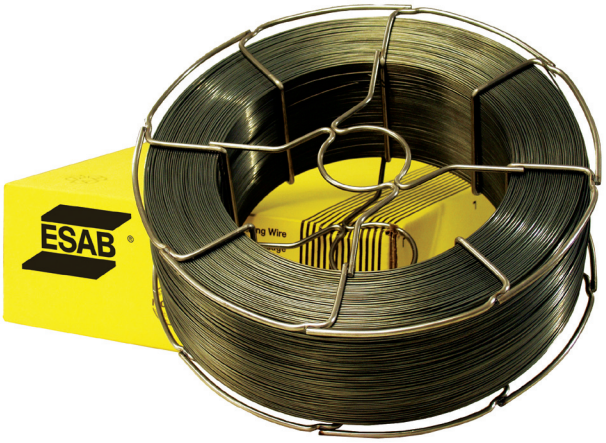

Coreshield 8 is an all-position self-shielded flux cored wire designed to weld critical demand structural applications while maintaining excellent arc characteristics and high welder appeal. With its fast-freezing slag that supports the molten metal during welding, Coreshield 8 is ideal for out-of-position welding in structural fabrication and other heavy duty applications. Applications include bridge and building fabrication, plate and tubular welding, hull and stiffener welding in ship construction.

Coreshield 8 is tested and certified to meet the new AWS A5.20 'D' designation requirements, making this self-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.)	5/64"	
Shielding Gas	Self-shielded	
Heat Input Range (kJ/in)	High 78-85	Low 25-32
Position	3G	1G
Heat Input (kJ/in)	84.8	31.1
Current (amps)	250	305
WFS (in/min)	145	190
Voltage (volts)	21.9	23.5
Travel Speed (in/min)	3.9	13.8
Pass / Layer	2F, 3S	1F,1S,1T,3Q
Tensile Strength (ksi)	82.8	87.7
Yield Strength (ksi)	68.1	73.5
Elongation (%)	22	27
Impact Temperature (ºF)	70	70
Impact Results (ft-lbs)	73,76,73,71,72	68,65,59,69,68
Minimum Required (ft-lbs)	40	40
Average Impact (ft-lbs)	73	66

AWS 5.20 D1.8 Testing Results

Size (in.)	5/64"	
Shielding Gas	Self-shielded	
Heat Input Range (kJ/in)	High 64-96	Low 24-36
Position	3G	1G
Heat Input (kJ/in)	70.5	34.7
Current (amps)	275	250
WFS (in/min)	145	190
Voltage (volts)	22	22
Travel Speed (in/min)	5.2	9.5
Pass / Layer	2F,3½ S	1F,3S,3T
Tensile Strength (ksi)	82.0	85.9
Yield Strength (ksi)	65.2	74.0
Elongation (%)	29	24
Impact Temperature (ºF)	70	70
Impact Results (ft-lbs)	72,72,70,69,68	71,75,71,67,68
Minimum Required (ft-lbs)	40	40
Average Impact (ft-lbs)	70	70
Impact Temperature (ºF)	0	0
Impact Results (ft-lbs)	48,43,38,38,44	46,39,37,38,44
Minimum Required (ft-lbs)	40	40
Average Impact (ft-lbs)	42	41

Product Data Sheet COR-1032
Seismic Certification CERT-1002
Seismic Brochure COR-1029

Typical Mechanical Properties

Shielding Gas : Self-shielded	As Welded
Yield Strength, ksi (MPa)	67 (465)
Tensile Strength, ksi (MPa)	82 (565)
Elongation % in 2”	24

Typical Charpy V-Notch Impact Properties

Testing Temperature	Ft.-lbs (J)
40ºF (4ºC)	65 (85)
-20ºF (-29ºC)	30 (41)

Typical Undiluted Weld Metal Analysis

Shielding Gas : Self-shielded	%
Carbon (C)	0.17
Manganese (Mn)	0.5
Silicon (Si)	0.1
Phosphorus (P)	0.010
Sulfur (S)	0.003
Aluminum (Al)	0.5

Typical Welding Parameters

Diameter	Amperage (amps)	Voltage (volts)	WFS (ipm)	Dep. Rate (lbs/hr)	Efficiency Rate %	ESO*
1/16”	150	21	120	3.1	75.8	3/4 in.
	175	22	150	4.1	75.9	3/4 in.
	200	23	190	5.2	75.9	3/4 in.
	240	24	230	5.8	74.7	3/4 in.
	275	25	300	7.6	74.9	3/4 in.
	300	26	340	9.7	77.4	3/4 in.
0.072”	150	21	75	2.6	74.5	3/4 in.
	180	22	95	3.5	78.5	3/4 in.
	225	23	125	4.5.	77.9	3/4 in.
	275	24	170	6.1	77.6	3/4 in.
	325	25	220	8.0	77.8	3/4 in.
	370	26	300	11.2	80.0	3/4 in.
5/64”	150	21	70	2.8	77.1	3/4 in.
	200	22	105	4.4	79.1	3/4 in.
	250	23	135	5.6	78.2	3/4 in.
	300	24	175	7.2	78.8	3/4 in.
	350	25	230	9.5	78.9	3/4 in.
	375	25	270	11.3	79.9	3/4 in.
	400	26	300	12.5	80.7	3/4 in.

* Electrical Stick Out (ESO) can vary, data above is based on ¾ in. ESO.

Extended Exposure Results

Product	Diameter	Shielding Gas	Test Conditions	Exposure Time	Hydrogen
Coreshield 8	0.072”	n/a	80ºF at 80% humidity	5 days (120 hrs)	8.7
Coreshield 8	1/16”	n/a	80ºF at 80% humidity	6 days (144 hrs)	6.8
Coreshield 8	5/64”	n/a	80ºF at 80% humidity	7 days (168 hrs)	9.9
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 Coreshield 8 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 24 hours. 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.

The Esab Group Inc. quality system is audited and certified by ABS, ASME, LR and the U.S. Department of Defense.