



TECHNICAL SPECIFICATION SHEET

ER70S-2 CARBON STEEL WELDING WIRE

SPECIFICATION COMPLIANCE: AISI/AWS A5.18 & ASME SFA 5.18 ER70S-2

APPLICATION: ER70S-2 is a triple deoxidized (Aluminum, Titanium, Zirconium) welding wire designed for welding over rust and mill scale.

NOMINAL COMPOSITION:

Carbon	0.07% max.	Copper	0.50 % max.	Manganese	0.90-1.40 %
Silicon	0.40-0.70%	Sulfur	0.035 % max.	Phosphorus	0.025 % max.
Nickel	0.15 % max.	Chromium	0.15 % max.	Vanadium	0.03% max.
Molybdenum	0.15 % max.	Titanium	0.05-.15 %	Zirconium	0.02-.12 %
Aluminum	0.05-.15 %	Iron	Balance		

PHYSICAL PROPERTIES:

Density lbs/cu in .283

TYPICAL MECHANICAL PROPERTIES AS WELDED

Tensile Strength (psi)	78,000	Elongation in 2''	25%
Yield Strength (psi)	60,000		

*** RECOMMENDED WELDING PARAMETERS:**

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

<u>Wire Dia.</u>	<u>Amps</u>	<u>Volts</u>	<u>Argon/ 1-5% O2</u>	<u>Wire Feed ipm</u>
.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	24-33	50	75-125

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

<u>Material</u>	<u>Tungsten dia</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
1/4''	1/8''	1/8''	150-250	1/2	25
3/8''	1/8''	1/8''	150-275	1/2	25
1/2''	1/8''	1/8''	150-300	1/2	25

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

SAFETY INFORMATION:

WARNING: PROTECT yourself and others. Read and understand this information. FUMES AND GASES can be hazardous to your health. HEAT RAYS (INFRARED RADIATION) from flame or hot metal can injure eyes.

- Before use, read and understand the manufacturer's instructions, Material Safety Data Sheet (MSDS) and your employer's safety practices.
- Keep your head out of fumes.
- Use enough ventilation, exhaust at the flame, or both, to keep fumes and gases from your breathing zone and the general area.
- Wear correct eye, ear, and body protection.

• 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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