



BLUESHIELD™ LA 91 T12M

Carbon Steel

STANDARDS

CSA W48-01/W48-06 Class E491T-12MJ-H4, E491T-1MJ-H4, E491T-9MJ-H4
 AWS A5.20-95/ASME SFA 5.20, Class E71T-12MJ-H4, E71T-1MJ-H4, E71T-9MJ-H4

DESCRIPTION & APPLICATIONS

- A premium all-position flux-cored wire designed to deliver lower hydrogen and fume generation rates while maintaining superior weld-metal mechanical properties down to -46°C (-50°F) when using ARCAL™ 211
- Welding mild and medium carbon steels, also a suitable wire equivalent to a E7018-1 stick electrode
- Welding corresponding steel grades: A36, A106, A285, A350, A515, A516 and S375 – S420
- Welding structural steel, plate, piping, tanks, boilers, pressure vessels and offshore components

THE BLUESHIELD™ ADVANTAGE

- Low hydrogen weld deposit
- Low fume generation
- Superior low temperature mechanical properties
- Vacuum packed for improved shelf life

TYPICAL WELDING PARAMETERS



Diameter		Volts V	Amps A	Wire feed speed ±5 %		Gas	Flow		Electrode Extension mm - in
mm	in			cm/min	in/min		l/min	cfh	
1.2	0.045	23-29	130-320	356-1524	140-600	ARCAL™ 211 BLUESHIELD™ 8	20	45	19 – 3/4
1.4	0.052	24-30	140-380	305-1397	120-550		20	45	19 – 3/4
1.6	0.062	24-32	150-400	254-1168	100-460		20	45	19 – 3/4

RECOMMENDED SHIELDING GASES:

ARCAL™ 211 is the preferred. BLUESHIELD™ 8 may also be used as alternate shielding gases

TYPICAL FUME GENERATION*:

0.30 – 0.80 g/min

TYPICAL DIFFUSABLE HYDROGEN*:

4 ml/100 g

TYPICAL CHEMISTRY

Weight %	C	Mn	Si	P	S	Ni
ARCAL™ 211	0.06	1.33	0.41	0.007	0.007	0.42
BLUESHIELD™ 8	0.06	1.24	0.36	0.007	0.007	0.43

TYPICAL MECHANICAL PROPERTIES*

	As Welded		Stress Relieved 3 Hours @ 620°C (1148°F)	
	ARCAL™ 211	BLUESHIELD™ 8	ARCAL™ 211	BLUESHIELD™ 8
Tensile Strength MPa (ksi)	620 (90)	593 (86)	581 (84)	562 (81)
Yield Strength MPa (ksi)	527 (76.4)	497 (72.1)	490 (71)	487 (70)
Elongation in 50 mm – 2 in (%)	27	22	30	28
Impact (Charpy V-notch) -40°C (-40°F)	83 J (61 ft-lb)	91 J (67 ft-lb)	105 J (77 ft-lb)	109 J (80 ft-lb)
-46°C (-50°F)	80 J (59 ft-lb)	83 J (62 ft-lb)	79 J (58 ft-lb)	70 J (51 ft-lb)

* Actual welding procedure and conditions can impact results

PACKAGING

Diameter		Packaging			Item Number
mm	in	kg	lb		
1.2	0.045	4.5	11	Spool	BLU-37980212
1.4	0.052				BLU-37980214
1.6	1/16				BLU-37980216
1.2	0.045	15	33	Spool	BLU-37980112
1.4	0.052				BLU-37980114
1.6	1/16				BLU-37980116