

PRODUCT DESCRIPTION:

NS-115 is a copper free mild steel solid filler wire containing a high combined total of manganese and silicon. The wire produces a smooth, uniform welding arc, which minimizes weld spatter and results in excellent bead appearance and high operator appeal. The excellent operating characteristics of NS-115 appeal to users seeking better performance in their ER70S-6 applications.

NS PREMIUM WELDING WIRE CHARACTERISTICS:

- NS-115 CopperFree™ provides the ultimate in flexibility to support your GMAW operations.
- Cast of 35"(.88m) to 55" (1.3m) and Helix below 1" (25.4mm) improve feedability and provide accurate wire positioning
- Higher Silicon content reduces the molten metal surface tension, resulting in flatter bead profiles
- Manufactured according to ISO9001:2008 quality standards

| NS-115 | PRODUCT FEATURES |
|--------------------|------------------|
| ARC STARTS | Excellent |
| ARC STABILITY | Excellent |
| FEEDABILITY | Excellent |
| SPATTER | Minimal |
| COPPER FLAKING | None |
| DE-OXIDIZERS | High level |
| WELD APPEARANCE | Excellent |
| POST WELD CLEANING | Excellent |

NS-115 APPLICATIONS:

- Well suited for all metal transfer modes of GMAW
- Robotic, mechanized or semi-automatic welding
- Welding steel with mill scale, rust or oil
- Used for single and multi-pass weldments
- Applications requiring yield strengths greater than 50,000 psi

TYPICAL WIRE CHEMISTRY PERCENTAGES:

| | C | Mn | Si | P | S | Cu | Ni | Cr | Mo | V |
|-------------|-----------|-----------|-----------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|
| NS-115 TYP. | 0.09 | 1.52 | 0.91 | 0.012 | 0.011 | 0.07 | 0.06 | 0.06 | 0.01 | 0.01 |
| AWS A5.18 | 0.06/0.15 | 1.40/1.85 | 0.80/1.15 | 0.025 (max.) | 0.035 (max.) | 0.50 (max.) | 0.15 (max.) | 0.15 (max.) | 0.15 (max.) | 0.03 (max.) |

Mild steel GMA welding wire
for industrial and light duty
applications

CLASSIFICATIONS & APPROVALS:

- AWS A5.18: ER70S-6 H4
- ASME SFA-5.18: ER70S-6
- MIL-E-23765/1: MIL-70S-6
- CWB W48-01: ER49S-6

WELDING POSITIONS:

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

TYPICAL APPLICATION SHIELDING GAS BLENDS:

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow Rate: 35-50 CFH

WIRE DIAMETERS (in):

| | | | | | | |
|------|------|------|------|------|------|------|
| .025 | .030 | .035 | .040 | .045 | .052 | .062 |
|------|------|------|------|------|------|------|

TYPICAL MECHANICAL PROPERTIES:

| | TENSILE STRENGTH PSI | YIELD STRENGTH PSI | MINIMUM ELONGATION % | CVN IMPACT VALUES @ -20° F |
|-------------|-------------------------|-----------------------|----------------------|-------------------------------|
| NS-115 | 88,800 | 73,500 | 27 | 39 ft-lbf |
| AWS MINIMUM | 70,000 | 58,000 | 22 | 20 ft-lbf |

Typical conducted with CO₂ shielding gas
Wire performance data available upon request

**COPPERFREE™ WELDING
PARAMETERS AND PACKAGE OPTIONS**



APPROXIMATE WELDING PARAMETERS:

| GRADE | DIA. | POLARITY | TRANSFER MODE | WIRE FEED SPEED in/min (m/min) | | VOLTAGE | | AMPERAGE | |
|-------------|-------|----------|---------------|-----------------------------------|------------|---------|------|----------|------|
| | | | | Min. | Max. | Min. | Max. | Min. | Max. |
| CopperFree™ | 0.030 | DCEP | Short Circuit | 75 (1.9) | 300 (7.6) | 17 | 22 | 45 | 130 |
| CopperFree™ | 0.035 | DCEP | Short Circuit | 100 (2.5) | 400 (10.1) | 17 | 24 | 75 | 180 |
| CopperFree™ | 0.035 | DCEP | Spray | 375 (9.5) | 625 (15.9) | 23 | 29 | 180 | 280 |
| CopperFree™ | 0.045 | DCEP | Globular | 100 (2.5) | 425 (10.8) | 18 | 24 | 125 | 225 |
| CopperFree™ | 0.045 | DCEP | Short Circuit | 125 (3.2) | 450 (11.4) | 18 | 24 | 125 | 225 |
| CopperFree™ | 0.045 | DCEP | Spray | 350 (8.9) | 500 (12.7) | 26 | 30 | 250 | 350 |
| CopperFree™ | 0.052 | DCEP | Globular | 175 (4.4) | 300 (7.6) | 18 | 26 | 150 | 250 |
| CopperFree™ | 0.052 | DCEP | Short Circuit | 200 (5.1) | 325 (8.3) | 22 | 26 | 200 | 300 |
| CopperFree™ | 0.052 | DCEP | Spray | 300 (7.6) | 500 (12.7) | 27 | 31 | 300 | 425 |
| CopperFree™ | 0.062 | DCEP | Globular | 180 (4.6) | 320 (8.1) | 19 | 27 | 150 | 250 |
| CopperFree™ | 0.062 | DCEP | Short Circuit | 190 (4.8) | 325 (8.3) | 23 | 27 | 200 | 325 |
| CopperFree™ | 0.062 | DCEP | Spray | 200 (5.1) | 375 (9.5) | 27 | 31 | 325 | 425 |

| PACKAGES |
|---|
| 33-lb. Fiber Spool - Random Wound |
| 45-lb. Fiber Spool - Random Wound |
| 60-lb. Fiber Spool - Random Wound |
| 250-lb. Smart Pak - 100% Recyclable |
| 300-lb. Tru-Trac® |
| 500-lb. Drum Pack |
| 500-lb. Smart Pak - 100% Recyclable |
| 900-lb. Drum Pack |
| 900-lb. Smart Pak - 100% Recyclable |
| 425-lb. Trigger Trac® |
| 1,000-lb. Tru-Trac® |
| 1,000-lb. Wood Reel |
| <i>Note: See "Premium Packaging Options" for full description of packages. For additional packages, please contact NS Customer Service at 1-800-777-1618.</i> |
| Exclusive to NS customers. |

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