


CHOSUN VINA CO., LTD

(LONGTHANH INDUSTRIAL ZONE, TAMAN, LONGTHANH, DONGNAI, VIETNAM / TEL: 351-4421 / FAX: 351-4425)

CUSTOMER: US ALLOY

DATE: 2020.10.14

Certificate No. : CSV-2010-001I

P.O No. :

Brand Name	Classification	Diameter mm(inch)	Lot No.	Weight (kg)
CSF-7LF	E71T1-C1(M21)A2-CS1/ E491T1-C1(M21)A3-CS1	1.2(0.045")	F71LFA0001201	-

※ Meets all requirements of AWS D1.8/D1.8M:2009/ FEMA 353

100%CO2

Test Completed: Oct. 14, 2020

Test Conditions	AWS D1.8 Requirement	High Heat Input	Low Heat Input
Electrode Size mm (inch)		1.2(0.045)	1.2(0.045)
Shielding Gas		100% CO2	100% CO2
Electrode Polarity		DC+	DC+
Travel Speed cm/min (inch/min)		11.8(4.6)	23.9(9.4)
Current (amps)		220	210
Arc Voltage (volts)		26	26
Contact Tip to Work Distance mm (inch)		20(0.8)	20(0.8)
Passes / Layers		8 / 4	14/ 7
Preheat Temp. °C(°F)		148(298)	33(91)
Interpass Temp. °C(°F)		226(438)	102(216)
Heat Input kJ/mm (kJ/in) avg.		2.93(74.46)	1.37(34.87)
Weld Position		3G	1G
Mechanical Properties			
Yield Strength, 0.2% offset MPa (ksi)	400 (58) min.	518(75.1)	538(78.0)
Tensile Strength MPa (ksi)	480 (70) min.	590(85.6)	602(87.3)
Elongation (%)	22 min.	24.9	24.8
Avg. Charpy V-notch Impact Properties Joles @ 20°C (ft-lbf @ 70°F)	54 (40) min.	180(133) 179, 174, 187(132, 128, 138)	173(127) 174, 182, 162(128, 134, 119)

75%Ar + 25% CO2

Test Completed: Oct. 14, 2020

Test Conditions	AWS D1.8 Requirement	High Heat Input	Low Heat Input
Electrode Size mm (inch)		1.2(0.045)	1.2(0.045)
Shielding Gas		75% Ar + 25% CO2	75% Ar + 25% CO2
Electrode Polarity		DC+	DC+
Travel Speed cm/min (inch/min)		11.6 (4.7)	24.0(9.4)
Current (amps)		220	210
Arc Voltage (volts)		26	26
Contact Tip to Work Distance mm (inch)		20(0.8)	20(0.8)
Passes / Layers		8 / 4	14/ 7
Preheat Temp. °C(°F)		131(268)	34(93)
Interpass Temp. °C(°F)		225(437)	105(221)
Heat Input kJ/mm (kJ/in) avg.		2.96(75.25)	1.37(34.70)
Weld Position		3G	1G
Mechanical Properties			
Yield Strength, 0.2% offset MPa (ksi)	400 (58) min.	523(75.9)	553(80.2)
Tensile Strength MPa (ksi)	480 (70) min.	594(86.2)	606(87.9)
Elongation (%)	22 min.	27.6	24.8
Avg. Charpy V-notch Impact Properties Joles @ 20°C (ft-lbf @ 70°F)	54 (40) min.	168(124) 171, 159, 175(126, 117, 129)	171(126) 171, 168, 175(126, 124, 129)

This product satisfies the requirements of AWS D1.8/D1.8M:2009, Annex D after exposure for 3 days at 27°C(80°F) at 80% humidity

Ahn Jun Sig

Manager of Quality Assurance Department


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CUSTOMER: US ALLOY

DATE: 2020.10.14

Certificate No. : CSV-2010-002I

P.O No. :

Brand Name	Classification	Diameter mm(inch)	Lot No.	Weight (kg)
CSF-7LF	E71T1-C1(M21)A2-CS1/ E491T1-C1(M21)A3-CS1	1.6(0.062")	F71LFA0001201	-

※ Meets all requirements of AWS D1.8/D1.8M:2009/ FEMA 353

100%CO2

Test Completed: Oct. 14, 2020

Test Conditions	AWS D1.8 Requirement	High Heat Input	Low Heat Input
Electrode Size mm (inch)		1.6(0.062")	1.6(0.062")
Shielding Gas		100% CO2	100% CO2
Electrode Polarity		DC+	DC+
Travel Speed cm/min (inch/min)		11.7(4.6)	24.1(9.5)
Current (amps)		220	210
Arc Voltage (volts)		26	26
Contact Tip to Work Distance mm (inch)		20(0.8)	20(0.8)
Passes / Layers		8 / 4	14/ 7
Preheat Temp. °C(°F)		125(257)	34(93)
Interpass Temp. °C(°F)		223(434)	104(219)
Heat Input kJ/mm (kJ/in) avg.		2.94(74.58)	1.36(34.60)
Weld Position		3G	1G
Mechanical Properties			
Yield Strength, 0.2% offset MPa (ksi)	400 (58) min.	505(73.2)	524(76.0)
Tensile Strength MPa (ksi)	480 (70) min.	577(83.7)	600(87.0)
Elongation (%)	22 min.	27.4	25.9
Avg. Charpy V-notch Impact Properties		161(119)	160(118)
Joles @ 20°C (ft-lbf @ 70°F)	54 (40) min.	163, 159, 162(120, 117, 119)	157, 159, 163(116, 117, 120)

75%Ar + 25% CO2

Test Completed: Oct. 14, 2020

Test Conditions	AWS D1.8 Requirement	High Heat Input	Low Heat Input
Electrode Size mm (inch)		1.6(0.062")	1.6(0.062")
Shielding Gas		75% Ar + 25% CO2	75% Ar + 25% CO2
Electrode Polarity		DC+	DC+
Travel Speed cm/min (inch/min)		11.8 (4.6)	24.1(9.5)
Current (amps)		220	210
Arc Voltage (volts)		26	26
Contact Tip to Work Distance mm (inch)		20(0.8)	20(0.8)
Passes / Layers		8 / 4	14/ 7
Preheat Temp. °C(°F)		127(261)	34(93)
Interpass Temp. °C(°F)		223(433)	104(220)
Heat Input kJ/mm (kJ/in) avg.		2.91(74.04)	1.36(34.57)
Weld Position		3G	1G
Mechanical Properties			
Yield Strength, 0.2% offset MPa (ksi)	400 (58) min.	518(75.1)	509(73.8)
Tensile Strength MPa (ksi)	480 (70) min.	579(84.0)	576(83.5)
Elongation (%)	22 min.	26.8	27.8
Avg. Charpy V-notch Impact Properties		162(119)	163(120)
Joles @ 20°C (ft-lbf @ 70°F)	54 (40) min.	159, 162, 164(117, 119, 121)	163, 169, 156(120, 125, 115)

This product satisfies the requirements of AWS D1.8/D1.8M:2009, Annex D after exposure for 3 days at 27°C(80°F) at 80% humidity

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