

Certificate of Conformance for AWS D1.8

1. Trade designation: DW-50
2. Size: 0.052 in. (1.3 mm)
3. Shielding gas: 75%Ar-25%CO₂
4. Current/Polarity: DCEP
5. Specification: AWS A5.20
6. Classification: E71T-1C/M-H8, E71T-9C/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	32	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.	
0.052 [1.3]	AE8X185 [Original]	30 [12]	7-16	87 [597]	95 [652]	31	97 [131]	84 [114]	72 [97]	84 [114]	
		76 [30]	5-6	69 [474]	84 [576]	31	114 [154]	106 [144]	109 [148]	110 [149]	
	AE8Z385 [Original]	30 [12]	8-20	85 [587]	92 [633]	25	98 [133]	98 [133]	116 [157]	104 [141]	
		74 [29]	5-6	69 [474]	82 [567]	30	103 [140]	100 [135]	97 [132]	100 [136]	
	AF81095 [Original]	33 [13]	7-16	85 [588]	92 [632]	27	111 [151]	113 [153]	115 [156]	113 [153]	
		79 [31]	5-6	72 [494]	86 [596]	28	108 [146]	101 [137]	108 [146]	105 [143]	
	AF21085 [Most recent]	33 [13]	6-16	86 [593]	94 [647]	26	122 [165]	117 [158]	114 [155]	117 [159]	
		76 [30]	5-7	69 [477]	84 [576]	30	104 [141]	110 [149]	108 [147]	108 [146]	
	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	AF03925	6
Exposure test (≥ 72hr)	AF03925	9
Note 1: Testing method: AWS A5.20		
Note 2: Exposure conditions: AWS D1.8 Annex E		

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