

Certificate of Conformance for AWS D1.8

1. Trade designation: FRONTIARC-711
2. Size: 0.045 in. (1.2 mm)
3. Shielding gas: 100%CO₂
4. Current/Polarity: DCEP
5. Specification: AWS A5.20
6. Classification: E71T-1C/M-H8, E71T-12C/M-H8
7. Factory: Ibaraki plant, Japan
8. Test condition:

Heat input conditions	Low heat input	High heat input
Desired heat input level kJ/in. [kJ/cm]	30 [12]	79 [31]
Welding position	Flat(1G)	Vertical up (3G)
Welding Current Amp.	280	220
Arc Voltage V	29	24
Preheat temp. °F [°C]	≤ 120 [≤ 49]	250 ≤ [121 ≤]
Inter-pass temp. °F [°C]	≤ 250 [≤ 121]	450 ≤ [232 ≤]

9. Test result:

Wire diameter in. [mm]	Lot.No.	Average of Heat input kJ/in. [kJ/cm]	Layers -Passes	Tensile properties			Impact properties				
				0.2% O.S.	T.S.	EI	vE+70°F (21°C) ft-lbf [J]				
				ksi [MPa]	ksi [MPa]	(%)	1	2	3	Avg.	
0.045 [1.2]	AJ7509 [Original]	30 [12]	7-16	74 [513]	84 [581]	30	141 [191]	142 [193]	135 [183]	139 [189]	
		79 [31]	5-6	62 [426]	74 [513]	34	194 [263]	164 [223]	185 [251]	181 [246]	
	AG8847 [Original]	30 [12]	7-18	84 [579]	93 [639]	25	119 [162]	125 [170]	126 [171]	124 [168]	
		76 [30]	5-6	62 [426]	76 [524]	32	142 [192]	137 [186]	167 [227]	149 [202]	
	AG8Z53 [Original]	28 [11]	7-18	81 [556]	88 [610]	30	119 [161]	141 [191]	139 [188]	133 [180]	
		79 [31]	5-6	61 [422]	75 [516]	26	202 [274]	181 [245]	163 [221]	182 [247]	
	AG2306 [Most recent]	28 [11]	7-16	84 [581]	90 [623]	29	108 [146]	114 [155]	119 [161]	114 [154]	
		84 [33]	5-6	60 [415]	72 [497]	36	149 [202]	246 [334]	238 [323]	211 [286]	
	AWS D1.8 Spec.	Low heat input	24-36 [9-14]	-	58min. [400 min.]	70min. [483 min.]	22 min.	40min. [54min.]			
		High heat input	63-95 [25-37]	-							

10. Diffusible Hydrogen Test

Condition	Lot. No.	Average(ml/100g)
As Received	AE9611	5
Exposure test (≥ 72hr)	AE9611	6
Note 1: Testing method: AWS A5.20		
Note 2: Exposure conditions: AWS D1.8 Annex E		

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