

Casco Bay Steel Structures, Inc.

WELDING PROCEDURE SPECIFICATION

Material specification ASTM - Gr 50 - 50w  
 Welding process Submerged Arc welding Power wave  
 Manual or machine Machine Vitans  
 Position of welding Flat + Horizontal Received JWK  
 Filler metal specification A5-23 CKD  
 Filler metal classification E8A2-ENi1-Ni1-H8 DRUM  
 Flux Lincoln 960 - Elec. LA 75 DEC 12 2013  
 Shielding gas NA Flow rate NA  
 Single or multiple pass Single multiple Resubmit APPROVED ✓  
 Single or multiple arc Single BY DATE 12/17/13  
 Welding current Alternating  
 Polarity AC  
 Welding progression see Details  
 Root treatment Grind - wire brush - Area Free of Slag - RUST - Moisture  
 Preheat and interpass temperature See Table  
 Postheat temperature NA  
 Heat Input Min 47.1 kJ/in Max 24.0 kJ/in PQR - PW1 - 67.3 kJ/in

Minimum Preheat and Interpass Temperature, °C [°F]

| Welding Process (Base Metal)   | Thickness of Thickest Part at Point of Welding, mm [in] |   |   |                       | VERMONT AOT  |
|--|---|---|---|-----------------------|--|
|  | 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)] Gr. 250 [36], 345 [50], 345W [50W], HPS 345W [HPS 50W]) | 10 [50]   | 20 [70]                                       | 65 [150]  | 110 [225]             | CAVENDISH Vt RTE 131<br>OVER TWENTYMILE STREAM<br>PROJ # ER BR 0146 (13) |
| SAW; GMAW; FCAW; SMAW (M270M [M270] [A 709M (A 709)] Gr. HPS 485W [HPS 70W], 690 [100], 690W [100W])         | 10 [50]   | 50 [125]                                      | 80 [175]  | 110 [225]             | CBSS Job. No. 541  |

WELDING PROCEDURE

Max Interpass = 460°F

| Pass no.    | Electrode size | Welding current |       | Travel speed | See 5.13<br>AUS D1-5 Joint detail RL 2c-s   |    |   |   |           |      |   |             |      |   |             |      |   |
|-------------|----------------|-----------------|-------|--------------|---|----|---|---|-----------|------|---|-------------|------|---|-------------|------|---|
|             |                | Amperes         | Volts |              |   |    |   |   |           |      |   |             |      |   |             |      |   |
| AS Req.     | 5/32           | 827             | 38    | 28 IPM       |   |    |   |   |           |      |   |             |      |   |             |      |   |
|             |                | 744             | 35    | 24           |   |    |   |   |           |      |   |             |      |   |             |      |   |
|             |                | TO              | TO    | TO           |   |    |   |   |           |      |   |             |      |   |             |      |   |
|             |                | 910             | 41    | 32           | <table border="1"> <tr> <td>T1</td> <td>P</td> <td>R</td> </tr> <tr> <td>1/2 to 1"</td> <td>1/4"</td> <td>0</td> </tr> <tr> <td>1 1/2 to 2"</td> <td>3/8"</td> <td>0</td> </tr> <tr> <td>2 to 2 1/2"</td> <td>1/2"</td> <td>0</td> </tr> </table> | T1 | P | R | 1/2 to 1" | 1/4" | 0 | 1 1/2 to 2" | 3/8" | 0 | 2 to 2 1/2" | 1/2" | 0 |
| T1          | P              | R               |       |              |   |    |   |   |           |      |   |             |      |   |             |      |   |
| 1/2 to 1"   | 1/4"           | 0               |       |              |   |    |   |   |           |      |   |             |      |   |             |      |   |
| 1 1/2 to 2" | 3/8"           | 0               |       |              |   |    |   |   |           |      |   |             |      |   |             |      |   |
| 2 to 2 1/2" | 1/2"           | 0               |       |              |   |    |   |   |           |      |   |             |      |   |             |      |   |

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. PW 202B ST OF VT  
 Revision no. \_\_\_\_\_

Contractor Casco Bay Steel  
 Authorized By Paul E. Goodale  
 Date April -13-2012