

March Metalfab, Inc.  
 2250 Davis Court Hayward, CA 94545  
 WELDING PROCEDURE SPECIFICATION (WPS)

WPS No.: 1 Date: 07/31/74 Revision No.: 1 Date: 01/05/95  
 Supporting PQRs: 1

BASE METAL (QW-403, QW-405) P No. 1 to P No.:1 Thickness range. 0.1875" to 1.4380" Position(s). All positions Progression. Vertical Up notes	JOINT (QW-402) Joint design Groove/Fillet (see pg 2) Backing..... With backing only Backing Matl Weld metal Fillet Weld Size All (QW-451.4) notes NO RETAINER/INSERT USED
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PREHEAT (QW-406) Minimum Temperature. 55 Degrees F. Interpass Temp. Max. 550 Degrees F. Preheat Maintenance. None	POSTWELD HEAT TREATMENT (QW-407) Temperature range None Time range None notes
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	1st process GTAW / manual	2nd process SMAW / manual
Process / type .....		
Process thickness limit.	0.0630" to 0.3740"	0.1870" to 1.0640"

GAS (QW-408)		
Shielding Gas / CFH.....	100% Argon / 14-18	N/A / -
Trailing Gas / CFH.....	None / -	N/A / -
Backing Gas / CFH.....	None / -	N/A / -

FILLER METAL (QW-404)		
AWS classification.....	ER70S-2	E7018
SFA Spec. No. & F No.... SFA#:	5.18 F#: 6	5.1 F#: 4
A No. or Chem. Comp.....	1	1
Filler metal trade name.	n/r	n/r
SAW flux trade name/type	N/A / -	N/A / -
Elec./Wire size (in) ...	1/16   3/32   1/8	1/8   5/32   3/16
ELECTRICAL (QW-409)		
Welding amperage range..	70-150   80-180   130-275	90-160   130-220   200-300
Welding voltage range...	n/r   n/r   n/r	n/r   n/r   n/r
Travel speed (ipm).....	Var.   Var.   Var.	Var.   Var.   Var.
Max. Heat Input (J/in)...	None	None
Tungsten Type/Size.....	EWTh-2 / 1/16" - 3/16"	N/A / -
Current & Polarity.....	DCEN (straight)	DCEP (reverse)

TECHNIQUE (QW-410)		
String / weave bead.....	String Bead	String Bead
Orifice / gas cup.....	# 5 to # 10	N/A
Contact tube to work....	N/A	N/A
Oscillation.....	N/A	N/A
Mult./Single electrode..	Single Electrode	Single Electrode
Other Technique Notes...		

