

Dual Shield 111-RB

Dual Shield 111-RB is a low slag, high deposition flux cored electrode designed for joining structural components made of low carbon steel and can be used to weld over some primer compositions. The electrode is designed to be used with 100% CO₂ gas shielding. Dual Shield 111-RB can achieve deposition efficiency above 88%. This increases the amount of deposit achieved over a given period of time, as compared to a standard Dual Shield E70T-1 electrode.

Classifications	AWS A5.29 : E80T-1GC AWS A5.20 : E70T-1C AWS A5.36 : E70T1-C1A2-CS1 AWS A5.36 : E80T1-C1A2-CS1 ASME SFA 5.29 ASME SFA 5.36 ASME SFA 5.20
Approvals	ABS MIL-E-24403/1 70T-1C
Industry	Civil Construction Industrial and General Fabrication Mobile Equipment Ship/Barge Building

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

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Reduction in Area	Elongation
100% CO₂				
As Welded	515 MPa (75 ksi)	600 MPa (87 ksi)	65 %	28 %

Typical Charpy V-Notch Properties

Condition
100% CO₂
As Welded

Typical Weld Metal Analysis %

C	Mn	Si	S	P
0.05	1.5	0.04	0.015	0.014

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate	Deposition Efficiency %
100% CO₂					
1.4 mm (.052 in.)	360 A	34 V	1143 cm/min (450 in./min)	6.03 kg/h (13.3 lb/h)	85 %
1.4 mm (.052 in.)	155 A	25 V	381 cm/min (150 in./min)	2 kg/h (4.4 lb/h)	87 %
1.4 mm (.052 in.)	310 A	33 V	889 cm/min (350 in./min)	4.63 kg/h (10.2 lb/h)	85 %
1.4 mm (.052 in.)	430 A	35 V	1524 cm/min (600 in./min)	7.52 kg/h (16.6 lb/h)	87 %
1.6 mm (1/16 in.)	190 A	27 V	381 cm/min (150 in./min)	2.77 kg/h (6.1 lb/h)	87 %
1.6 mm (1/16 in.)	300 A	30 V	635 cm/min (250 in./min)	4.63 kg/h (10.2 lb/h)	87 %
1.6 mm (1/16 in.)	365 A	31 V	762 cm/min (300 in./min)	5.58 kg/h (12.3 lb/h)	86 %
1.6 mm (1/16 in.)	410 A	32 V	889 cm/min (350 in./min)	6.35 kg/h (14 lb/h)	88 %
1.6 mm (1/16 in.)	450 A	33 V	1016 cm/min (400 in./min)	7.3 kg/h (16 lb/h)	87 %
1.6 mm (1/16 in.)	500 A	35 V	1270 cm/min (500 in./min)	9.11 kg/h (20.1 lb/h)	87 %
2.4 mm (3/32 in.)	350 A	30 V	315 cm/min (124 in./min)	4.35 kg/h (9.6 lb/h)	84 %
2.4 mm (3/32 in.)	400 A	30 V	422 cm/min (166 in./min)	5.76 kg/h (12.7 lb/h)	85 %
2.4 mm (3/32 in.)	450 A	31 V	500 cm/min (197 in./min)	6.8 kg/h (15 lb/h)	86 %

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Deposition Data					
Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate	Deposition Efficiency %
2.4 mm (3/32 in.)	500 A	32 V	602 cm/min (237 in./min)	8.39 kg/h (18.5 lb/h)	86 %
2.4 mm (3/32 in.)	550 A	34 V	706 cm/min (278 in./min)	9.66 kg/h (21.3 lb/h)	88 %
2.0 mm (5/64 in.)	250 A	26 V	284 cm/min (112 in./min)	2.9 kg/h (6.4 lb/h)	85 %
2.0 mm (5/64 in.)	350 A	28 V	447 cm/min (176 in./min)	4.76 kg/h (10.5 lb/h)	85 %
2.0 mm (5/64 in.)	450 A	31 V	655 cm/min (258 in./min)	6.71 kg/h (14.8 lb/h)	85 %

Recommended Welding Parameters				
Wire Diameter	Current	Voltage	TTW Dist.	Wire Feed Speed
75% Ar - 25% CO₂				
1.6 mm (1/16 in.)	300 A	30 V	25.4 mm (1 in.)	574 mm/min (226 in./min)
1.6 mm (1/16 in.)	400 A	32 V	25.4 mm (1 in.)	937 mm/min (369 in./min)
1.6 mm (1/16 in.)	450 A	32 V	25.4 mm (1 in.)	1072 mm/min (422 in./min)
2.4 mm (3/32 in.)	450 A	34 V	25.4 mm (1 in.)	551 mm/min (217 in./min)
2.4 mm (3/32 in.)	475 A	32 V	25.4 mm (1 in.)	622 mm/min (245 in./min)
2.4 mm (3/32 in.)	500 A	33 V	25.4 mm (1 in.)	686 mm/min (270 in./min)
2.4 mm (3/32 in.)	550 A	34 V	25.4 mm (1 in.)	879 mm/min (346 in./min)