AWS D1.1 - 2015 SUGGESTED FORMAT FOR WELDING PROCEDURE SPECIFICATION (JWPS)
PREQUALIFIED JOINT WELDING PROCEDURE SPECIFICATION
SHOP AND FIELD PRODUCTION WELD PROCEDURE

Date: 2/19/2015 Revision: None

POSITIONS (Sec 3, Table 3.7)
Position(s) of Groove: ALL POSITION'S
Welding Progression: VERTICAL UP DOWN **** 3.7.1
Position(s) of Fillet ALL POSITIONS
*****Cover pass may be Up or Down as applicable By Code

PREHEAT (Sec 3, 3.5) (Table 3.2 Category B) (1" each side of weld joint)
Preheat Temp Min*: 50*F up to 3/4" (70* F to 1-1/2"
Interpass Temp Max: (450*F Max (50* Thru Max Degree's)
Preheat Maintenance: 100*F Recommended (By Code 50*F up to 3/4" (70* F to 1-1/2")
*Preheat material when ambient temp in vicinity of weld is lower than 0*F
*Preheat material when base metal temp in vicinity of weld is lower than 32*F and than maintain interpass temp at 100*F Min (200*F P/H Recommended)

POSTWELD HEAT TREATMENT (Sec 5, 5.8)
Temperature Range: N/A
Time Range: N/A

SHIELDING GASES (Sec 5, Tables 5.3.1.3 & 5.3.4)
Shielded Gas(es): 75% ARGON - 25% CO2 MIX OR CO2 100%
Percent Composition (mixtures): See Above Mix's
Flow Rate: 30 cfh to 50 cfh
Gas Backing: 100% Argon when Required
Trailing Shielding Gas Composition See Above Mix's

ELECTRICAL CHARACTERISTICS (Sec 3, 3.6){C3 Table 3.7)
Current AC or DC DCSP Polarity REVERSE
Amps (Range 90 THRU 200 Volts (Range) 18 THRU 30
REFERENCE CHART BELOW
(Amps and volts may be recorded for each electrode size, position, and thickness, etc. This information may be listed in a tabular form similar to that shown below.)

Tungsten Electrode Size and Type N/A
N/A
Mode of Metal Transfer for GMAW SHORT CIRCUIT TRANSFER ALSO SEE BELOW
(Spray Arc Or short circuiting Arc Transfer.)
Electrode Wire feed speed range 200 Imp THRU 500 Imp (Ranges Shown Are Approximate) Ref Suggested Wire Speeds By Manufacture Of Filler materal
(SEE VENDOR CATALOG FOR SOLID WIRE SPEED SETTINGS FOR DIFFERENT WIRE DIAMETERS)

TECHNIQUE (Sec 5)
String or Weave Bead Stringer And / or Weave Beads Acceptable (Weave Beads Are limited To 2-1/2 Times Wire Core Diameter
Orifice or Gas Cup Size # 6 Thru # 14
Initial and Interpass Cleaning (Brushing, Grinding, etc.) Mechanical Clean By Wire Brushing Or Grinding (Use Solvent Wash To Remove Grease Or Oil When Present)
Method of Back Gouging Carbon Air Arc And / Or Mechanical Grind When Applicable
Oscillation 2-1/2 " X Electrode Diameter Maximum Weave
Contact Tube to Work Distance 1/2" To 1 " maximum (Contact Tip Stick Out Max 0" to 3/4")
Multiple or Single Pass (per side) Multiple And / Or Single Pass Acceptable
Multiple or Single Electrodes Single Electrode Only
Travel Speed (Range) 0" Thru 12" IPM
Peening Mechanical Peening Acceptable When Appliacble Sec 5 -5.27
WELD REPAIR :: Refer To AWS D1.1 Sec 5.26 And [redacted] Operations Procedure [redacted] # 6
Ref: D1.1 Sec 2.5 For Plug and Slot Welds.

SUGGESTED WELDING PARAMETERS LISTED BELOW ARE BY MANUFACTURE OF WIRE (ESAB Welding Filler Materal CORP, Hanover, PA)

Material Thickness / Weld Layer(s)	Groove Welds Not Recommended over 3/8"	Filler Metal Class	Filler Metal Dia.	Current Type Polar	Current Amp. Range	Volt Range	Fore hand travel Only Travel Speed Range	Other (e.g. Remarks, Comments, Hot Wire Addition, Technique, Torch Angle, etc.)
Root	GMAW -S	A5.18 ER70S-XX	0.035	DCRP	125 to 150	18 to 22	Up To 12 Ipm	Wire Speed 200-300 Approx
Fill 1/8 -3/8"	GMAW -S	A5.18 ER70S-XX	.035-.045	DCRP	125 to 250	18 to 30	Up To 12 Ipm	Wire Speed 200-300 Approx
Fill 1/8 -3/8"	GMAW -S	A5.18 ER70S-XX	.035-.045	DCRP	125 to 250	18 to 30	Up To 12 Ipm	Wire Speed 200-300 Approx
Fill 1/8 -3/8"	GMAW -S	A5.18 ER70S-XX	.035-.045	DCRP	125 to 250	18 to 30	Up To 12 Ipm	Wire Speed 200-300 Approx
Fill 1/8 -3/8"	GMAW -S	A5.18 ER70S-XX	.035-.045	DCRP	125 to 250	18 to 30	Up To 12 Ipm	Wire Speed 200-300 Approx
Fill 1/8 -3/8"	GMAW -S	A5.18 ER70S-XX	.035-.045	DCRP	125 to 250	18 to 30	Up To 12 Ipm	Wire Speed 200-300 Approx