BLUESHIELD™ LA T-91

Carbon Steel

Standards	CSA W48, Class E491T-9-H8/E491T-9M-H8 AWS A5.20/ASME SFA 5.20, Class E71T-9C-H8/E71T-9M-H8 AWS A5.36M/ASME SFA 5.36M, Class E491T1-C1A3-CS1-H8. E491T1-M20A3-CS1-H8, E491T1-M21A3-CS1-H8, E491T1-GA3-CS1-H8 Lloyd's, Grading DXVuO, BF, 3YS (100% CO_2) ABS, Grading 3YSA (75%Ar/25%CO_2 and 100% CO_2)

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Description & Applications

- A good general-purpose all-position flux-cored wire designed to yield weld-metal mechanical properties down to -30°C (-20°F) when using CO_2, Ar/CO_2 or ARCAL™ 211 shielding gas.
- Welding mild and medium carbon steels.
- Welding corresponding steel grades: A36, A53, A106, A108 and A109.
- Welding structural steel, farm machinery, construction equipment and general carbon steel fabrication.

The BLUESHIELD™ Advantage

- High level of deoxidizers – promotes porosity-free welds.
- Deep penetrating arc – reduces lack of fusion problems.
- Versatility – ease of use in a variety of applications.

Typical Welding Parameters*

- Use DC electrode positive.

DIAMETER mm	DIAMETER in	POSITION	DCEP Amps	VOLTS	WIRE FEED SPEED (WFS) m/min (in/min)	ELECTRODE EXTENSION mm (in)
1.2	0.045	All-Position	145	23	5.1 (200)	12.7-16 (1/2-5/8)
		All-Position	160	24	6.0 (235)	12.7-16 (1/2-5/8)
		All-Position	185	26	7.6 (300)	12.7-16 (1/2-5/8)
		Flat & Horizontal	215	27	9.5 (375)	16-19.1 (5/8-3/4)
		Flat & Horizontal	235	29	11.2 (440)	16-19.1 (5/8-3/4)
1.3	0.052	All-Position	155	23	4.3 (170)	16-19.1 (5/8-3/4)
		All-Position	175	24	5.1 (200)	16-19.1 (5/8-3/4)
		All-Position	225	26	6.4 (250)	16-19.1 (5/8-3/4)
		Flat & Horizontal	250	27	7.9 (310)	19.1-25.4 (3/4-1)
		Flat & Horizontal	280	29	10.0 (395)	19.1-25.4 (3/4-1)
1.6	1/16	All-Position	165	23	3.2 (125)	16-19.1 (5/8-3/4)
		All-Position	195	24	3.8 (150)	16-19.1 (5/8-3/4)
		All-Position	225	26	4.7 (185)	16-19.1 (5/8-3/4)
		Flat & Horizontal	280	27	6.7 (265)	19.1-25.4 (3/4-1)
		Flat & Horizontal	320	29	8.3 (325)	19.1-25.4 (3/4-1)

**Parameters in table based on 100% CO_2*

For Ar / CO_2, shielding gas blends decrease the Voltage 1-1.5 Volts or increase the WFS 10-15% using the same voltage settings in the table.

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Recommended Shielding Gases

100% CO_2, BLUESHIELD™ 7, BLUESHIELD™ 8 and ARCAL™ 211 are recommended.

Typical Chemistry

WEIGHT %	C	Mn	Si	P	S
ARCAL™ 211	0.05	1.54	0.52	0.006	0.013
BLUESHIELD™ 8	0.04	1.47	0.48	0.007	0.013
CO_2	0.03	1.32	0.39	0.006	0.012

Typical Mechanical Properties*

	AS WELDED		
	ARCAL™ 211	BLUESHIELD™ 8	CO_2
TENSILE STRENGTH MPa (ksi)	603 (87.5)	598 (86.7)	563 (81.7)
YIELD STRENGTH MPa (ksi)	523 (75.8)	532 (77.1)	499 (72.3)
ELONGATION (%)	30	30	31
IMPACT (Charpy V-notch) @ -30°C (-20°F)	100 J (74 ft-lb)	118 J (88 ft-lb)	129 J (95 ft-lb)

** Actual welding positions and procedures can impact results.*

Packaging

DIAMETER		PACKAGING			ITEM NUMBER
mm	in	kg	lb		
1.2 1.6	0.045 1/16	15	33	Spool	**A0417439** **A0417443**
1.2 1.6	0.045 1/16	27.2	60	Coil	**A0417440** **A0417441**
1.6	1/16	280	616	Reel	**A0417442**
1.2	0.045	226.8	500	Drum	**A0417184**
1.2	0.045	340.2	750	Hex Drum	**A0912831**

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