

**BLUESHIELD™**



**LA 18 plus**  
**COMPLETE**

**New**

# Low-hydrogen electrode



Experience the **BLUESHIELD™** advantage for yourself.

We have **COMPLETE** coverage for all your welding needs!



- Easy slag removal
- High deposit rate
- Optimized welding performance
- Perfect bead appearance
- Total arc control
- Extended electrode length
- Controlled hydrogen electrode
- Certified mechanical properties
- Unique electrode marking
- Enhanced operator appeal
- Proudly Canadian



### Special packaging

Hermetically sealed with a unique case label as a visual identifier.



Visit one of our Air Liquide locations or learn more on-line at [www.blueshield.ca](http://www.blueshield.ca)





# BLUESHIELD™ LA 18 PLUS™ COMPLETE

## Low-Hydrogen Electrode

### Description & applications

This is a premium low hydrogen all-position electrode designed to meet severe impact requirements down to -50°F (-46°C) in the as welded or stress relieved condition, operating on DC or AC current.

- Typical applications include equipment for arctic service, boiler and pressure vessel, piping, low temperature structural work and bridges.

### The BLUESHIELD™ advantage

- Superior low temperature toughness properties with consistent weld metal soundness at low temperatures.
- Special electrode coating resists moisture pick-up.
- Low hydrogen weld deposit.
- Smooth arc transfer with consistent “uniform burn-off”.
- Ease of application, low spatter and excellent bead appearance.
- Unique electrode packaging for greater quality control.

### Typical diffusible hydrogen

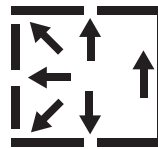
- 4 ml/100g

### Standards

CSA W48-01-M/W48-06, Class E4918-1-H4  
AWS A5.1, Class E7018-1-H4R

### Typical welding parameters

- Either DC electrode positive (DCEP) or AC current can be used.
- To reduce the possibility of starting porosity, strike the electrode ahead of the crater of the previously finished weld bead and quickly move back into the crater while shortening the arc length.
- To obtain the best mechanical properties, maintain the shortest arc length possible while using the drag technique and stringer beads with little or no weaving.



Diameter		Amperage Range	Optimum Current
mm	in		
2.5	3/32	75 – 110	90
3.2	1/8	100 – 160	130
4.0	5/32	135 – 220	175
5.0	3/16	200 – 300	250
6.0	1/4	275 – 360	310

### Typical chemistry

C	Cr	Ni	Mo	P	S	Mn	Si	V	Mn + Ni + Cr + Mo + V
0.04	0.03	0.02	0.07	0.009	0.008	1.40	0.38	<0.01	1.52

### Typical mechanical properties

	As Welded				Stress Relieved 8hr @ 620° C (1150° F)			
	Tensile Strength		Yield Strength		Elongation in 40 mm – 1.5 in		Impact (Charpy V-notch)	
	565 MPa		82 ksi		529 MPa		77 ksi	
	481 MPa		70 ksi		431 MPa		63 ksi	
	30 %		30 %		33 %		33 %	
Test Temperature	-30°C	-46°C	-20°F	-50°F	-30°C	-46°C	-20°F	-50°F
Energy	171 J*	126 J*	126 ft-lb*	93 ft-lb*	192 J*	148 J*	141 ft-lb*	109 ft-lb*

\*Values of impact strength as measured from deposits in the flat position according to CSA W48-01-M/W48-06 Standard



### Packaging

Diameter		Length		Packaging		Item Number
mm	in	mm	in	kg	lb	
2.5	3/32	350	14	4 x 4.5	4 x 9.9	BLU-32971907
3.2	1/8	450	18	4 x 4	4 x 8.8	BLU-32971909
4.0	5/32	450	18	4 x 5	4 x 11	BLU-32971911
5.0	3/16	450	18	4 x 5	4 x 11	BLU-32971912
6.0	1/4	450	18	4 x 5	4 x 11	BLU-32971916



www.blueshield.ca  
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