



**T H E H A R R I S P R O D U C T S G R O U P**  
**A L I N C O L N E L E C T R I C C O M P A N Y**  
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**TECHNICAL SPECIFICATION SHEET**

**ER80S-B2 CR-MO WELDING WIRE**

**STATEMENT OF LIABILITY- DISCLAIMER**

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**APPLICATION:**

Used to weld 1/2 Cr-1/2Mo, 1Cr-1/2Mo and 11/4Cr-1/2Mo steels for elevated temperatures and corrosive service; also used for welding dissimilar combinations of Cr-Mo and carbon steels. Use with a preheat and interpass temperature of 275°F minimum.

**NOMINAL CHEMICAL COMPOSITION:**

Phosphorus	.025% max	Carbon	.07-.12%
Copper	.35% max	Manganese	.40-.70%
Other Totals	.50 % max	Sulfur	.025% max
Nickel	.20% max	Chromium	1.20-1.50%
Iron	Balance	Molybdenum	.40-.65%
Silicon	.40-.70%		

**TYPICAL MECHANICAL PROPERTIES AS WELDED:**

( after quenching and tempering)

Tensile Strength (psi)	80-85,000
Elongation % in 2"	21%
Yield Strength (psi)	70-75,000

**PHYSICAL PROPERTIES:**

Density lbs/cu in	.283
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**\* RECOMMENDED WELDING PARAMETERS:**

**GMAW(MIG) Parameters** (DC Reverse Polarity) Electrode Positive Spray transfer

<u>Wire Diameter</u>	<u>AMPS</u>	<u>VOLTS</u>	<u>ARGON/ 2% O2</u>	<u>Wire Feed imp</u>
.030	135-230	24-28	25	390-670
.035	165-300	24-28	30	360-520
.045	200-375	24-30	30-35	210-390
1/16	275-500	24-32	40	150-360
3/32	300-600	24-33	50	75-125

**GTAW (Tig) Parameters** (DCSP) 2 %Thoriated Tungsten Electrode negative<sup>(1)</sup>

<u>Material</u>	<u>Tungsten dia. (1)</u>	<u>Filler Wire Size</u>	<u>Amps</u>	<u>Gas Cup</u>	<u>Argon (cfh)</u>
1/16"	1/16"	1/16"	100-140	3/8	20
3/32"	1/16"	1/16"	100-160	3/8	20
1/8"	3/32"	1/16"	125-200	7/16	20
3/16"	3/32"	3/32"	150-250	7/16	25
¼"	1/8"	1/8"	150-250	½	25
3/8"	1/8"	1/8"	150-275	½	25
½"	1/8"	1/8"	150-300	½	25

All parameters are suggested as basic guidelines and will vary depending on joint design number of passes , and other factors .

All statements, information and data given are believed to be accurate and reliable but are presented without guarantee, warranty or responsibility of any kind, expressed or implied.

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SPECIFICATION COMPLIANCE : AISI/AWS A5.28 & ASME SFA 5.28 ER 80S-B2

WARNING: PROTECT yourself and others. Read and understand this information.

FUMES AND GASES can be hazardous to your health.

ARC RAYS can injure eyes and burn skin.

ELECTRIC SHOCK can KILL.

- Before use, read and understand the manufacturer's instructions, Material Safety Data Sheets (MSDS), and your employer's safety practices.
- Keep your head out of fumes.
- Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area.
- Wear correct eye, ear, and body protection.
- Do not touch live electrical parts.
- See American National Standard Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida 33126; OSHA Safety and Health Standards, available from the U.S. Government Office, Washington, DC 20402.

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