

Certificate of Conformance for AWS D1.8

1. Trade designation: FRONTIARC-711
2. Size: 1/16 in. (1.6 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.	300	240
Arc Voltage V	30	25
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.	
1/16 [1.6]	AJ8154 [Original]	36 [14]	7-16	69 [479]	80 [549]	29	132 [179]	144 [195]	145 [196]	140 [190]	
		86 [34]	5-6	62 [425]	73 [503]	31	133 [181]	133 [180]	128 [173]	131 [178]	
	AG8949 [Original]	33 [13]	7-18	70 [485]	81 [557]	30	150 [204]	134 [182]	158 [214]	148 [200]	
		94 [37]	5-6	60 [411]	74 [509]	35	221 [300]	194 [263]	191 [259]	202 [274]	
	AG8Z54 [Original]	33 [13]	7-18	73 [506]	84 [576]	30	132 [179]	118 [160]	124 [168]	125 [169]	
		86 [34]	5-6	61 [424]	74 [513]	33	159 [216]	190 [257]	195 [265]	181 [246]	
	AG2303 [Most recent]	33 [13]	8-22	75 [518]	84 [582]	29	122 [166]	122 [165]	116 [157]	120 [163]	
		84 [33]	5-7	59 [405]	72 [498]	35	180 [244]	233 [316]	163 [221]	192 [260]	
	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	AE9610	8
Exposure test (≥72hr)	AE9610	13
Note 1: Testing method: AWS A5.20		
Note 2: Exposure conditions: AWS D1.8 Annex E		

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