

Dual Shield 810X-Ni1

Dual Shield 810X-Ni1 provides outstanding operator appeal with an easily controlled arc, improved operation at both lower and higher current levels, minimal spatter and easily removed slag. Dual Shield 810X-Ni1 is designed for use with 100% CO₂. It is an excellent choice for welding on COR-TEN® steel in applications where weathering grade wires are not desirable.

Specifications

Classifications	ASME SFA 5.36 ASME SFA 5.29 AWS A5.36 : E81T1-C1A4-Ni1-H8 AWS A5.29 : E81T1-Ni1CD-JH8
Approvals	CWB : CSA W48 E551T1-Ni1C-H8 Seismic Certified "D"
Industry	Railcars Barges Power Generation Industrial and General Fabrication Light Equipment Heavy Equipment Civil Construction Bridge Construction Ship/Barge Building

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

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
100% CO₂			
As Welded	590 MPa (86 ksi)	635 MPa (92 ksi)	29 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
100% CO₂		
As Welded	-40 °C (-40 °F)	61 J (45 ft-lb)
As Welded	-29 °C (-20 °F)	81 J (60 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni
100% CO₂					
0.04	1.30	0.60	0.009	0.010	1.00

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	Deposition Type	Deposition Rate
100% CO₂						
1.4 mm (.052 in.)	207 A	26 V	635 cm/min (250 in./min)	82 %	Vertical Up	2.9 kg/h (6.3 lbs/h)
1.2 mm (.045 in.)	154 A	23 V	559 cm/min (220 in./min)	81 %	Vertical Up	1.8 kg/h (3.9 lbs/h)
1.4 mm (.052 in.)	190 A	26 V	559 cm/min (220 in./min)	81 %	Vertical Up	2.5 kg/h (5.5 lbs/h)
1.6 mm (1/16 in.)	240 A	25 V	508 cm/min (200 in./min)	80 %	Vertical Up	2.9 kg/h (6.3 lbs/h)
1.6 mm (1/16 in.)	187 A	24 V	356 cm/min (140 in./min)	80 %	Vertical Up	1.9 kg/h (4.2 lbs/h)

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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	Deposition Type	Deposition Rate
1.2 mm (.045 in.)	193 A	25 V	787 cm/min (310 in./min)	82 %	Vertical Up	2.5 kg/h (5.6 lbs/h)
1.4 mm (.052 in.)	178 A	25 V	508 cm/min (200 in./min)	81 %	Vertical Up	2.3 kg/h (5.0 lbs/h)
1.4 mm (.052 in.)	153 A	24 V	406 cm/min (160 in./min)	81 %	Vertical Up	1.8 kg/h (4.0 lbs/h)
1.2 mm (.045 in.)	217 A	26 V	940 cm/min (370 in./min)	83 %	Vertical Up	3.1 kg/h (6.8 lbs/h)
1.4 mm (.052 in.)	166 A	25 V	457 cm/min (180 in./min)	81 %	Vertical Up	2.0 kg/h (4.5 lbs/h)
1.2 mm (.045 in.)	205 A	26 V	864 cm/min (340 in./min)	83 %	Vertical Up	2.8 kg/h (6.2 lbs/h)
1.4 mm (.052 in.)	184 A	25 V	533 cm/min (210 in./min)	81 %	Vertical Up	2.4 kg/h (5.3 lbs/h)
1.4 mm (.052 in.)	159 A	24 V	432 cm/min (170 in./min)	81 %	Vertical Up	1.8 kg/h (4.0 lbs/h)
1.6 mm (1/16 in.)	273 A	26 V	610 cm/min (240 in./min)	81 %	Vertical Up	3.5 kg/h (7.7 lbs/h)
1.4 mm (.052 in.)	201 A	26 V	610 cm/min (240 in./min)	82 %	Vertical Up	2.7 kg/h (6.0 lbs/h)
1.2 mm (.045 in.)	180 A	24 V	711 cm/min (280 in./min)	82 %	Vertical Up	2.3 kg/h (5.1 lbs/h)
1.6 mm (1/16 in.)	289 A		660 cm/min (260 in./min)	81 %	Vertical Up	3.8 kg/h (8.4 lbs/h)
1.4 mm (.052 in.)	196 A	26 V	584 cm/min (230 in./min)	82 %	Vertical Up	2.6 kg/h (5.8 lbs/h)
1.2 mm (.045 in.)	167 A	24 V	635 cm/min (250 in./min)	82 %	Vertical Up	2.0 kg/h (4.5 lbs/h)
1.6 mm (1/16 in.)	223 A	25 V	457 cm/min (180 in./min)	80 %	Vertical Up	2.5 kg/h (5.6 lbs/h)
1.6 mm (1/16 in.)	205 A	25 V	406 cm/min (160 in./min)	80 %	Vertical Up	2.2 kg/h (4.9 lbs/h)
1.2 mm (.045 in.)	140 A	23 V	483 cm/min (190 in./min)	81 %	Vertical Up	1.5 kg/h (3.3 lbs/h)
1.6 mm (1/16 in.)	257 A	26 V	559 cm/min (220 in./min)	81 %	Vertical Up	3.2 kg/h (7.0 lbs/h)
1.4 mm (.052 in.)	172 A	25 V	483 cm/min (190 in./min)	81 %	Vertical Up	2.2 kg/h (4.8 lbs/h)

Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
100% CO₂				
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)
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)
250-350 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)
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)

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Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
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)
165-270 A	1.6 mm (1/16 in.)	15.8-19 mm (5/8-3/4 in.)	25-28 V	343-673 cm/min (135-265 in./min)
215-290 A	1.4 mm (.052 in.)	15.8-19 mm (5/8-3/4 in.)	25-29 V	711-1016 cm/min (280-400 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)
125-235 A	1.4 mm (.052 in.)	12.7-15.8 mm (1/2-5/8 in.)	23-26 V	330-711 cm/min (130-280 in./min)