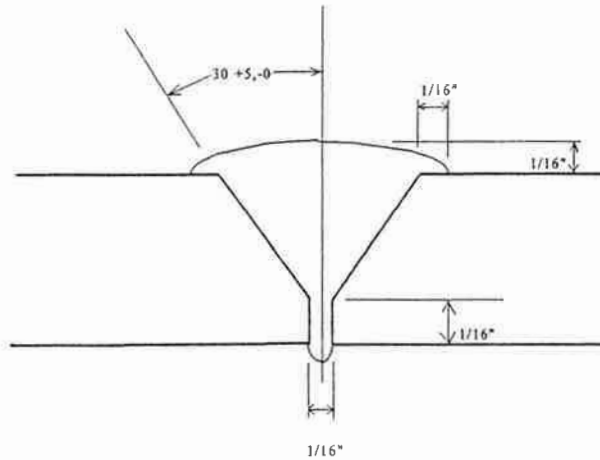




Vermont Gas Systems, Inc.

WELDING PROCEDURE SPECIFICATION NUMBER 16" X-65 BUTT WELD

1. Welding Process	<input checked="" type="checkbox"/> Manual <input type="checkbox"/> Semi-automatic <input type="checkbox"/> Automatic <input type="checkbox"/> Gas metal Arc <input checked="" type="checkbox"/> Shielded metal arc <input type="checkbox"/> Other
2. Material Description	API 5L X-65
3. Diameter	<input type="checkbox"/> Less than 2 ³ / ₈ " O.D. <input checked="" type="checkbox"/> 2 ³ / ₈ " O.D. - 12 ³ / ₄ " O.D. <input type="checkbox"/> Over 12 ³ / ₄ " O.D.
4. Wall thickness	<input type="checkbox"/> Less than .188" <input checked="" type="checkbox"/> .188" thru .750" <input type="checkbox"/> Over .750"
5. Filler Metal Group	1-A5.1, 2-A5.5
6. Shielding	<input type="checkbox"/> Gas type: _____, Flow rate range _____ CFH; <input checked="" type="checkbox"/> Flux type: _____, Size _____
7. Position	<input type="checkbox"/> Roll <input checked="" type="checkbox"/> Fixed Pipe: 6 G
8. Preheat	250 DEG F, IF BELOW 40 300 DEG F
9. Post Heat	N/A
10. Joint Design	<input checked="" type="checkbox"/> V Bevel - see sketch below <input type="checkbox"/> Other - separate attached



Note: Number and sketch in the location of each weld bead

Bead Number	Electrode		Voltage Range	Current			Polarity		Weld'g Direction		Travel Speed Range-1PM
	Size	AWS Designation		Amperage Range	AC	DC	STR	REV	DH	UH	
1	5/32	A5.1 6010	25-28	130-160		X		X	X		6-16
2	5/32	A5.1 6010	25-28	130-160		X		X	X		6-16
3,4	3/16	A5.5 8010G	25-28	160-190		X		X	X		6-16

11. Time Lapse	Root Bead to Second Bead: 5 Min; Second bead to succeeding beads: _____ Min.
12. Line-up clamp	<input type="checkbox"/> Internal <input checked="" type="checkbox"/> External
13. Line-up clamp removal	After minimum of <input checked="" type="checkbox"/> 50% <input type="checkbox"/> 100% <input type="checkbox"/> _____ % (specify) of root bead welding
14. Cleaning	<input checked="" type="checkbox"/> Power tools <input type="checkbox"/> Hand tools

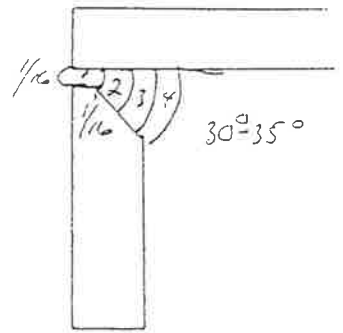
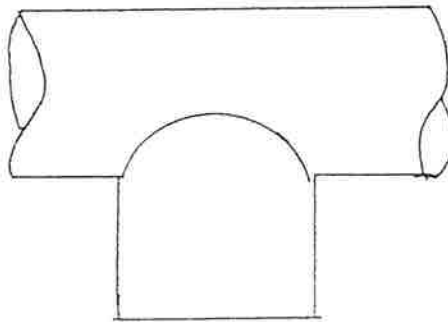


WELDING PROCEDURE SPECIFICATION NUMBER 16" BRANCH TEE

Vermont Gas Systems, Inc.

1. Welding Process	<input checked="" type="checkbox"/> Manual <input checked="" type="checkbox"/> Shielded metal arc <input type="checkbox"/> Semi-automatic <input type="checkbox"/> Other <input type="checkbox"/> Automatic <input type="checkbox"/> Gas metal Arc
2. Material Description	API 5L X-65
3. Diameter	<input type="checkbox"/> Less than 2 $\frac{3}{8}$ " O.D. <input checked="" type="checkbox"/> 2 $\frac{3}{8}$ " O.D. - 12 $\frac{3}{4}$ " O.D. <input checked="" type="checkbox"/> Over 12 $\frac{3}{4}$ " O.D.
4. Wall thickness	<input type="checkbox"/> Less than .188" <input checked="" type="checkbox"/> .188" thru .750" <input type="checkbox"/> Over .750"
5. Filler Metal Group	1-A5.1, 2-A5.5
6. Shielding	<input type="checkbox"/> Gas type: _____, Flow rate range _____ CFH; <input checked="" type="checkbox"/> Flux type: _____, Size _____
7. Position	<input type="checkbox"/> Roll <input checked="" type="checkbox"/> Fixed Pipe: HORIZONTAL
8. Preheat	250 DEG F, IF BELOW 40 300 DEG F
9. Post Heat	N/A
10. Joint Design	<input checked="" type="checkbox"/> V Bevel - see sketch below <input type="checkbox"/> Other - separate attached

Note: Number and sketch in the location of each weld bead



Bead Number	Electrode		Voltage Range	Current			Polarity		Weld'g Direction		Travel Speed Range-IPM
	Size	AWS Designation		Amperage Range	AC	DC	STR	REV	DH	UH	
1	5/32	A5.1 6010	25-28	130-160		X		X	X		6-16
2	5/32	A5.1 6010	25-28	130-160		X		X	X		6-16
3,4	3/16	A5.5 8010G	25-28	160-190		X		X	X		6-16

Time Lapse	Root Bead to Second Bead: 5 Min; Second bead to succeeding beads: Min.
12. Line-up clamp	<input type="checkbox"/> Internal <input checked="" type="checkbox"/> External
13. Line-up clamp removal	After minimum of <input checked="" type="checkbox"/> 50% <input type="checkbox"/> 100% <input type="checkbox"/> _____ % (specify) of root bead welding
14. Cleaning	<input checked="" type="checkbox"/> Power tools <input type="checkbox"/> Hand tools

Prepared by *[Signature]* Date 7/11/02 Approved by _____ Date _____

VGS012026