



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

Procedure No: A-SM-STUD-REP-01 Date Issued: 8/6/04 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: N/A
2. Qualified in accordance with: AWS D1.5-2002
- Referenced PQR No(s): N/A
- Referenced FWST No(s): N/A
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W, A108 Stud For DOT Approval
4. Material Thickness (es) Unlimited
5. Welding process SMAW
6. Manual , machine , or semiautomatic
7. Position(s) of welding 1F, 2F
8. Filler metal specification AWS A5.1
9. Filler metal class and brand name LINCOLN JET LH-78-MR E7018
10. Flux class & brand N/A, Type N/A
11. Shielding gas N/A Flow rate N/A
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 20.28 KJ/in Max 30.6 KJ/in
20. Electrode extension (electrical stickout) Varies

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Weld size (in)	Pass No(s)	Electrode Size (in)	Welding Process Variables		Travel Speed (IPM)
			AMPS/WPS*	VOLTS	
1/4"	1	5/32"	130-170	26-30	10
5/16"	1	5/32"	130-170	26-30	10
3/8"	2-3	5/32"	130-170	26-30	10

As per AWS D1.5 Sec. 7 (Table 7.2)

Stud Diameter	Minimum Fillet
≤ 3/8"	1/4"
3/8" ≤ 1"	5/16"
> 1"	3/8"

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

T1 = Varies
Stud = Varies
S = Weld Size

Weld must cover and extend beyond missing flash at least 3/8" in each direction

(see AWS D1.5 Table 7.2 for required weld size)

Prepared By: <u>James R. Connor</u> DSB QA Manager	Preheat and Interpass Temperature Chart		
	Base Metal Thickness range	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
Project: <u>U.S. RTE. 5 OVER LULLS BROOK</u>	≤ 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

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.