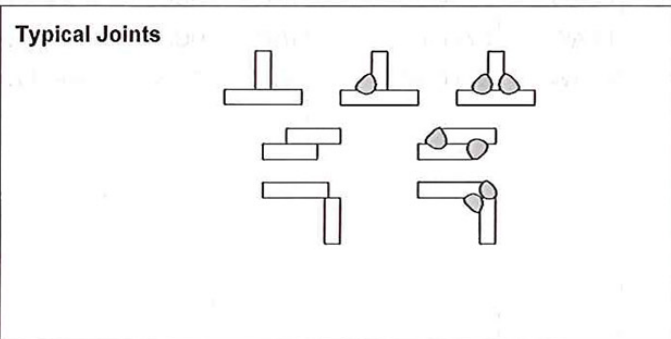




Joseph E. Campbell
SCWI 05060018
JC1 EXP. 6/1/2014

WPS No. M&W-D1.1-FC-02 Revision 01 Date 1/15/2014 By J. E. Campbell, SCWI
 Authorized By J. E. Campbell, SCWI Date 1/10/2014 Prequalified
 Welding Process(es) FCAW NA Type: Manual Machine Semi-Auto Auto
 Supporting PQR(s) NA NA NA NA

JOINT
 Type Butt, Corner, T, Lap or Edge
 Backing Yes No Single Weld Double Weld
 Backing Material Same as base metal
 Root Opening NA Root Face Dimension NA
 Groove Angle NA Radius (J-U) NA
 Back Gouge Yes No
 Method Grind/Carbon/Plasma



BASE METALS
 Material Spec. ASTM A36 to ASTM A36
 Type or Grade NA to NA
 Thickness: Groove (in) 1/8 - Unlimited
 Fillet (in) 1/8 - Unlimited
 Diameter (Pipe, in) 4 - Unlimited

POSITION
 Position of Groove All Fillet All
 Vertical Progression: Up Down

FILLER METALS
 AWS Specification A5.20 NA
 AWS Classification E71T-1M NA
NA NA

ELECTRICAL CHARACTERISTICS
 Transfer Mode (GMAW):
 Short-Circuiting Globular Spray
 Current: AC DCEP DCEN Pulsed
 Other NA
 Tungsten Electrode (GTAW):
 Size NA Type NA

SHIELDING
 Flux NA Gas Argon/CO2
NA Composition 75%/25%
 Electrode-Flux (Class) NA Flow Rate 35-50 cfh
NA Gas Cup Size 1/2 to 3/4 in.

TECHNIQUE
 Stringer or Weave Bead Both
 Multi-pass or Single Pass (per side) Both
 Number of Electrodes 1
 Electrode Spacing: Longitudinal NA
 Lateral NA
 Angle NA
 Contact Tube to Work Distance 1/2-3/4 in.
 Peening None
 Interpass Cleaning Grind, chip or wire brush

PREHEAT
 Preheat Temp., Min. 32 degF(5)
 Thickness Up to 3/4" Temperature 32 degF(5)
 Over 3/4" to 1-1/2" 50 degF(5)
 Over 1-1/2" to 2-1/2" 150 deg. F
 Over 2-1/2" 225 deg. F
 Interpass Temp., Min. Above Max. None

POSTWELD HEAT TREATMENT PWHT Required
 Temp. NA Time NA

WELDING PROCEDURE

Layer/Pass	Process	Filler Metal Class	Diameter	Cur. Type	Amps or WFS	Volts	Travel Speed	Other Notes
All (F, H)	FCAW	E71T-1M	.045"	DCEP	215-265 A	24-28	7-13 ipm	350-430 ipm wfs (6)
All (V)	FCAW	E71T-1M	.045"	DCEP	180-220 A	22-26	6-12 ipm	260-320 ipm wfs (6)
All (OH)	FCAW	E71T-1M	.045"	DCEP	180-220 A	24-28	6-12 ipm	260-320 ipm wfs (6)
All (F, H)	FCAW	E71T-1M	.052"	DCEP	245-305 A	25-29	7-13 ipm	245-305 ipm wfs (6)
All (V)	FCAW	E71T-1M	.052"	DCEP	190-230 A	23-27	6-12 ipm	200-250 ipm wfs (6)
All (OH)	FCAW	E71T-1M	.052"	DCEP	200-240 A	25-29	6-12 ipm	210-260 ipm wfs (6)