

Dual Shield T-5

Dual Shield T-5 is a basic slag flux cored wire that produces crack resistant, highly ductile weld deposits. The small diameter wires, such as .045 & 1/16" diameters can be used out-of-position. The arc characteristics are globular but can be improved with the use of argon mixes. Dual Shield T-5 is recommended for medium to heavy fabrication of many mild steels where superior toughness and crack resistance are required. It is a good choice for mild steel or when being joined to quenched and tempered low alloy high strength steels. The weld metal analysis is similar to an E7018 or E7018-1 low hydrogen electrode.

Specifications

Classifications	SFA/AWS A5.20 : E71T-5C-JH4 SFA/AWS A5.20 : E71T-5M-JH4 JIS Z 3313 : YFW-C502B/YFW-A502B KS D 7104 : YFW-C502B/YFW-A502B
Approvals	ABS : 3YSA H10 (M21) BV : SA3YM H10 (M21) BV : SA3YM HH DNV : III YMS H10 (M21) DNV : III YMS H10 (M21) LR : 3S, 3YS H10 (M21) LR : 3YS H5 (C1) LR : 3YS H10 (M21)
Industry	Civil Construction Railcars Mobile Equipment Industrial and General Fabrication

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

Welding Current	DC+
Alloy Type	C Mn

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
M21			
As Welded	460 MPa (67 ksi)	560 MPa (81 ksi)	31 %
Stress Relieved 2 hour(s) 621 °C (1150 °F)	355 MPa (51 ksi)	500 MPa (73 ksi)	34 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
M21		
As Welded	-18 °C (0 °F)	130 J (96 ft-lb)
As Welded	-40 °C (-40 °F)	96 J (71 ft-lb)
Stress Relieved	-29 °C (-20 °F)	178 J (132 ft-lb)
As Welded	-29 °C (-20 °F)	110 J (81 ft-lb)
Stress Relieved	-51 °C (-60 °F)	125 J (93 ft-lb)
Stress Relieved	-18 °C (0 °F)	236 J (175 ft-lb)
As Welded	-51 °C (-60 °F)	80 J (59 ft-lb)
Stress Relieved	-40 °C (-40 °F)	140 J (104 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P
0.066	1.45	0.52	0.013	0.007

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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	TTW Dist.	Deposition Rate
1.2 mm (0.045 in.)	154-322 A	22-32 V	6.35-16.51 m/min (250-650 in./min)	(0.4, in.)	1.3-3.1 kg/h (2.9-6.8 lbs/h)
1.6 mm (1/16 in.)	268-422 A	26-32 V	4.57-10.16 m/min (180-400 in./min)	16.0 mm (0.6, in.)	3.5-7.9 kg/h (7.7-17. 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)
300 A	1.2 mm (.045 in.)	19-25.4 mm (3/4-1 in.)	32 V	1651 cm/min (650 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)
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)