



WA. ALLOY CO.

US Alloy Co. dba
Washington Alloy Co.
825 Groves St.
Lowell, NC 28098

Material Test Report

(Certificate of Conformance to AWS D1.8 / D1.8M)

Certificate No. : 20190415-01

Issued Date : 2019. 04. 15

Brand Name : Washington Alloy BW 777

Customer Name :

This material conforms to specification :

Invoice No. :

AWS Specification A5.20/5.20M, D1.8/D1.8M

Size : 0.045"

Classification : E71T-1C/1M, 9C/9M, 12C/12M H8

Lot Number : 13324, 13393

Test Conditions	AWS D1.8 Requirements	High Heat Input	Low Heat Input
		Results	Results
Electrode Size, in(mm)		0.045"(1.2mm)	0.045"(1.2mm)
Electrode Polarity		DC +	DC +
Travel Speed, in/min (cm/min)		5.9 (15)	11 (28)
Current(A)		300	235
Voltage(V)		26	24
Passes / Layers		9/6	17/6
Preheat Temp. °F(°C)		250 (120)	120 (40)
Interpass Temp. °F(°C)		450 (240)	250 (120)
Shielding Gas		75% Ar + 25% CO ₂	75% Ar + 25% CO ₂
Heat Input KJ/in (KJ/cm) Avg.		79.2 (31.2)	30.7 (12.09)
Welding Position		1G	1G

Mechanical Properties

Tensile Strength(MPa)	min.480	542	577
Yield Strength, 0.2% offset(MPa)	min.400	531	529
Elongation(%)	min.22	30	31
Charpy V-notch Impact Properties Joules@20°C	min.54J	Avg.153.3 158/142/160	Avg.185.3 177/191/188

- 1) This product satisfied the requirements of AWS D1.8/D1.8M, Annex E after exposure for 144hrs at 80°F, 80% relative humidity.
- 2) The Charpy V-notch impact values reported at 20 °C are required when the Lowest Anticipated Service Temperature(LAST) is 10°C.
- 3) Test assembly constructed of ASTM A516-70 steel.
- 4) The strength and elongation properties reported here were obtained from tensile specimens artificially aged at 105°C for 48hours.

The undersigned certifies that the products supplied will meet the applicable AWS filler metal specification when tested in accordance with those specifications.

By :

Dave Colwell



Material Test Report

(Certificate of Conformance to AWS D1.8 / D1.8M)

US Alloy Co. dba
Washington Alloy Co.
825 Groves St.
Lowell, NC 28098

Certificate No. : 20190415-02

Issued Date : 2019. 04. 15

Brand Name : Washington Alloy BW 777
This material conforms to specification :
AWS Specification A5.20/5.20M, D1.8/D1.8M
Classification : E71T-1C/1M, 9C/9M, 12C/12M H8

Customer Name :
Invoice No. :
Size : 0.045"
Lot Number : 13324, 13393

Test Conditions	AWS D1.8 Requirements	High Heat Input	Low Heat Input
		Results	Results
Electrode Size, in(mm)		0.045"(1.2mm)	0.045"(1.2mm)
Electrode Polarity		DC +	DC +
Travel Speed, in/min (cm/min)		5.9 (15)	11 (28)
Current(A)		300	235
Voltage(V)		26	24
Passes / Layers		9/6	17/6
Preheat Temp. °F(°C)		250 (120)	120 (40)
Interpass Temp. °F(°C)		450 (240)	250 (120)
Shielding Gas		100% CO2	100% CO2
Heat Input KJ/in (KJ/cm) Avg.		79.2 (31.2)	30.7 (12.09)
Welding Position		1G	1G

Mechanical Properties

Tensile Strength(MPa)	min.480	569	588
Yield Strength, 0.2% offset(MPa)	min.400	535	539
Elongation(%)	min.22	33	31
Charpy V-notch Impact Properties Joules@20°C	min.54J	Avg.138 128/140/145	Avg.161 160/160/162

- 1) This product satisfied the requirements of AWS D1.8/D1.8M, Annex E after exposure for 144hrs at 80°F, 80% relative humidity.
- 2) The Charpy V-notch impact values reported at 20 °C are required when the Lowest Anticipated Service Temperature(LAST) is 10°C.
- 3) Test assembly constructed of ASTM A516-70 steel.
- 4) The strength and elongation properties reported here were obtained from tensile specimens artificially aged at 105°C for 48hours.

The undersigned certifies that the products supplied will meet the applicable AWS filler metal specification when tested in accordance with those specifications.

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