

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.

Specifications

Classifications	SFA/AWS A5.20 : E71T-1C-DH8/T-9C-DH8
Approvals	ABS : 3YSA CWB : E491T1-M21A3-CS1-H16 CWB : E491T1-C1A3-CS1-H16, E491T1-M21A3-CS1-H16 DNV-GL LR : 3YS (M21) LR : 3YS H15 (C1) Seismic Certified : D
Industry	Railcars Ship/Barge Building Barges Civil Construction Light Equipment Industrial and General Fabrication

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

Welding Current	DC+
Diffusible Hydrogen	< 8 ml/100g
Alloy Type	C Mn steel
Shielding Gas	C1 (EN ISO 14175)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
C1			
As Welded	520 MPa (75 ksi)	625 MPa (91 ksi)	28 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
C1		
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	TTW Dist.	Deposition Rate
1.2 mm (0.045 in.)	135-265 A	24-29 V	4.32-13.97 m/min (170-550 in./min)	- (0.4, in.)	1.5-4.8 kg/h (3.3-10. lbs/h)
1.4 mm (0.052 in.)	125-350 A	24-30 V	3.3-15.24 m/min (130-600 in./min)	- (0.4, in.)	1.3-6.7 kg/h (2.9-14. lbs/h)
1.6 mm (1/16 in.)	165-415 A	25-31 V	3.43-12.7 m/min (135-500 in./min)	- (0.4, in.)	1.8-7.6 kg/h (4.0-16. lbs/h)

Dual Shield 710X

Recommended Welding Parameters

Wire Diameter	Current	TTW Dist.	Voltage	Wire Feed Speed
100% CO₂				
1.6 mm (1/16 in.)	285-400 A	25.4-31.75 mm (1-1.25 in.)	28-32 V	813-1168 cm/min (320-460 in./min)
1.6 mm (1/16 in.)	250-340 A	19-25.4 mm (3/4-1 in.)	27-30 V	610-813 cm/min (240-320 in./min)
1.6 mm (1/16 in.)	185-285 A	15.8-19 mm (5/8-3/4 in.)	24-28 V	356-610 cm/min (140-240 in./min)
1.4 mm (.052 in.)	245-355 A	19-25.4 mm (3/4-1 in.)	245-355 V	940-1372 cm/min (370-540 in./min)
1.4 mm (.052 in.)	225-295 A	15.8-19 mm (5/8-3/4 in.)	27-30 V	686-940 cm/min (270-370 in./min)
1.4 mm (.052 in.)	135-250 A	12.7-15.8 mm (1/2-5/8 in.)	24-28 V	317.5-686 cm/min (125-270 in./min)
1.2 mm (.045 in.)	185-265 A	19-25.4 mm (3/4-1 in.)	27-29 V	775-1194 cm/min (305-470 in./min)
1.2 mm (.045 in.)	165-225 A	12.7-19 mm (1/2-3/4 in.)	24-27 V	240-305 cm/min (610-775 in./min)
1.2 mm (.045 in.)	130-200 A	9.5-12.7 mm (3/8-1/2 in.)	22-26 V	356-610 cm/min (140-240 in./min)
1.6 mm (1/16 in.)	290-415 A	25.4-31.75 mm (1-1.25 in.)	28-32 V	1016-1270 cm/min (400-500 in./min)
1.6 mm (1/16 in.)	245-345 A	19-25.4 mm (3/4-1 in.)	27-30 V	673-1016 cm/min (265-400 in./min)
1.6 mm (1/16 in.)	165-270 A	15.8-19 mm (5/8-3/4 in.)	25-28 V	343-673 cm/min (135-265 in./min)
1.4 mm (.052 in.)	250-350 A	19-25.4 mm (3/4-1 in.)	29-31 V	1016-1524 cm/min (400-600 in./min)
1.4 mm (.052 in.)	215-290 A	15.8-19 mm (5/8-3/4 in.)	25-29 V	711-1016 cm/min (280-400 in./min)
1.4 mm (.052 in.)	125-235 A	12.7-15.8 mm (1/2-5/8 in.)	23-26 V	330-711 cm/min (130-280 in./min)
1.2 mm (.045 in.)	180-265 A	19-25.4 mm (3/4-1 in.)	26-30 V	889-1397 cm/min (350-550 in./min)
1.2 mm (.045 in.)	175-230 A	12.7-19 mm (1/2-3/4 in.)	25-27 V	737-889 cm/min (290-350 in./min)
1.2 mm (.045 in.)	135-205 A	9.5-12.7 mm (3/8-1/2 in.)	23-26 V	432-737 cm/min (170-290 in./min)
75% Ar - 25% CO₂				
1.6 mm (1/16 in.)	285-400 A	25.4-31.75 mm (1-1.25 in.)	28-32 V	813-1168 cm/min (320-460 in./min)
1.6 mm (1/16 in.)	250-340 A	19-25.4 mm (3/4-1 in.)	27-30 V	610-813 cm/min (240-320 in./min)
1.6 mm (1/16 in.)	185-285 A	15.8-19 mm (5/8-3/4 in.)	24-28 V	356-610 cm/min (140-240 in./min)
1.4 mm (.052 in.)	245-355 A	19-25.4 mm (3/4-1 in.)	245-355 V	940-1372 cm/min (370-540 in./min)
1.4 mm (.052 in.)	225-295 A	15.8-19 mm (5/8-3/4 in.)	27-30 V	686-940 cm/min (270-370 in./min)
1.4 mm (.052 in.)	135-250 A	12.7-15.8 mm (1/2-5/8 in.)	24-28 V	317.5-686 cm/min (125-270 in./min)

