

Dual Shield T-115

Dual Shield T-115 is a basic slag flux cored electrode designed for applications requiring a high strength weld deposit. Dual Shield T-115 produces weld deposits which are resistant to cracking in heavy sections or under high restraint. It has good usability with a minimum amount of spatter and easy slag removal. It can be used for welding steels such as: T-1, HY-80, HY-90, N-A-XTRA 90, 100 and 110, and the SSS 100 series. The weld metal analysis is similar to an E11018-M low hydrogen electrode. A 100% CO₂ shielding gas is recommended for the 3/32" (2.4 mm) size and a 75% Ar / 25% CO₂ gas for the .045" (1.2 mm) and 1/16" (1.6 mm) sizes.

Specifications

Classifications	ASME SFA 5.36 ASME SFA 5.29 AWS A5.36 : E111T5-M21A6-K4-H4 (.045?, .052?, 1/16?) AWS A5.36 : E110T5-C1A6-K4-H4 (3/32") AWS A5.29 : E110T5-K4C (3/32") AWS A5.29 : E111T5-K4M-H4 (.045", .052", 1/16")
Approvals	CWB : CSA W48 E111T5-K4M-H4 (.045?, .052?, 1/16?), E110T5-K4C-H4 (3/32?)
Industry	Mobile Equipment Industrial and General Fabrication

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	810 MPa (117 ksi)	662 MPa (96 ksi)	22 %	57 %
75% Ar - 25% CO₂				
Stress Relieved 1 hour(s) 566 °C (1050 °F)	660 MPa (96 ksi)	750 MPa (109 ksi)	23 %	65 %
As Welded	761 MPa (110 ksi)	815 MPa (118 ksi)	20 %	43 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
75% Ar - 25% CO₂		
Stress Relieved	-51 °C (-60 °F)	43 J (32 ft-lb)
As Welded	-29 °C (-20 °F)	68 J (50 ft-lb)
As Welded	-51 °C (-60 °F)	49 J (36 ft-lb)
Stress Relieved	-29 °C (-20 °F)	65 J (48 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo
75% Ar - 25% CO₂							
0.05	1.86	0.52	0.012	0.010	2.04	0.25	0.47
100% CO₂							
0.06	1.86	0.56	0.012	0.011	2.11	0.44	0.44

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	TTW Dist.	Deposition Rate
75% Ar - 25% CO₂						
2.4 mm (3/32 in.)	475 A	32 V	622 cm/min (245 in./min)	87 %	25.4 mm (1 in.)	9.1 kg/h (20.0 lbs/h)
1.2 mm (.045 in.)	300 A	32 V	1539 cm/min (606 in./min)	92 %	25.4 mm (1 in.)	6.44 kg/h (14.2 lbs/h)
2.4 mm (3/32 in.)	500 A	32 V	686 cm/min (270 in./min)	89 %	25.4 mm (1 in.)	10.3 kg/h (22.8 lbs/h)

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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	TTW Dist.	Deposition Rate
1.6 mm (1/16 in.)	300 A	30 V	574 cm/min (226 in./min)	92 %	25.4 mm (1 in.)	4.45 kg/h (9.8 lbs/h)
1.2 mm (.045 in.)	170 A	19 V	724 cm/min (285 in./min)	96 %	19 mm (3/4 in.)	3.2 kg/h (7.0 lbs/h)
1.6 mm (1/16 in.)	400 A	32 V	937 cm/min (369 in./min)	92 %	25.4 mm (1 in.)	7.3 kg/h (16.1 lbs/h)
1.2 mm (.045 in.)	250 A	30 V	1191 cm/min (469 in./min)	91 %	25.4 mm (1 in.)	4.9 kg/h (10.8 lbs/h)
2.4 mm (3/32 in.)	450 A	32 V	551 cm/min (217 in./min)	85 %	25.4 mm (1 in.)	8 kg/h (17.6 lbs/h)

Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
75% Ar - 25% CO₂				
140-190 A	1.2 mm (.045 in.)	19-25.4 mm (3/4-1 in.)	19-28 V	635-889 cm/min (250-350 in./min)
240-370 A	2.4 mm (3/32 in.)	25.4-31.75 mm (1-1.25 in.)	30-32 V	254-508 cm/min (100-200 in./min)
240-300 A	1.2 mm (.045 in.)	19-25.4 mm (3/4-1 in.)	29-32 V	1143-1651 cm/min (450-650 in./min)
370-460 A	2.4 mm (3/32 in.)	31.75-38 mm (1.25-1.5 in.)	32-33 V	508-813 cm/min (200-320 in./min)
220-280 A	1.6 mm (1/16 in.)	19-25.4 mm (3/4-1 in.)	29-30 V	457-635 cm/min (180-250 in./min)
280-380 A	1.6 mm (1/16 in.)	25.4-31.75 mm (1-1.25 in.)	31-32 V	635-1016 cm/min (250-400 in./min)