



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 is designed primarily to be used with 100% CO₂ gas mix, especially for applications where weld joint restraint is high. Applications include railcars, barges, civil construction, light equipment and general fabrication.

Dual Shield 710X is tested and certified to meet the new AWS A5.20 'D' designation requirements, making this gas-shielded wire an excellent choice for demand critical welds when FEMA 353, D1.1 or D1.8 Seismic Supplement is utilized.

Maximize Your Productivity & Minimize Your Cost Certified Performance

- Meets demand critical requirements
- Meets most lowest anticipated service temperature applications
- Improved performance over existing products
- Surpasses Extended Exposure requirements
- Crack resistant in critical applications

Improved Productivity

- Higher deposition rate
- Wider operating range
- Faster travel speeds
- Meet construction time-tables
- Better Cost Efficiency

Improved Welder Appeal

- More forgiving than traditional wires
- Simplifies training and qualification
- Better Arc Control
- Self-releasing slag
- Limited clean-up

Outstanding Inspection Results

- Minimal Post Weld Work
- Lowers reject & repair rates

AWS 5.20 "D" Designator Testing Results

Size (in.)	1/16"	
Shielding Gas	100% CO ₂	
Heat Input Range (kJ/in)	High 78-85	Low 25-32
Position	3G	1G
Heat Input (kJ/in)	83.5	31.6
Current (amps)	220	300
WFS (in/min)	165	260
Voltage (volts)	25.5	27.0
Travel Speed (in/min)	4.0	15.4
Pass / Layer	1F, 4S	9S
Tensile Strength (ksi)	76.6	90.7
Yield Strength (ksi)	65.4	81.8
Elongation (%)	32	26
Impact Temperature (°F)	70	70
Impact Results (ft-lbs)	134, 153, 137, 141, 143	106, 101, 108, 112, 116
Minimum Required (ft-lbs)	40	40
Average Impact (ft-lbs)	142	109

Typical Mechanical Properties

Shielding Gas : 100% CO ₂	As Welded
Yield Strength, ksi (MPa)	75 (520)
Tensile Strength, ksi (MPa)	87 (625)
Elongation % in 2"	28

Typical Charpy V-Notch Impact Properties

Testing Temperature	Ft.-lbs (J)
-0°F (-18°C)	57 (77)
-20°F (-29°C)	49 (66)

Typical Undiluted Weld Metal Analysis

Shielding Gas : 100% CO ₂	%
Carbon (C)	0.03
Manganese (Mn)	1.4
Silicon (Si)	0.5
Phosphorus (P)	0.007
Sulfur (S)	0.009
Nickel (Ni)	0.4

Product Data Sheet	COR-1035
Seismic Certification	CERT-1006
Seismic Brochure	COR-1029

Typical Welding Parameters – Vertical Up

Diameter	Amperage (amps)	Voltage (volts)	WFS (ipm)	Dep. Rate (lbs/hr)	Efficiency Rate %	ESO
0.045"	126	22	160	2.8	81%	3/4 in.
	140	23	190	3.3	81%	3/4 in.
	154	23	220	3.9	81%	3/4 in.
	167	24	250	4.5	82%	3/4 in.
	180	24	280	5.1	82%	3/4 in.
	193	25	310	5.6	82%	3/4 in.
	205	26	340	6.2	83%	3/4 in.
	217	26	370	6.8	83%	3/4 in.
	228	27	400	7.4	83%	3/4 in.
0.052"	153	24	160	4.0	81%	3/4 in.
	159	24	170	4.3	81%	3/4 in.
	166	25	180	4.5	81%	3/4 in.
	172	25	190	4.8	81%	3/4 in.
	178	25	200	5.0	81%	3/4 in.
	184	25	210	5.3	81%	3/4 in.
	190	26	220	5.5	81%	3/4 in.
	196	26	230	5.8	82%	3/4 in.
	201	26	240	6.0	82%	3/4 in.
207	26	250	6.3	82%	3/4 in.	
1/16"	149	23	100	2.8	80%	3/4 in.
	168	24	120	3.5	80%	3/4 in.
	187	24	140	4.2	80%	3/4 in.
	205	25	160	4.9	80%	3/4 in.
	223	25	180	5.6	80%	3/4 in.
	240	25	200	6.3	80%	3/4 in.
	257	26	220	7.0	81%	3/4 in.
	273	26	240	7.7	81%	3/4 in.
	289	26	260	8.4	81%	3/4 in.

Extended Exposure Results

Product	Diameter	Shielding Gas	Test Conditions	Exposure Time	Hydrogen
Dual Shield 710X	0.045"	100% CO2	80°F at 80% humidity	5 days (120 hrs)	15.0
Dual Shield 710X	0.052"	100% CO2	80°F at 80% humidity	7 days (120 hrs)	12.1
Dual Shield 710X	1/16"	100% CO2	80°F at 80% humidity	30 days (720 hrs)	10.9

AWS D1.8/D1.8M:2005, Annex D requirement: <16 ml/100g after 72 hour exposure at 80°F, 80% humidity

Recommended Storage and Reconditioning

ESAB cartons and plastic bags are proven acceptable protection for standard Dual Shield 710X welding wires when stored under proper conditions. The recommended conditions are temperatures below 75°F and atmospheric humidity levels below 60%. Recondition coils and metal spools at 300°F for 6-8 hours; re-bake plastic spools at 125°F for 48 hours minimum. Storage temperatures should not exceed the reconditioning temperatures. The plastic bags should always be removed when storing or reconditioning at elevated temperatures.

For more information on Recommended Storage and Reconditioning for this product and more, please refer to page 35.