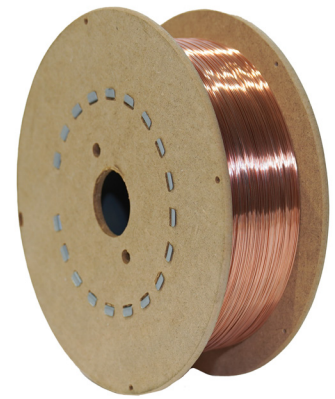


Copper-Glide™ NS-102 Copper-Coated Welding Wire

AWS ER80S-D2, ER90S-D2



Copper-Glide™ NS-102 Copper-Coated Welding Wire is a premium copper-coated low-alloy, high-strength solid filler metal containing 0.5% molybdenum to maintain hardness and strength following post weld heat treatment.

The manganese and silicon assist in producing a smooth, uniform weld bead and help minimize spatter.

Manufacturing Advantages

- ASTM A182, A217, A234, and A335 high-temperature pipe, fittings, flanges, and valves, and A336 pressure vessel forgings
- Excellent for applications needing strength after post-weld heat treatment
- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Increased high-strength and toughness for welding high-strength steels
- Improved hot cracking resistance to ensure integrity of weld joint
- Smooth and stable arc characteristics for precise control

Welding Positions

All position welding is possible when using the correct shielding gas blends, welding process, and welding parameters.

Shielding Gas Blends

- 100% CO₂: Ideal for ER80S-D2
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂: Suitable for ER90S-D2
- Flow rate of 35-50 CFH

Applications

- Agricultural Equipment
- Auto Body
- Automotive Exhaust
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Railcars
- Shipbuilding
- Structures
- Trailers

Specifications

Meets or Exceeds:

- AWS A5.28: ER80S-D2 (100% CO₂), ER90S-D2 (Mixed)
- ASME SFA-A5.28: ER80S-D2
- CWB W48: B-G 55A 3 C1 S4M31
- AWS A5.23/A5.23M: EA3K

Storage

Welding wire should be stored in a dry, enclosed environment and in its originally sealed package.

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Typical Mechanical Properties (as welded)

Certified As	TENSILE STRENGTH PSI	YIELD STRENGTH PSI	MINIMUM ELONGATION %	CVN IMPACT VALUES @ 20° F
NS Plus -102	95,700	80,800	24	34 ft-lbf
NS Plus 102 CopperFree™	95,700	80,800	24	34 ft-lbf
AWS MINIMUM (ER80S-D2)	80,000	68,000	17	20 ft-lbf
NS Plus -102	98,700	84,400	27	52 ft-lbf
NS Plus 102 CopperFree™	98,700	84,400	27	52 ft-lbf
AWS MINIMUM (ER90S-D2)	90,000	78,000	17	20 ft-lbf

ER80S-D2 (100% CO₂), ER90S-D2 (98% Ar/2% O₂) Wire performance data available upon request

Typical Wire Chemistry Percentages (as required per AWS)

Certified As	C	Mn	Si	P	S	Cu	Ni	Cr	Mo	V
NS Plus® -102 Typ.	0.09	1.76	0.66	0.01	0.01	0.14	0.07		0.46	
NS 102 CopperFree™ Typ.	0.1	1.81	0.63	0.016	0.016	0.06	0.06		0.47	
AWS A5.28/A5.28M	0.07/0.12	1.60/2.10	0.50/0.80	0.025 (max.)	0.025 (max.)	0.50 (max.)	0.15 (max.)		0.40/0.60	
AWS A5.23/A5.23M	0.05/0.15	1.60/2.10	0.50/0.80	0.025 (max.)	0.025 (max.)	0.35 (max.)	0.05/0.15		0.40/0.60	



3602 North Perkins Road
Stillwater, OK 74075
Customer Service: 1-800-777-1618
www.NSARC.com