

# Dual Shield II 711X

Dual Shield II 711X is an all-position flux cored wire that displays exceptional impact properties in combination with CO<sub>2</sub> shielding gas. This flux cored wire was developed to join low and medium carbon steels where higher impacts and toughness are required. As with all X Series wires, Dual Shield II 711X offers higher top-end current levels for out-of-position welding, broader operating ranges and higher deposition rates in out-of-position applications. Applications include construction, shipbuilding, rail car, light and heavy equipment, and general fabrication where exceptional impacts are required. Weld metal analysis is similar to Atom Arc 7018 and Atom Arc 7018-1.

<b>Classifications:</b>	AWS A5.20: <b>E71T-CJ-DH8/T-9CJ-DH8/T-12CJ-DH8</b> , AWS A5.36: E71T1-C1A4-CS2-DH8, ASME SFA 5.20, ASME SFA 5.36
<b>Approvals:</b>	ABS , CWB CSA W48 E491T-12-H8, DNV-GL , LR
<b>Industry:</b>	Railcars, Civil Construction, Industrial and General Fabrication, Ship/Barge Building

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

Typical Tensile Properties			
Condition	Yield Strength	Tensile Strength	Elongation
<b>100% CO<sub>2</sub></b>			
As Welded	540 MPa (78 ksi)	595 MPa (86 ksi)	29 %

Typical Charpy V-Notch Properties		
Condition	Testing Temperature	Impact Value
<b>100% CO<sub>2</sub></b>		
As Welded	-18 °C (0 °F)	130 J (96 ft-lb)
As Welded	-29 °C (-20 °F)	107 J (79 ft-lb)
<b>As Welded</b>	<b>-40 °C (-40 °F)</b>	<b>49 J (36 ft-lb)</b>

Typical Weld Metal Analysis %					
C	Mn	Si	S	P	Ni
<b>100% CO<sub>2</sub></b>					
0.04	<b>1.4</b>	0.4	0.010	0.012	0.4

Deposition Data						
Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate	TTW Dist.	Efficiency (%)
<b>100% CO<sub>2</sub></b>						
1.2 mm (.045 in.)	112 A	20.5 V	444.5 cm/min (175 in./min)	1.46 kg/h (3.22 lb/h)	15.8 mm (5/8 in.)	86 %
1.2 mm (.045 in.)	140 A	22 V	571.5 cm/min (225 in./min)	2.20 kg/h (4.85 lb/h)	15.8 mm (5/8 in.)	84 %
1.2 mm (.045 in.)	184 A	24 V	800 cm/min (315 in./min)	3.10 kg/h (6.84 lb/h)	15.8 mm (5/8 in.)	84 %
1.2 mm (.045 in.)	235 A	26.5 V	1079.5 cm/min (425 in./min)	3.58 kg/h (7.89 lb/h)	15.8 mm (5/8 in.)	85 %

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## Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate	TTW Dist.	Efficiency (%)
1.4 mm (.052 in.)	172 A	22 V	559 cm/min (220 in./min)	2.32 kg/h (5.11 lb/h)	15.8 mm (5/8 in.)	83 %
1.4 mm (.052 in.)	220 A	24 V	762 cm/min (300 in./min)	3.20 kg/h (7.06 lb/h)	15.8 mm (5/8 in.)	83 %
1.4 mm (.052 in.)	260 A	26.5 V	952.5 cm/min (375 in./min)	4.11 kg/h (9.06 lb/h)	15.8 mm (5/8 in.)	84 %
1.6 mm (1/16 in.)	162 A	22.5 V	356 cm/min (140 in./min)	2.04 kg/h (4.50 lb/h)	19 mm (3/4 in.)	84 %
1.6 mm (1/16 in.)	210 A	24 V	444.5 cm/min (175 in./min)	2.58 kg/h (5.68 lb/h)	19 mm (3/4 in.)	83 %
1.6 mm (1/16 in.)	245 A	25 V	546 cm/min (215 in./min)	3.19 kg/h (7.03 lb/h)	19 mm (3/4 in.)	84 %
1.6 mm (1/16 in.)	270 A	27 V	635 cm/min (250 in./min)	3.77 kg/h (8.32 lb/h)	19 mm (3/4 in.)	84 %