

DSBROWN Production Joint Welding Procedure Specification (D1.5-02)

Procedure No: A-FE-STUD-REP-01 Date Issued: 9-12-03 Revision No: 0 Rev. Date: _____

Contractor (Fabricator) D. S. Brown Company Prepared by: James R. Connor, Quality Assurance Manager

1. Non-Fracture Critical Fracture Critical WPS Expiration Date: _____
2. Qualified in accordance with: AWS D1.5-2002 (5.12.1)
Referenced PQR No(s): PQR-FCAW-01-03
Referenced FWST No(s): PQR-FCAW-FWST-01(03), PQR-FCAW-FWST-01A(03)
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W, A500B to A108 Stud For DOT Approval
4. Material Thickness (es) Unlimited
5. Welding process FCAW
6. Manual , machine , or semiautomatic
7. Position(s) of welding 2F
8. Filler metal specification AWS A5.20
9. Filler metal class and brand name E71T-1, E71T-9 Lincoln Outershield Elite
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 and per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/in) Min 31.20 KJ/in Max 50.72 KJ/in
20. Electrode extension (electrical stickout) 3/4"

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 CHECKED BY: JAC
 DEC 1 5 2003
 APPROVED BY: _____
 DATE: 1-04-06

Weld Size (in)	Pass No(s)	Electrode Size (in)	Welding Process Variables		Travel Speed (IPM)
			AMPS	VOLTS	
**1/4"	1	1/16"	260-310	26-30	11-13
5/16"	1	1/16"	260-310	26-30	11-13
3/8"	2-3	1/16"	260-310	26-30	11-13

Table 7.2

STUD DIAMETER	MIN. SIZE FILLET
3/8" (9.5MM)	1/4" (6MM)
1/2", 5/8, 3/4, 7/8 (12.5, 15.8, 19.0, 22.2MM)	5/16" (8MM)
1" (25MM)	3/8" (10MM)

PROCEDURE:
 1) REPAIR WELDMENT SHALL BE OF THE SIZE LISTED BELOW AND EXTEND AT LEAST 3/8" (9MM) BEYOND THE END OF EACH DISCONTINUITY BEING REPAIRED.

Joint Detail (Fillet)
 Show all dimensions, weld sizes, passes, and AWS symbols

T₁ = VARIES
 S = VARIES PER TABLE 7.2 (AS SHOWN LEFT OF PAGE).

APPLICATION:
 REPAIR OF STUD WELDMENTS, WHICH DO NOT EXHIBIT A FULL 360° FLASH

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

Prepared By: James R. Connor DSB QA Manager
 Project: U.S. RTE. 5 OVER LULLS BROOK
 DSB Job: 14032-1042

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