



## TECHNICAL INFORMATION SHEET

### HARRIS ER80S-D2 WELDING FILLER METAL

#### APPLICATION:

80S-D2 contains molybdenum and manganese for increased strength. Silicon as a de-oxidizer to control porosity when welding with CO<sub>2</sub>. The weld deposit yields excellent quality the bead appearance on carbon and low-alloy steel provides an excellent quality weld.

#### NOMINAL CHEMICAL COMPOSITION:

Phosphorus	.025% max	Carbon	.07-.12%
Copper	.50% max	Manganese	1.60-2.10%
Other Totals	.50 % max	Sulfur	.025% max
Nickel	.15% max	Silicon	.50-.80%
Iron	Balance	Molybdenum	.40-.60%

#### TYPICAL MECHANICAL PROPERTIES AS WELDED:

(Properties are greatly influenced by the preheat, inter-pass and post-heat used)

Tensile Strength (psi)	84,000
Elongation % in 2"	19%
Impact Requirements	20 ft.lbf at -20°F

#### \* RECOMMENDED WELDING PARAMETERS:

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

<u>Wire Diameter</u>	<u>AMPS</u>	<u>VOLTS</u>	<u>(3) CO<sub>2</sub>/ AR-CO<sub>2</sub> (cft)</u>	<u>Wire Feed imp</u>
.023	100-160	22-26	25	410-720
.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

<sup>(3)</sup> Setting based on CO<sub>2</sub> for mild steel, Ar-CO<sub>2</sub> for low alloy steel

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12/10 MK



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

<u>Material</u>	<u>Tungsten dia.</u> <u>(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
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.**

**SPECIFICATION COMPLIANCE: AISI/AWS A5.28 & ASME SFA 5.28 ER 80S-D2**

**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, Safety Data Sheets (SDS), and your employer's safety practices.
- Keep your head out of fumes.
- Use enough ventilation, exhaust at the flame, or heat source, 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, 8669 Doral Blvd., Doral, Florida 33166; OSHA Safety and Health Standards, available from the U.S. Government Office, Washington, DC 20402.

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