



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

Procedure No: A-(MC)GF-STUD-REP-01 Date Issued: 9-29-04 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: _____
 2. Qualified in accordance with: AWS D1.5-2002 (5.12.1)
 Referenced PQR No(s): PQR-(MC)GMAW-01(04)
 Referenced FWST No(s): PQR-(MC)GMAW-FWST-01A(04), PQR-(MC)GMAW-FWST-01B(04)
 3. Material specification(s) ASTM A709 Gr. 36, 50, 50W For DOT Approval
 4. Material Thickness (es) Unlimited
 5. Welding process GMAW
 6. Manual , machine , or semiautomatic
 7. Position(s) of welding 1F, 2F
 8. Filler metal specification AWS A5.18
 9. Filler metal class and brand name E70C-6M Corex Metal-Core Maxim
 10. Flux class and brand N/A, Type N/A
 11. Shielding gas 75% Ar / 25% 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 30.6 KJ/in Max 51.1 KJ/in
 20. Electrode extension (electrical stickout) 3/4"

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 APPROVED BY: _____
 DATE: 11-20-04

Weld size (in)	Pass No(s)	Electrode Size (in)	Welding Process Variables		Travel Speed (IPM)
			AMPS	VOLTS	
1/4"	1	.052"	265-320	31-34.5	13-16
5/16"	1	.052"	265-320	31-34.5	13-16
3/8"	1-2	.052"	265-320	31-34.5	13-16

STUD DIAMETER

3/8" (9.5MM)
 1/2", 5/8", 3/4", 7/8", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 1 3/4", 1 7/8", 2", 2 1/4", 2 1/2", 2 3/4", 3", 3 1/4", 3 1/2", 3 3/4", 4", 4 1/4", 4 1/2", 4 3/4", 5", 5 1/4", 5 1/2", 5 3/4", 6", 6 1/4", 6 1/2", 6 3/4", 7", 7 1/4", 7 1/2", 7 3/4", 8", 8 1/4", 8 1/2", 8 3/4", 9", 9 1/4", 9 1/2", 9 3/4", 10"

MIN. SIZE FILLET

1/4" (6MM)
 5/16" (8MM)
 3/8" (10MM)

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

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

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: Granite Street over Stevens Branch of the Winooski River
 DSB Job: 12550-1042
 Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated.

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