

QW-483 PROCEDURE QUALIFICATION RECORD

4866 East Second Street Benicia, CA 94510

Phone 707/745-1501 * Phone 707/745-1510

General Engineering Contractor # 820497

PQR NO.: 1-02 Date: 7/1/2001 Rev.: 0 Page: 1 of 2

WPS. No.: P1-A-(3-4) Welding Process: SMAW Types- Manual, Automatic, Semi-Auto Manual

JOINT DESIGN (QW-402)

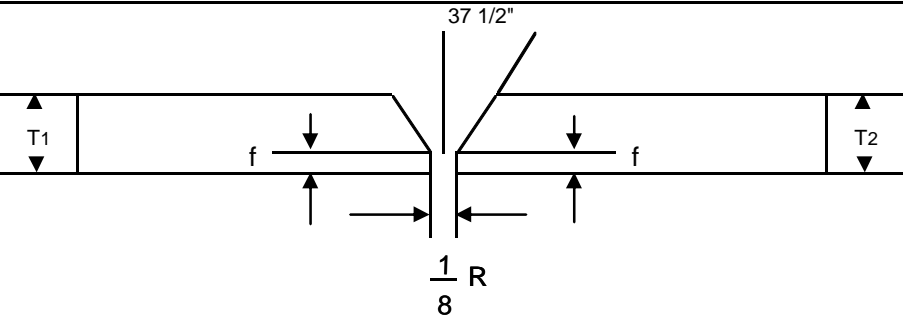
Groove Weld Joint Detail: **Single-V Groove**

Joint Designation: **Open Butt**

Groove Angle: 75 Degrees

Root Opening (R): 1/8" Inches

Root Face: 1/16" Inches



BASE METALS (QW-403)

Material Type: **Plate**

Material Spec.: SA-36 to SA-36

Type or Grade: Gr.1 to Gr.1

ASME P-No.: 1 to P-No.: 1

Base Metal Thickness: T1= 0.500 T2= 0.500

Coupon Diameter: N/A

Other: _____

POST HEAT TREATMENT (QW-407)

Temperature: N/A

Time Range: N/A

Other: _____

GAS(QW-408)

Percent Composite

	Gas(es)	(Mixture)	Flow Rate
Shielding :	N/A	N/A	N/A
Trailing:	N/A	N/A	N/A
Backing:	N/A	N/A	N/A

FILLER METALS (QW-404)

	1st Process	2nd Process
SFA Specification:	SFA 5.1	SFA 5.1
AWS Classification:	E6010	E7018
Filler Metal F-No.:	3	4
Weld Metal Analysis A-No.:	1	1
Weld Metal Deposit:	1/8"	3/8"
Electrode/Wire Size:	1/8"	1/8"
Other:		

ELECTRICAL CHARACTERISTICS (QW-409)

	1st Process	2nd Process
Current:	DC	DC
Polarity:	RP	RP
Amps Used:	40-210	75-210
Volts Used:	10-24	10-27
Travel Speed IPM	3-8	3-8
Tungsten Electrode Size:	N/A	N/A
Max. Heat Input (J/in):	N/A	N/A
Other:		

POSITION (QW-405)

Position of Joint: 1G

Welding Progression (Uphill, Downhill): Uphill

PREHEAT (QW-406)

Preheat Temp.: 50

Interpass Temp.: 600

Other: _____

TECHNIQUE (QW-410)

Stringer or Weave Bead:	Stringer	Stringer
Maximum Bead Width:	3/8"	3/8"
Multipass or Single Pass (Per Side):	Mutiple	Mutiple
Multipass or Single Electrodes:	Stringer	Stringer
Oscillation:	Max. 1/2"	Max. 1/2"
Orifice/Gas Cup Size:	N/A	N/A
Interpass Cleaning:	Grind/Brush	Grind/Brush
Other:		

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TENSILE TEST (QW-150)

Specimen No.	Width (in.)	Thickness (in.)	Area (in.)	Ultimate Total Load (lb.)	Ultimate Stress (psi)	Type of Failure & Location
T1	0.739	0.490	0.362	27,500	75,940	Base Metal
T2	0.815	0.490	0.399	29,400	73,620	Base Metal

GUIDED-BEND TESTS (QW-160)

Type	Figure No.	Results
Side Bend # 1	QW462.2	Satisfactory
Side Bend # 2	QW462.2	Satisfactory
Side Bend # 3	QW462.2	Satisfactory
Side Bend # 4	QW462.2	Satisfactory

