUPON LOCATION	TYPE OF BEND	REMARKS	ACCEPTED	REJECTED
1	T3	Root	No defect	✓	
2	T4	Face	No defect	✓	
3	B6	Root	No defect	✓	
4	B5	Face	No defect		✓

NICK-BREAK TESTS

	COUPON LOCATION	REMARKS	ACCEPTED	REJECTED
1	B8	Clean Metal No defect	✓	
2	T2	Clean Metal No defect		✓
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 Marshall		TITLE: Welding Inspector		

CONSTRUCTION: JOINING OF PIPES BY WELDING

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