

DSBROWN Production Joint Welding Procedure Specification (D1.5-08)

Procedure No: B-FF-01 Date Issued: 3-28-08 Revision No: 01 Rev. Date: 11-11-09 Contractor (Fabricator) D. S. Brown Company Prepared by: Brad Streeter, Quality Assurance Manager

1. Non-Fracture Critical ☒ Fracture Critical ☐ WPS Expiration Date: 3-6-13
2. Qualified in accordance with: AWS D1.5- 2008 (5.13)
- Referenced PQR No(s). PQR-FCAW-01-(08)
- Referenced FWST No(s). PQR-FCAW-FWST-01A(08), PQR-FCAW-FWST-01B(08)
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W
4. Material Thickness (es) Unlimited
5. Welding process FCAW
6. Manual ☐, machine ☐, or semiautomatic ☒
7. Position(s) of welding 1F, 2F
8. Filler metal specification AWS A5.20
9. Filler metal class and brand name E71T-1CH8 (UltraCore71C)
10. Flux class & brand N/A, Type N/A
11. Shielding gas 100% CO2 Flow rate 45 CFH
12. Single pass ☒ Or multiple pass ☒
13. Single arc ☒ Or multiple arc ☐
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression stringers
17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/in) Min 32.2 KJ/in Max 45.8 KJ/in
20. Electrode extension (electrical stickout) 3/4"

For DOT Approval

Witness Received By: JWC
FEB 28 2012
Approved By: JWC DATE: 2/28/12

Weld size (in)	Pass No(s)	Electrode Size (in)	Welding Process Variables		Travel Speed (IPM)	Travel (in)
			AMPS/WFS*	VOLTS		
**1/4"	1	1/16"	257-295	26.1-29.5	11.4-12.5	
5/16"	1	1/16"	257-295	26.1-29.5	11.4-12.5	
3/8"	2-3	1/16"	257-295	26.1-29.5	11.4-12.5	
7/16"	3-5	1/16"	257-295	26.1-29.5	11.4-12.5	
1/2"	4-6	1/16"	257-295	26.1-29.5	11.4-12.5	
5/8"	5-7	1/16"	257-295	26.1-29.5	11.4-12.5	
3/4"	6-8	1/16"	257-295	26.1-29.5	11.4-12.5	

Joint Detail (Fillet)

Show all dimensions, weld sizes, passes, and AWS symbols

T1 = Varies
T2 = Varies
S = Weld Size

** T1 & T2 equal to or less than 3/4" for 1/4" welds.

* Wire feed speed may be used along with amperage (include chart)

Prepared By: DSB QA Manager

Project:

DSB Job: 35029-1112

Preheat and Interpass Temperature Chart		
Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤ 3/4"	50°F	450°F
>3/4" to ≤1.5"	70°F	450°F
>1.5" to ≤2.5"	150°F	450°F
>2.5"	225°F	450°F

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.