DUAL SHIELD® 7100 LC

Dual Shield 7100 LC is an all-position flux cored wire for general purpose welding. This welding wire operates with outstanding operator appeal mainly due to its easily controlled arc, improved operation at lower current levels, minimal spatter and easily removed slag. Although dual-classified for use with mixed gas, 100% CO2 shielding gas is recommended for demand critical weld applications or where restraint is high.

Dual Shield 7100 LC 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% CO2	
Heat Input Range (kJ/in)	High 78-85	Low 25-32
Position	3G	1G
Heat Input (kJ/in)	80.2	31.6
Current (amps)	195	300
WFS (in/min)	150	260
Voltage (volts)	24.0	27.0
Travel Speed (in/min)	3.5	15.4
Pass / Layer	2F, 2S	9S
Tensile Strength (ksi)	73.7	90.7
Yield Strength (ksi)	62.1	81.8
Elongation (%)	32	26.5
Impact Temperature (ºF)	70	70
Impact Results (ft-lbs)	156, 497, 198, 208, 234	106, 130, 125, 131, 131
Minimum Required (ft-lbs)	40	40
Average Impact (ft-lbs)	199	125

Typical Mechanical Properties

Shielding Gas : 100% CO2	As Welded
Yield Strength, ksi (MPa)	79 (545)
Tensile Strength, ksi (MPa)	89 (615)
Elongation % in 2"	23

Typical Charpy V-Notch Impact Properties

Testing Temperature	Ft.-lbs (J)
-0ºF (-18ºC)	68 (92)
-20ºF (-29ºC)	41 (56)

Typical Undiluted Weld Metal Analysis

Shielding Gas : 100% CO2	%
Carbon (C)	0.03
Manganese (Mn)	1.4
Silicon (Si)	0.5
Phosphorus (P)	0.010
Sulfur (S)	0.010

Product Data Sheet COR-1033
Seismic Certification CERT-1003
Seismic Brochure COR-1029

Typical Welding Parameters

Diameter	Amperage (amps)	Voltage (volts)	WFS (ipm)	Dep. Rate (lbs/hr)	Efficiency Rate %	ESO
0.045”	145	24	200	3.6	81.2%	5/8 in.
	190	26	300	5.4	81.4%	5/8 in.
	235	28	400	7.3	82.5%	5/8 in.
	265	29	500	9.3	82.8%	5/8 in.
	305	30	600	11.3	83.7%	5/8 in.
0.052”	145	25	150	3.4	74.3%	3/4 in.
	180	26	200	4.5	74.6%	3/4 in.
	235	28	300	7.0	78.2%	3/4 in.
	285	29	400	9.8	81.3%	3/4 in.
	230	30	500	12.2	82.3%	3/4 in.
	370	30	600	14.7	82.7%	3/4 in.
1/16”	195	24	150	4.5	73.7%	3/4 in.
	285	26	250	8.1	79.4%	3/4 in.
	320	28	300	9.7	79.9%	3/4 in.
	345	30	350	11.5	80.7%	3/4 in.
	385	32	400	13.4	82.6%	3/4 in.
	445	33	500	16.7	82.8%	3/4 in.

Extended Exposure Results

Product	Diameter	Shielding Gas	Test Conditions	Exposure Time	Hydrogen
Dual Shield 7100 LC	0.045”	100% CO2	80ºF at 80% humidity	7 days (168 hrs)	11.9
Dual Shield 7100 LC	0.052”	100% CO2	80ºF at 80% humidity	5 days (120 hrs)	10.3
Dual Shield 7100 LC	1/16”	100% CO2	80ºF at 80% humidity	30 days (720 hrs)	12.9
AWS D1.8/D1.8M:2005, Annex D requirement: <16 ml/100g after 72 hour exposure at 80ºF, 80% humidity					

Recommended Storage and Reconditioning

ESAB cartons and plastic bags are proven acceptable protection for standard Dual Shield 7100 LC welding wires when stored under proper conditions. The recommended conditions are temperatures below 75ºF and atmospheric humidity levels below 60%. Recondition coils and metal spools at 300ºF for 6-8 hours; re-bake plastic spools at 125ºF 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.