

Vermont Agency of Transportation  
**RECEIVED**  
 CK'D BY Rob Young  
 OK'D BY Rob Young  
 April 4, 2016  
 RESUBMIT NO Approved  
 BY Rob Young DATE 04/08/2016

# Casco Bay Steel Structures, Inc.

## WELDING PROCEDURE SPECIFICATION

Material specification ASTM Gr. 50 + G50W  
 Welding process Gas Metal ARC welding (GMAW)  
 Manual or machine Semi AUTO  
 Position of welding Flat + Horizontal  
 Filler metal specification AWS-A5.28  
 Filler metal classification E80C-Ni1 ESAB  
 Flux NA  
 Shielding gas 90% AR / 10% CO<sub>2</sub> Flow rate 35 CFH +/- 4, Elec. StickOut 5/8"  
 Single or multiple pass Single + multiple  
 Single or multiple arc Single  
 Welding current DC  
 Polarity DCEP  
 Welding progression See Detail  
 Root treatment Blast Clean - wire Brush - Area To be Free of Slag - RUST - Moisture  
 Preheat and interpass temperature See Table and as Required  
 Postheat temperature AS Required  
 Heat Input Min 24.4 KJ/in Max 38.3 KJ/in P.Q.R. 418-FCM=34.8 KJ/in  
 \* 35.0 KJ/in Min for single pass  
 Minimum Preheat and Interpass Temperature, °C [°F]

Preheats to the NYSSCM

Welding Process (Base Metal)	Thickness of Thickest Part at Point of Welding, mm (in)				Gr 50	Gr 50W
	To 20 mm [3/4 in] Incl.	Over 20 mm [3/4 in] to 40 mm [1-1/2 in] Incl.	Over 40 mm [1-1/2 in] to 65 mm [2-1/2 in] Incl.	Over 65 mm [2-1/2 in]		
SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)])	10 [50]	20 [70]	65 [150]	110 [225]		
FCM Gr 50	150°F	200°F	225°F	325°F		
FCM Gr 50W	150°F	250°F	325°F	350°F		

### WELDING PROCEDURE

Pass no.	Electrode size	Welding current		Travel speed	Joint detail
		Amperes	Volts		
AS REQ	.052	307	29.2	15.5	Sec 5.12.4.2 AWS D1.5 Joint detail Fillet 2F 
		338.7	31	17.5	
		To	To	To	
* 1 Pass	.052	276.3	27	13.5	1F 
		338.7	31	17.5	
		to	to	to	
		281.3	28.0	13.5	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. FCM 610  
 Revision no. \_\_\_\_\_

Contractor Casco Bay Steel  
 Authorized By Paul E. Goodale  
 Date 8-1-2013