

Dual Shield II 712X H4

Dual Shield II 712X H4 is an all position flux cored wire intended for applications requiring outstanding weld metal toughness. This X-Series wire in combination with 75% Argon/25% CO₂ shielding gas, provides a smooth arc, and low spatter levels characteristic of Dual Shield flux cored wires. Dual Shield II 712X H4 applications include off-shore oil components, shipbuilding and heavy equipment where exceptional Charpy impact/low temperature toughness is required.

Specifications	
Classifications	SFA/AWS A5.20 : E71T-12M-JH4 SFA/AWS A5.29 : E81T1-GM-H4
Approvals	CWB : E491T1-M21A5-CS2-H4

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

Shielding Gas	M21 (EN ISO 14175)
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Typical Tensile Properties			
Condition	Yield Strength	Tensile Strength	Elongation
As Welded	561 MPa (81 ksi)	616 MPa (89 ksi)	28 %

Typical Charpy V-Notch Properties		
Condition	Testing Temperature	Impact Value
As Welded	-29 °C (-20 °F)	178 J (132 ft-lb)
As Welded	-40 °C (-40 °F)	140 J (104 ft-lb)
As Welded	-51 °C (-60 °F)	96 J (71 ft-lb)

Typical Weld Metal Analysis %					
C	Mn	Si	S	P	Cr
0.04	0.13	0.33	0.007	0.009	0.04

Deposition Data					
Diameter	Current	Voltage	Wire Feed Speed	TTW Dist.	Deposition Rate
1.2 mm (0.045 in.)	130-265 A	23-28 V	3.56-11.94 m/min (140-470 in./min)	(0.4, in.)	1.2-4.3 kg/h (2.6-9.5 lbs/h)
1.4 mm (0.052 in.)	135-330 A	24-29 V	3.18-12.57 m/min (125-495 in./min)	13.0 mm (0.5, in.)	1.4-5.4 kg/h (3.1-11. lbs/h)
1.6 mm (1/16 in.)	140-340 A	24-30 V	2.8-8.38 m/min (110-330 in./min)	16.0 mm (0.6, in.)	3.4-5.5 kg/h (7.5-12. lbs/h)

Recommended Welding Parameters				
Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
75% Ar - 25% CO ₂				
130-200 A	1.2 mm (.045 in.)	10-13 mm (3/8-1/2 in.)	23-26 V	356-610 cm/min (140-240 in./min)
225-295 A	1.4 mm (.052 in.)	16-19 mm (5/8-3/4 in.)	27-30 V	686-940 cm/min (270-370 in./min)
140-240 A	1.6 mm (1/16 in.)	16-22 mm (5/8-7/8 in.)	24-26 V	280-508 cm/min (110-220 in./min)
240-290 A	1.6 mm (1/16 in.)	22-29 mm (7/8-1 1/8 in.)	26-29 V	508-660 cm/min (200-260 in./min)
290-340 A	1.6 mm (1/16 in.)	25-32 mm (1-1 1/4 in.)	26-30 V	660-838 cm/min (260-380 in./min)
245-255 A	1.4 mm (.052 in.)	19-25 mm (3/4-1 in.)	29-31 V	963-1257 cm/min (379-495 in./min)

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Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
135-250 A	1.4 mm (.052 in.)	13-16 mm (1/2-5/8 in.)	24-28 V	318-686 cm/min (125-270 in./min)
185-265 A	1.2 mm (.045 in.)	19-25 mm (3/4-1 in.)	27-29 V	775-1194 cm/min (305-470 in./min)
165-225 A	1.2 mm (.045 in.)	13-19 mm (1/2-3/4 in.)	24-27 V	610-775 cm/min (240-305 in./min)