

Contractor/Organization: STRUCTAL, Div. Canam  
Welding process(es): FCAW  
Type: Semi Auto or Auto

WPS : FC-1002  
Revision: 0 Date: 06/25/2012 By: Tyler Gaunt  
Authorized by: *Tyler Gaunt* Date: 06/25/2012  
Supporting PQR: PQR-FC-50W-50W-1G-WM23

**JOINT DESIGN USED**  
Backing: N/A Mat'l: N/A  
Root Opening: N/A Rf Dim.: N/A  
Groove Angle: N/A Radius (J, U): N/A  
Backgouging: N/A Method: N/A  
Root Treatment: Grind or Blast to Bare Metal

**POSITION**  
Position of Groove: N/A Fillet: 1F or 2F  
Vertical progression : Vertical UP

**BASE METALS**  
Material Spec: A709 Type or Grade: Gr.36, 50, 50W  
Size of Groove: N/A Size of fillet: 5/16"

**ELECTRICAL CHARACTERISTICS**  
Transfer mode: N/A Current: DCEP  
ESO: 3/4" +/- 1/4" Other: N/A

**FILLER METALS**  
AWS Spec.: A5.20 AWS Class.: 81T1-Ni1C H8  
Manufacturer Trade Name: ESAB 810X-Ni1

**TECHNIQUE**  
Stringer or Weave Bead: STRINGER  
Single or multiple pass: Single  
Nb of Electrodes: 1  
Electrode spacing :  
Longitudinal: N/A, Lateral: N/A, Angle: varies  
Interpass Cleaning: REMOVE ALL CONTAMINANTS

**SHIELDING**  
Flux: N/A Mfg Trade Name: N/A  
Dew Point: -40° F Cup size: N/A  
Gas composition: 100% CO<sub>2</sub> Flow Rate: 40 CFH minimum

**PREHEAT – Maximum interpass : N/A**

**POSTWELD HEAT TREATMENT**  
Temperature: N/A Holding Time: N/A  
Heating/Cooling rate: N/A

MINIMUM PREHEAT & INTERPASS TEMPERATURE		
Thickness of thickest part at point of welding	FCM Application	Non FCM Application
t ≤ 3/4 (in.)	150 °F	50 °F
3/4 < t ≤ 1-1/2 (in.)	250 °F	70 °F
1-1/2 < t ≤ 2-1/2 (in.)	325 °F	150 °F
2-1/2 > t (in.)	350 °F	225 °F

**HEAT INPUT**  
Min. Heat Input: 27.3 kJ/in Max. Heat input: 45.4 kJ/in

- Note1: For Fillet Welding on Secondary members  
Note2: For Stiffener to Flange fillet welds on Main Members  
Note3: For Fillet Welding of Drip Bars

(S)	PASS	ELECT. SIZE	WELDING CURRENT		TRAVEL SPEED (IN/MIN)	JOINT DETAIL
			AMPS	VOLTS		
5/16"	1	1/16"	300-325	28-30	13-14	
1/4"	1	1/16"	200-239	28-30	13-14	

THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT-UP, PASS SIZE, ETC. WITHIN THE LIMITATION OF VARIABLES GIVEN IN SECTION 5 OF AWS D1.5:2010.

VTrans  
Received  
CKD \_\_\_\_\_ OK'D BY: *JWC*

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