Dual Shield 710X

Recommended Welding Parameters

Wire Diameter	Current	TTW Dist.	Voltage	Wire Feed Speed
1.2 mm (.045 in.)	185-265 A	19-25.4 mm (3/4-1 in.)	27-29 V	775-1194 cm/min (305-470 in./min)
1.2 mm (.045 in.)	165-225 A	12.7-19 mm (1/2-3/4 in.)	24-27 V	240-305 cm/min (610-775 in./min)
1.2 mm (.045 in.)	130-200 A	9.5-12.7 mm (3/8-1/2 in.)	22-26 V	356-610 cm/min (140-240 in./min)
1.6 mm (1/16 in.)	290-415 A	25.4-31.75 mm (1-1.25 in.)	28-32 V	1016-1270 cm/min (400-500 in./min)
1.6 mm (1/16 in.)	245-345 A	19-25.4 mm (3/4-1 in.)	27-30 V	673-1016 cm/min (265-400 in./min)
1.6 mm (1/16 in.)	165-270 A	15.8-19 mm (5/8-3/4 in.)	25-28 V	343-673 cm/min (135-265 in./min)
1.4 mm (.052 in.)	250-350 A	19-25.4 mm (3/4-1 in.)	29-31 V	1016-1524 cm/min (400-600 in./min)
1.4 mm (.052 in.)	215-290 A	15.8-19 mm (5/8-3/4 in.)	25-29 V	711-1016 cm/min (280-400 in./min)
1.4 mm (.052 in.)	125-235 A	12.7-15.8 mm (1/2-5/8 in.)	23-26 V	330-711 cm/min (130-280 in./min)
1.2 mm (.045 in.)	180-265 A	19-25.4 mm (3/4-1 in.)	26-30 V	889-1397 cm/min (350-550 in./min)
1.2 mm (.045 in.)	175-230 A	12.7-19 mm (1/2-3/4 in.)	25-27 V	737-889 cm/min (290-350 in./min)
1.2 mm (.045 in.)	135-205 A	9.5-12.7 mm (3/8-1/2 in.)	23-26 V	432-737 cm/min (170-290 in./min)