

Dual Shield 700X

Dual Shield 700X is a high deposition, deep penetration wire for joining of heavy structural steel components. Designed for flat and horizontal position welding using CO₂ shielding gas, this X Series wire provides high deposition rates, high efficiency and excellent performance. The bead contour, smooth ripple and slag chemistry allow easy slag removal even in narrow grooves.

Classifications:	AWS A5.20:E70T-1CH8/E70T-9CH8, AWS A5.36:E70T1-C1A2-CS1-H8, ASME SFA 5.20, ASME SFA 5.36
Approvals:	ABS , CWB CSA W48 E492T-1, DNV-GL , LR
Industry:	Heavy Equipment, Large Components, Mobile Equipment, Agricultural Equipment

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	545 MPa (79 ksi)	600 MPa (87 ksi)	29 %

Typical Charpy V-Notch Properties		
Condition	Testing Temperature	Impact Value
100% CO₂		
As Welded	-18 °C (0 °F)	66 J (49 ft-lb)
As Welded	-29 °C (-20 °F)	45 J (33 ft-lb)

Typical Weld Metal Analysis %				
C	Mn	Si	S	P
100% CO₂				
0.035	1.50	0.55	0.015	0.011

Deposition Data						
Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate	TTW Dist.	Efficiency (%)
100% CO₂						
1.6 mm (1/16 in.)	149 A	23 V	254 cm/min (100 in./min)	1.3 kg/h (2.8 lb/h)	19 mm (3/4 in.)	80 %
1.6 mm (1/16 in.)	168 A	24 V	305 cm/min (120 in./min)	1.6 kg/h (3.5 lb/h)	19 mm (3/4 in.)	80 %
1.6 mm (1/16 in.)	187 A	24 V	356 cm/min (140 in./min)	1.9 kg/h (4.2 lb/h)	19 mm (3/4 in.)	80 %
1.6 mm (1/16 in.)	205 A	25 V	406 cm/min (160 in./min)	2.2 kg/h (4.9 lb/h)	19 mm (3/4 in.)	80 %
1.6 mm (1/16 in.)	223 A	25 V	457 cm/min (180 in./min)	2.5 kg/h (5.6 lb/h)	19 mm (3/4 in.)	80 %
1.6 mm (1/16 in.)	240 A	25 V	508 cm/min (200 in./min)	2.9 kg/h (6.3 lb/h)	19 mm (3/4 in.)	80 %

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Deposition Data						
Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate	TTW Dist.	Efficiency (%)
1.6 mm (1/16 in.)	257 A	26 V	559 cm/min (220 in./min)	3.2 kg/h (7.0 lb/h)	19 mm (3/4 in.)	81 %
1.6 mm (1/16 in.)	273 A	26 V	610 cm/min (240 in./min)	3.5 kg/h (7.7 lb/h)	19 mm (3/4 in.)	81 %
1.6 mm (1/16 in.)	289 A	26 V	660 cm/min (260 in./min)	3.8 kg/h (8.4 lb/h)	19 mm (3/4 in.)	81 %
2.4 mm (3/32 in.)	290 A	27 V	381 cm/min (150 in./min)	5.8 kg/h (12.7 lb/h)	25.4 mm (1 in.)	86.9 %
2.4 mm (3/32 in.)	350 A	28 V	508 cm/min (200 in./min)	7.7 kg/h (16.9 lb/h)	25.4 mm (1 in.)	86.3 %
2.4 mm (3/32 in.)	410 A	29 V	635 cm/min (250 in./min)	9.6 kg/h (21.1 lb/h)	25.4 mm (1 in.)	86 %
2.4 mm (3/32 in.)	475 A	32 V	762 cm/min (300 in./min)	11.3 kg/h (25.0 lb/h)	25.4 mm (1 in.)	84.8 %

Deposition Data				
Diameter	Current	Voltage	Wire Feed Speed	TTW Dist.
Full Range 100% CO₂				
1.6 mm (1/16 in.)	180-460 A	25-34 V	343-1270 cm/min (135-500 in./min)	19-25.4 mm (3/4-1 in.)
2.4 mm (3/32 in.)	290-610 A	26-34 V	254-825.5 cm/min (100-325 in./min)	25.4-38 mm (1-1.5 in.)