

Dual Shield 710X

Dual Shield 710X is an all-position flux cored wire for general purpose welding. It provides outstanding operator appeal with an easily controlled arc, improved operation at both lower and higher current levels, minimal spatter and easily removed slag. Dual Shield 710X can be used with 100% CO₂, recommended in applications where weld joint restraint is high. Applications include rail car, barges, civil construction, light equipment and general fabrication.

Classifications	AWS A5.20 : E71T-1C-DH8/T-9C-DH8 AWS A5.36 : E71T1-C1A2-CS1-DH8 ASME SFA 5.36 ASME SFA 5.20
Approvals	LR DNV-GL CWB CSA W48 E491T-9-H8 ABS Seismic Certified "D"
Industry	Barges Civil Construction Industrial and General Fabrication Railcars Ship/Barge Building Light Equipment

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

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
75% Ar - 25% CO₂			
As Welded	570 MPa (83 ksi)	640 MPa (93 ksi)	27 %
100% CO₂			
As Welded	520 MPa (75 ksi)	625 MPa (87 ksi)	28 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
75% Ar - 25% CO₂		
As Welded	-18 °C (0 °F)	102 J (75 ft-lb)
As Welded	-29 °C (-20 °F)	68 J (50 ft-lb)
100% CO₂		
As Welded	-18 °C (0 °F)	77 J (57 ft-lb)
As Welded	-29 °C (-20 °F)	66 J (49 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni
0.03	1.4	0.5	0.009	0.007	0.4

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate	Deposition Efficiency %
100% CO₂					
1.2 mm (.045 in.)	140 A	23 V	483 cm/min (190 in./min)	1.5 kg/h (3.3 lb/h)	81 %
1.2 mm (.045 in.)	154 A	23 V	559 cm/min (220 in./min)	1.77 kg/h (3.9 lb/h)	81 %
1.2 mm (.045 in.)	167 A	24 V	635 cm/min (250 in./min)	2.04 kg/h (4.5 lb/h)	82 %
1.2 mm (.045 in.)	180 A	24 V	711 cm/min (280 in./min)	2.31 kg/h (5.1 lb/h)	82 %
1.2 mm (.045 in.)	193 A	25 V	787 cm/min (310 in./min)	2.54 kg/h (5.6 lb/h)	82 %
1.2 mm (.045 in.)	205 A	26 V	864 cm/min (340 in./min)	2.81 kg/h (6.2 lb/h)	83 %
1.2 mm (.045 in.)	217 A	26 V	940 cm/min (370 in./min)	3.08 kg/h (6.8 lb/h)	83 %
1.4 mm (.052 in.)	153 A	24 V	406 cm/min (160 in./min)	1.81 kg/h (4.0 lb/h)	81 %
1.4 mm (.052 in.)	159 A	24 V	432 cm/min (170 in./min)	1.81 kg/h (4.0 lb/h)	81 %

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Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate	Deposition Efficiency %
1.4 mm (.052 in.)	166 A	25 V	457 cm/min (180 in./min)	2.04 kg/h (4.5 lb/h)	81 %
1.4 mm (.052 in.)	172 A	25 V	483 cm/min (190 in./min)	2.17 kg/h (4.8 lb/h)	81 %
1.4 mm (.052 in.)	178 A	25 V	508 cm/min (200 in./min)	2.27 kg/h (5.0 lb/h)	81 %
1.4 mm (.052 in.)	184 A	25 V	533 cm/min (210 in./min)	2.4 kg/h (5.3 lb/h)	81 %
1.4 mm (.052 in.)	190 A	26 V	559 cm/min (220 in./min)	2.5 kg/h (5.5 lb/h)	81 %
1.4 mm (.052 in.)	196 A	26 V	584 cm/min (230 in./min)	2.63 kg/h (5.8 lb/h)	82 %
1.4 mm (.052 in.)	201 A	26 V	610 cm/min (240 in./min)	2.72 kg/h (6.0 lb/h)	82 %
1.4 mm (.052 in.)	207 A	26 V	635 cm/min (250 in./min)	2.86 kg/h (6.3 lb/h)	82 %
1.6 mm (1/16 in.)	187 A	24 V	356 cm/min (140 in./min)	1.9 kg/h (4.2 lb/h)	80 %
1.6 mm (1/16 in.)	205 A	25 V	406 cm/min (160 in./min)	2.22 kg/h (4.9 lb/h)	80 %
1.6 mm (1/16 in.)	223 A	25 V	457 cm/min (180 in./min)	2.54 kg/h (5.6 lb/h)	80 %
1.6 mm (1/16 in.)	240 A	25 V	508 cm/min (200 in./min)	2.86 kg/h (6.3 lb/h)	80 %
1.6 mm (1/16 in.)	257 A	26 V	559 cm/min (220 in./min)	3.2 kg/h (7.0 lb/h)	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)	81 %
1.6 mm (1/16 in.)	289 A	26 V	(260 ipm in./min)	3.8 kg/h (8.4 lb/h)	81 %

