

Dual Shield 7100 LC

Dual Shield 7100 LC provides outstanding operator appeal with its easily controlled arc, improved operation at lower current levels, minimal spatter and easily removed slag. Dual Shield 7100 LC can be used with CO₂ or 75% Ar/25% CO₂ shielding, however pure CO₂ is recommended in applications where restraint is high.

Specifications

Classifications	ASME SFA 5.36 ASME SFA 5.20 AWS A5.36 : E71T1-M21A2-CS1-H8 AWS A5.36 : E71T1-C1A4-CS1-DH8 AWS A5.20 : E71T-1C-DH8/T-1MH8/T-9C-DH8/T-9MH8
Approvals	ABS CWB : CSA W48 E491T-9-H8, E491T-9M-H8 DNV-GL LR Seismic Certified "D"
Industry	Mobile Equipment Railcars Ship/Barge Building Civil Construction Industrial and General Fabrication Process Bridge Construction

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation	Reduction in Area
100% CO₂				
As Welded	565 MPa (73 ksi)	560 MPa (81 ksi)	23 %	52 %
75% Ar - 25% CO₂				
As Welded	572 MPa (83 ksi)	621 MPa (90 ksi)	26 %	64 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
100% CO₂		
As Welded	-18 °C (0 °F)	92 J (68 ft-lb)
As Welded	-29 °C (-20 °F)	56 J (41 ft-lb)
75% Ar - 25% CO₂		
As Welded	-29 °C (-20 °F)	42 J (31 ft-lb)
As Welded	-18 °C (0 °F)	61 J (50 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P
75% Ar - 25% CO₂				
0.03	1.4	0.6	0.010	0.010
100% CO₂				
0.03	1.2	0.5	0.010	0.010

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	Deposition Rate
100% CO₂					

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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	Deposition Rate
1.6 mm (1/16 in.)	345 A	30 V	889 cm/min (350 in./min)	80.7 %	5.2 kg/h (11.5 lbs/h)
1.2 mm (.045 in.)	145 A	24.5 V	508 cm/min (200 in./min)	81.2 %	1.6 kg/h (3.6 lbs/h)
1.6 mm (1/16 in.)	320 A	28 V	762 cm/min (300 in./min)	79.9 %	4.4 kg/h (9.7 lbs/h)
1.2 mm (.045 in.)	265 A	29 V	1270 cm/min (500 in./min)	82.8 %	4.2 kg/h (9.3 lbs/h)
1.6 mm (1/16 in.)	385 A	32 V	1016 cm/min (400 in./min)	82.6 %	6.1 kg/h (13.4 lbs/h)
1.6 mm (1/16 in.)	445 A	32.5 V	1270 cm/min (500 in./min)	82.8 %	7.6 kg/h (16.7 lbs/h)
1.4 mm (.052 in.)	285 A	28.5 V	1016 cm/min (400 in./min)	81.3 %	4.4 kg/h (9.8 lbs/h)
1.4 mm (.052 in.)	230 A	29.5 V	1270 cm/min (500 in./min)	82.3 %	5.5 kg/h (12.2 lbs/h)
1.4 mm (.052 in.)	370 A	30.2 V	1524 cm/min (600 in./min)	82.7 %	6.7 kg/h (14.7 lbs/h)
1.2 mm (.045 in.)	235 A	27.5 V	1016 cm/min (400 in./min)	82.5 %	3.3 kg/h (7.3 lbs/h)
1.2 mm (.045 in.)	190 A	26 V	762 cm/min (300 in./min)	81.4 %	2.5 kg/h (5.4 lbs/h)
1.4 mm (.052 in.)	145 A	25 V	381 cm/min (150 in./min)	74.3 %	1.5 kg/h (3.4 lbs/h)
1.4 mm (.052 in.)	235 A	27.5 V	762 cm/min (300 in./min)	78.2 %	3.2 kg/h (7.0 lbs/h)
1.6 mm (1/16 in.)	195 A	24.5 V	381 cm/min (150 in./min)	73.7 %	2.0 kg/h (4.5 lbs/h)
1.6 mm (1/16 in.)	285 A	26 V	635 cm/min (250 in./min)	79.4 %	3.7 kg/h (8.1 lbs/h)
1.4 mm (.052 in.)	180 A	25.5 V	508 cm/min (200 in./min)	74.6 %	2.0 kg/h (4.5 lbs/h)

Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
100% CO₂				
185-285 A	1.6 mm (1/16 in.)	16-19 mm (5/8-3/4 in.)	24-28 V	356-610 cm/min (140-240 in./min)
215-290 A	1.4 mm (.052 in.)	16-19 mm (5/8-3/4 in.)	25-29 V	711-1016 cm/min (280-400 in./min)
135-250 A	1.4 mm (.052 in.)	12.7-16 mm (1/2-5/8 in.)	24-28 V	317.5-686 cm/min (125-270 in./min)
245-345 A	1.6 mm (1/16 in.)	19-25.4 mm (3/4-1 in.)	27-30 V	673-1016 cm/min (265-400 in./min)
250-340 A	1.6 mm (1/16 in.)	19-25.4 mm (3/4-1 in.)	27-30 V	610-813 cm/min (240-320 in./min)
225-295 A	1.4 mm (.052 in.)	16-19 mm (5/8-3/4 in.)	27-30 V	686-940 cm/min (270-370 in./min)
250-350 A	1.4 mm (.052 in.)	19-25.4 mm (3/4-1 in.)	29-31 V	1016-1524 cm/min (400-600 in./min)

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Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
130-200 A	1.2 mm (.045 in.)	9.5-12.7 mm (3/8-1/2 in.)	22-26 V	356-610 cm/min (140-240 in./min)
165-225 A	1.2 mm (.045 in.)	12.7-19 mm (1/2-3/4 in.)	24-27 V	610-775 cm/min (240-305 in./min)
245-355 A	1.4 mm (.052 in.)	19-25.4 mm (3/4-1 in.)	28-32 V	940-1372 cm/min (370-540 in./min)
135-205 A	1.2 mm (.045 in.)	9.5-12.7 mm (3/8-1/2 in.)	23-26 V	432-737 cm/min (170-290 in./min)
180-265 A	1.2 mm (.045 in.)	19-25.4 mm (3/4-1 in.)	26-30 V	889-1397 cm/min (350-550 in./min)
185-265 A	1.2 mm (.045 in.)	19-25.4 mm (3/4-1 in.)	27-29 V	775-1194 cm/min (305-470 in./min)
290-415 A	1.6 mm (1/16 in.)	25.4-31.75 mm (1-1.25 in.)	28-32 V	1016-1270 cm/min (400-500 in./min)
285-400 A	1.6 mm (1/16 in.)	25.4-31.75 mm (1-1.25 in.)	28-32 V	813-1168 cm/min (320-460 in./min)
175-230 A	1.2 mm (.045 in.)	12.7-19 mm (1/2-3/4 in.)	25-27 V	737-889 cm/min (290-350 in./min)
165-270 A	1.6 mm (1/16 in.)	16-19 mm (5/8-3/4 in.)	25-28 V	343-673 cm/min (135-265 in./min)
125-235 A	1.4 mm (.052 in.)	12.7-16 mm (1/2-5/8 in.)	23-26 V	330-711 cm/min (130-280 in./min)
75% Ar - 25% CO₂				
185-285 A	1.6 mm (1/16 in.)	16-19 mm (5/8-3/4 in.)	24-28 V	356-610 cm/min (140-240 in./min)
215-290 A	1.4 mm (.052 in.)	16-19 mm (5/8-3/4 in.)	25-29 V	711-1016 cm/min (280-400 in./min)
135-250 A	1.4 mm (.052 in.)	12.7-16 mm (1/2-5/8 in.)	24-28 V	317.5-686 cm/min (125-270 in./min)
245-345 A	1.6 mm (1/16 in.)	19-25.4 mm (3/4-1 in.)	27-30 V	673-1016 cm/min (265-400 in./min)
250-340 A	1.6 mm (1/16 in.)	19-25.4 mm (3/4-1 in.)	27-30 V	610-813 cm/min (240-320 in./min)
225-295 A	1.4 mm (.052 in.)	16-19 mm (5/8-3/4 in.)	27-30 V	686-940 cm/min (270-370 in./min)
250-350 A	1.4 mm (.052 in.)	19-25.4 mm (3/4-1 in.)	29-31 V	1016-1524 cm/min (400-600 in./min)
130-200 A	1.2 mm (.045 in.)	9.5-12.7 mm (3/8-1/2 in.)	22-26 V	356-610 cm/min (140-240 in./min)
165-225 A	1.2 mm (.045 in.)	12.7-19 mm (1/2-3/4 in.)	24-27 V	610-775 cm/min (240-305 in./min)
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