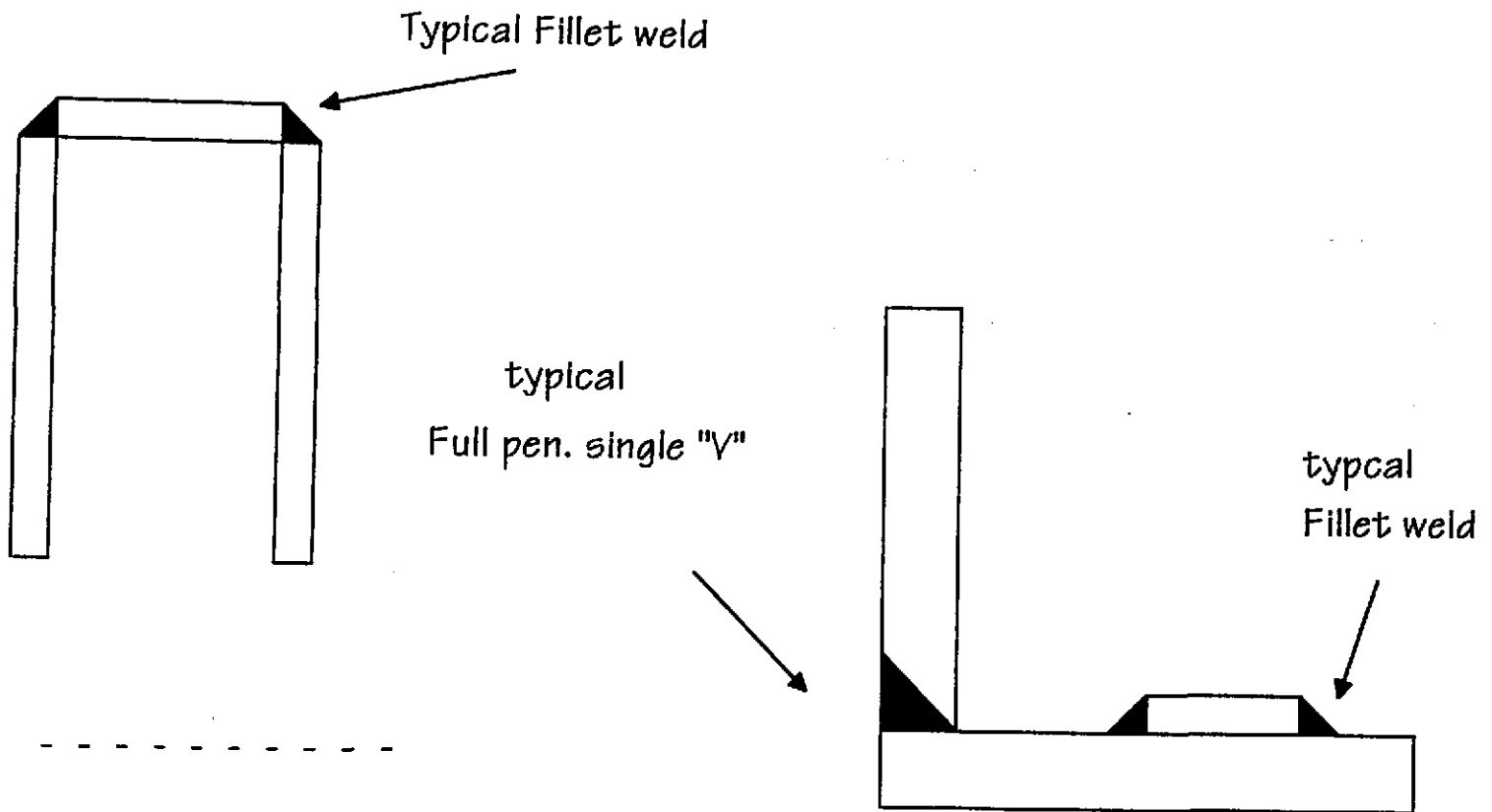
Multiple or Single Pass (per side).... Multiple Passes  
 (n1) No peening done with this procedure.  
 (n2) No pass greater than 1/2" allowed.  
 (n3) Non metallic retainers not used  
 (n4) Solid and/or metal cored filler metal used.  
 (n5)  
 (n6)  
 (n7) Preheat to 175F if "T" > 1" and C > 0.30%; To 200F if 1.25" < "T" <= 1.5"

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JOINT (QW-402)



Initial cleaning With wire brush clean 1" both sides of weld joint.  
Method of back gouging When required, grind and/or air-arc to sound metal.

- (a) Minimum preheat must be maintained during thermal cutting, tacking, and welding operations.
- (b) Welds shall be cleaned between each pass. When completed, remove all slag and projections.
- (c)
- (d)
- (e)

We certify that the statements in this record are correct and in accordance with the requirements of section IX of the ASME Code.