Recommended Welding Parameters

Wire Diameter	Condition	Condition	Condition	Condition
100% CO₂				
1.6 mm (1/16 in.)	290-415 A	28-32 V	25.4-31.75 mm (1-1.25 in.)	1016-1270 cm/min (400-500 in./min)
1.6 mm (1/16 in.)	245-345 A	27-30 V	19-25.4 mm (3/4-1 in.)	673-1016 cm/min (265-400 in./min)
1.6 mm (1/16 in.)	165-270 A	25-28 V	15.8-19 mm (5/8-3/4 in.)	343-673 cm/min (135-265 in./min)
1.4 mm (.052 in.)	250-350 A	29-31 V	19-25.4 mm (3/4-1 in.)	1016-1524 cm/min (400-600 in./min)
1.4 mm (.052 in.)	215-290 A	25-29 V	15.8-19 mm (5/8-3/4 in.)	711-1016 cm/min (280-400 in./min)
1.4 mm (.052 in.)	125-235 A	23-26 V	12.7-15.8 mm (1/2-5/8 in.)	330-711 cm/min (130-280 in./min)
1.2 mm (.045 in.)	180-265 A	26-30 V	19-25.4 mm (3/4-1 in.)	889-1397 cm/min (350-550 in./min)
1.2 mm (.045 in.)	175-230 A	25-27 V	12.7-19 mm (1/2-3/4 in.)	737-889 cm/min (290-350 in./min)
1.2 mm (.045 in.)	135-205 A	23-26 V	9.5-12.7 mm (3/8-1/2 in.)	432-737 cm/min (170-290 in./min)
75% Ar - 25% CO₂				
1.6 mm (1/16 in.)	285-400 A	28-32 V	25.4-31.75 mm (1-1.25 in.)	813-1168 cm/min (320-460 in./min)
1.6 mm (1/16 in.)	250-340 A	27-30 V	19-25.4 mm (3/4-1 in.)	610-813 cm/min (240-320 in./min)
1.6 mm (1/16 in.)	185-285 A	24-28 V	15.8-19 mm (5/8-3/4 in.)	356-610 cm/min (140-240 in./min)
1.4 mm (.052 in.)	245-355 A	245-355 V	19-25.4 mm (3/4-1 in.)	940-1372 cm/min (370-540 in./min)
1.4 mm (.052 in.)	225-295 A	27-30 V	15.8-19 mm (5/8-3/4 in.)	686-940 cm/min (270-370 in./min)



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1.4 mm (.052 in.)	135-250 A	24-28 V	12.7-15.8 mm (1/2-5/8 in.)	317.5-686 cm/min (125-270 in./min)
1.2 mm (.045 in.)	185-265 A	27-29 V	19-25.4 mm (3/4-1 in.)	775-1194 cm/min (305-470 in./min)
1.2 mm (.045 in.)	165-225 A	24-27 V	12.7-19 mm (1/2-3/4 in.)	240-305 cm/min (610-775 in./min)
1.2 mm (.045 in.)	130-200 A	22-26 V	9.5-12.7 mm (3/8-1/2 in.)	356-610 cm/min (140-240 in./min)