

Dual Shield T-75

Dual Shield T-75 is a flux cored wire with a basic slag system designed for multiple pass welding and produces excellent properties in both the as welded and stress relieved conditions. The exceptional impact toughness and low sensitivity to cracking makes it an ideal choice for a variety of low and medium carbon steels. The arc characteristics are globular, but can be improved with argon gas mixtures. The weld metal analysis is similar to an E7018 low hydrogen electrode.

Specifications

Classifications	ASME SFA 5.36 ASME SFA 5.20 AWS A5.36 : E70T5-M21-CS1-H4 AWS A5.36 : E70T5-C1A4-CS1-H4 AWS A5.20 : E70T-5C-JH4/T-5M-JH
Approvals	ABS DNV-GL : (3/32") LR QPL-24403/1 : MIL-70T-5C (3/32")
Industry	Industrial and General Fabrication Railcars Mobile Equipment Civil 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	495 MPa (72 ksi)	565 MPa (82 ksi)	28 %	65 %
75% Ar - 25% CO₂				
As Welded	505 MPa (73 ksi)	595 MPa (86 ksi)	29 %	66 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
100% CO₂		
As Welded	-40 °C (-40 °F)	95 J (70 ft-lb)
75% Ar - 25% CO₂		
As Welded	-40 °C (-40 °F)	75 J (55 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P
75% Ar - 25% CO₂				
0.04	1.70	0.70	0.011	0.004
100% CO₂				
0.04	1.50	0.60	0.010	0.006

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	TTW Dist.	Deposition Rate
100% 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 lbs/h)
2.4 mm (3/32 in.)	450 A	32 V	551 cm/min (217 in./min)	85 %	25.4 mm (1 in.)	8.0 kg/h (17.6 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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Recommended Welding Parameters				
Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
75% Ar - 25% CO ₂				
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)
240-370 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)
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)
240-265 A	1.2 mm (.045 in.)	19-25.4 mm (3/4-1 in.)	29-30 V	1143-1397 cm/min (450-550 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)