

# Silver-Glide™ NS-102 CopperFree™ Welding Wire

**AWS ER80S-D2, ER90S-D2**



Silver-Glide™ NS-102 CopperFree™ Welding Wire is a 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
- Best results when using 95-98% Argon/Balance Oxygen shielding gas
- Suitable for elevated-temperature applications

## Welding Positions

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

## Shielding Gas Blends

- 100% CO<sub>2</sub>: Ideal for ER80S-D2
- 75-95% Argon/Balance CO<sub>2</sub>
- 95-98% Argon/Balance O<sub>2</sub>: Suitable for ER90S-D2
- Flow rate of 35-50 CFH

## Applications

- Agricultural Equipment
- Auto Body
- General Fabrication
- Pipe Welding

## Specifications

Meets or Exceeds:

- AWS A5.28: ER80S-D2 (100% CO<sub>2</sub>), 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
<b>AWS MINIMUM (ER80S-D2)</b>	<b>80,000</b>	<b>68,000</b>	<b>17</b>	<b>20 ft-lbf</b>
NS Plus -102	98,700	84,400	27	52 ft-lbf
NS Plus 102 CopperFree™	98,700	84,400	27	52 ft-lbf
<b>AWS MINIMUM (ER90S-D2)</b>	<b>90,000</b>	<b>78,000</b>	<b>17</b>	<b>20 ft-lbf</b>

ER80S-D2 (100% CO<sub>2</sub>), ER90S-D2 (98% Ar/2% O<sub>2</sub>) 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	
<b>AWS A5.28/A5.28M</b>	<b>0.07/0.12</b>	<b>1.60/2.10</b>	<b>0.50/0.80</b>	<b>0.025 (max.)</b>	<b>0.025 (max.)</b>	<b>0.50 (max.)</b>	<b>0.15 (max.)</b>		<b>0.40/0.60</b>	
<b>AWS A5.23/A5.23M</b>	<b>0.05/0.15</b>	<b>1.60/2.10</b>	<b>0.50/0.80</b>	<b>0.025 (max.)</b>	<b>0.025 (max.)</b>	<b>0.35 (max.)</b>	<b>0.05/0.15</b>		<b>0.40/0.60</b>	



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