Certified by:

( 01/05/95 ) QA MANAGER

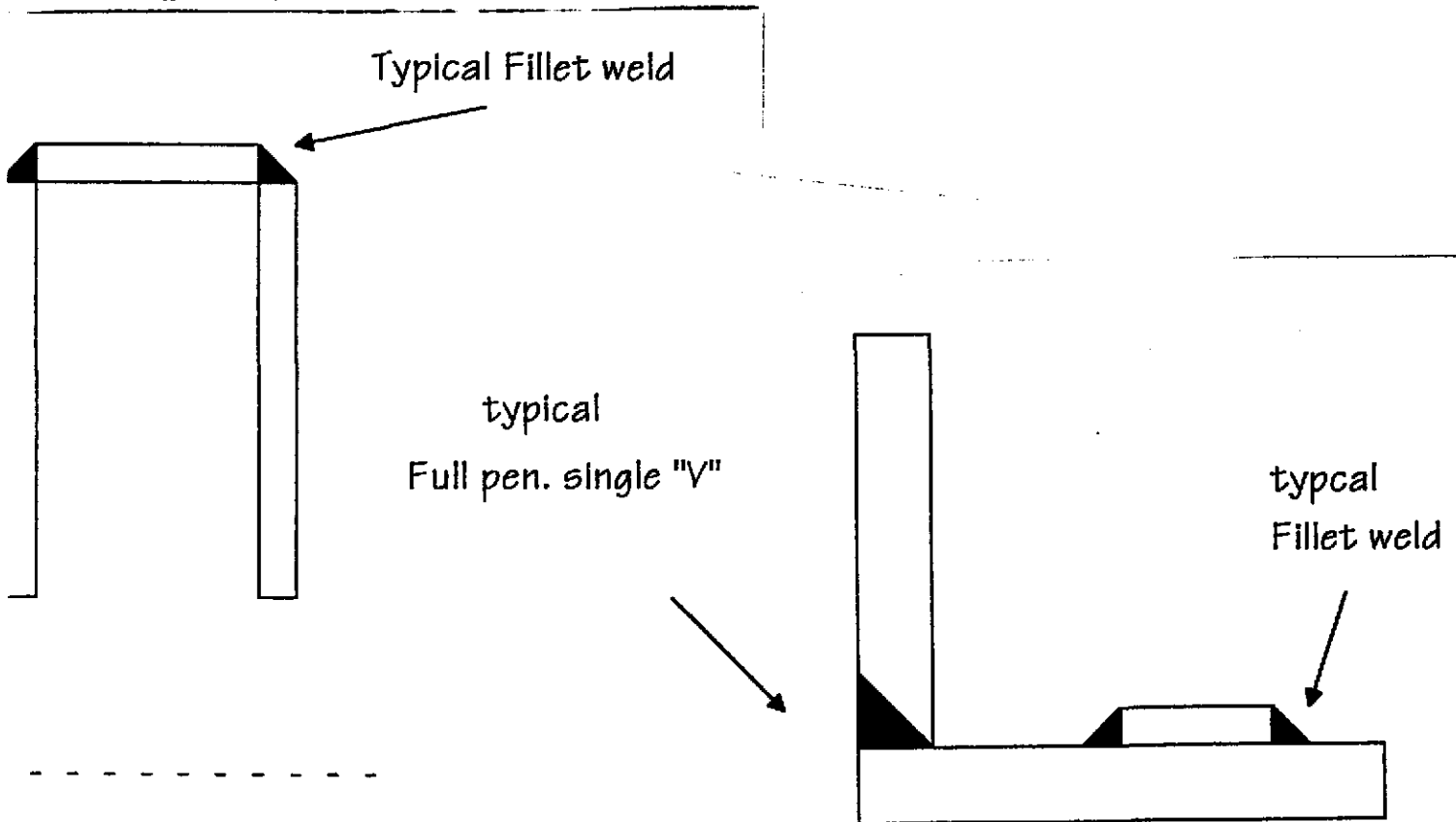


WPS No.: 1D

Date: 05/24/73 Revision No.: A

Date: 11/03/82

JOINT (QW-402)



Initial cleaning With wire brush clean 1" both sides of weld joint.  
Method of back gouging Grind until all defects are removed.

- (a) Minimum preheat must be maintained during thermal cutting, tacking, and welding operations.
- (b) Welds shall be cleaned between each pass. When completed, remove all slag and projections.
- (c)
- (d)
- (e)

We certify that the statements in this record are correct and in accordance with the requirements of Section IX of the ASME Code.

Certified by: *[Signature]* ( 05/24/73 ) QA MANAGER