TOUGHNESS TEST (QW-170) N/A

Specimen No.	Specimen Size	Notch Location	Test Temperature	Impact Values			Drop Weight Break (yes/no)
				Ft-lb	% Shear	Exp. Mills	

Comments: _____

FILLET WELD TEST (QW-180) N/A

Visual Inspection Pass: _____ Fail: _____ Penetration into Parent Metal: Yes: _____ No: _____
 Macro Results: Pass: _____ Fail: _____ Bend Test: Pass: _____ Fail: _____

OTHER TESTS N/A

Type of Test: _____ Deposit Analysis: _____ Other: _____

Welder's Name: Robert Boyd Clock No.: BP-1 Stamp No.: _____
 Tests Conducted By: Capital Engineering Laboratory Test No.: 600-428

We certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Code.

Manufacturer: **Richlynn Contracting Company, Inc.**

By: _____ Date: _____

QW-482 WELDING PROCEDURE SPECIFICATIONS

4866 East Second Street Benicia, CA 94510 Phone 707/745-1501 * Phone 707/745-1510 General Engineering Contractor # 820497

WPS. No.: P1-A-(3-4) Date: 07/15/01 Rev.: 0 Page: 1 of 2

Supporting PQR No.: 1-02 Welding Process: SMAW Types- Manual, Automatic, Semi-Auto Manual

JOINT DESIGN (QW-402)

Groove Weld Joint Detail: Single V Groove

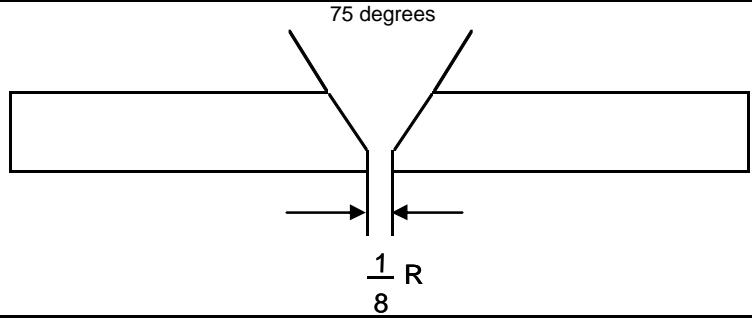
Backing: (Yes): (No): X

Backing Material (Type): P1 Weld Metal

 X Metal Nonfusing Metal

 Nonmetallic Other

Permanent Backing: None See (Note 1)



BASE METALS (QW-403)

P-No.: 1 Group No.: 1

To

P-No.: 1 Group No.: 2

Thickness Range: 0.1875 To 1.00

Fillet Weld : All

Pipe Diameter Range: All

Other:

FILLER METALS (QW-404)

	1st Process	2nd Process
SFA Specification:	SFA 5.1	SFA 5.1
AWS Classification:	E6010	E7018
Filler Metal F-No.:	3	4
Weld Metal Analysis A-No.:	1	1
Electrode/Wire Size:	3/32"-1/8"	3/32"-5/32"
Deposit of Weld Metal:	1/8"	3/8"
Thickness Range: Groove	0.250	0.750
Thickness Range: Fillet	N/A	N/A

Filler Metal Trade Name: N/A

Flux Trade Name/Type: N/A

Consumable Insert:

POSITION (QW-405)

Position(s) of Groove: All

Welding Progression: Up: X Down:

Position(s) of Fillet: All

PREHEAT (QW-406)

Preheat Temperature (Min.): 50 Degrees F.

Interpass Temperature (Max.): 600 Degrees F.

Preheat Maintenance: Neutral Flame

POSWELD HEAT TREATMENT (QW-407)

Temperature Range: None

Time Range: N/A

GAS (QW-408)

	Percent Composite		
	Gas(es)	(Mixture)	Flow Rate
Shielding :	None	N/A	N/A
Trailing:	None	N/A	N/A
Backing:	None	N/A	N/A

NOTES

1. Backing is required for the E7018 portion of this procedure in the form of deposited weld metal or P#1 base metal. No permanent metallic backing strips or rings are allowed unless specified in design documents.
2. See applicable fabrication Code for maximum thickness allowed without PWHT.
3. Minimum pre-heat is 50 degrees F. See applicable fabrication code for additional pre-heat requirements.
4. In the GTAW process welding without the addition of filler material is not allowed.
5. Check ASME B 31.3 for PWHT requirements table 331.1.1 for heat treatment

