



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

ER70S-3 CARBON STEEL WELDING WIRE

ISO 9001
Cert. No. 31598

STATEMENT OF LIABILITY- DISCLAIMER

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NOMINAL COMPOSITION:

Carbon	.06-.15	Chromium	.15% max.
Manganese	.90-1.40 %	Copper	.50% max.
Sulfur	0.035 % max.	Silicon	.45-.75 % max.
Nickel	0.15 % max.	Phosphorus	.025% max.
Vanadium	.03% max.	Moybdenum	.15% max.
Iron	Balance		

TYPICAL MECHANICAL PROPERTIES AS WELDED

Shielding Gas	CO ₂	75% Ar 25% CO ₂	98% Ar 2% O ₂
Tensile Strength (psi)	74-77,000	75-78,000	80-83,000
Yield Strength (psi)	60,400 psi	62-65,000	64-66,200
Elongation in 2"	28%	25.6%	22.2%
Reduction of area	35-70%	35-70%	35-70%
Charpy V-notch ft. lbs.	78-81	63-65	58-61

APPLICATION:

Used for general steel fabrication: automotive structures, small trailers, roof joist, railcar repair, exercise equipment, furniture and other types of mild steels.

* RECOMMENDED WELDING PARAMETERS:

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

Wire Diameter	AMPS	Volts	Argon 1-5% O ₂	Wire Feed imp
.023	85-170	23-27	25	360-620
.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	24-30	50	75-125

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GTAW (Tig) Parameters (DCSP) 2 %Thoriated Tungsten Electrode negative⁽¹⁾

Material	Tungsten dia. (1)	Filler Wire Size	Amps	Gas Cup	Argon (cfh)
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 .

SPECIFICATION COMPLIANCE: AISI/AWS A5.18 & ASME SFA 5.18 ER 70S-3

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 (MSDSs), 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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