

EXAMPLE 1 EXAMPLE 1 EXAMP

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Metal-Cored Welding Wire

Tru-Core®

MC 70C

MC 80C-Ni1

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Satin Glide®

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Introducing NS ARC

NS ARC, a division of DW-National Standard-Stillwater, LLC, is the largest dedicated welding wire brand in the United States. We are proud to offer a comprehensive range of welding wire solutions that are specifically designed to address common problems that welders face. Our singular focus is on developing welding wires that enhance the welding experience and deliver consistent, reliable results.

Our welding wire solutions are manufactured to exceed even the strictest industry standards and regulations, including ISO and American Welding Society (AWS) standards. Our wires are tested by our team of experienced professionals to meet our high standards and exceed the industry (AWS) requirements.



A Proud American Business

At NS *ARC*, we take immense pride in our commitment to quality and American craftsmanship. Our products boast a robust selection of welding wires that are entirely made in the USA or manufactured in the USA using globally sourced materials of the highest standards. Our ethos revolves around the values of American pride, reliability, and unwavering commitment to excellence.

Uncompromising American Quality

When you choose NS *ARC*, you're not just selecting welding wires; you're investing in American workers and expertise. Our welding wires are meticulously crafted to meet the strictest standards, ensuring exceptional performance and durability. Each wire represents our dedication to delivering tailored welding solutions that American companies and businesses around the world can trust and depend on, day after day.

American-Based Facility in Stillwater, Oklahoma

Our facility is nestled in the heartland of America, in Stillwater, Oklahoma. With our operations based in the USA, we not only support local economies but also ensure that every welding wire we produce reflects the strength and spirit of the American worker.

From Heritage...

1907-1912

1940 - 1969

1913 - 1939

In 1907, William Harrah and Charles Anderson embarked on a transformative journey, taking a small wire cloth company in Niles, Michigan, and transforming it into the National Cable & Manufacturing Co., specializing in manufacturing scientific lightning protection cables. Four years later in 1911, the company commissioned a special machine to manufacture "bead wire" used in the burgeoning rubber tire industry, crucial for keeping rubber tires securely in place on automobile wheels.

The 1940s marked a significant milestone as National Standard developed a stainless-steel wire for magnetic sound recordings, becoming an industry leader in recording wires. The company continued its innovation in the 1960s, introducing gas-cleaned stainless-steel welding wire, known as Satin Glide®, copper-coated carbon-based solid welding wire, and a distributor respooling program.

By 1913, the company assumed its present name, National Standard, following its acquisition of Cook Standard Tool Co., merging the two companies' names. Throughout the 1930s, National Standard diversified its portfolio, venturing into ornamental wire craft products, including lamps, vases, tire covers, waste baskets, and fire screens. In the 1970s, National Standard launched CopperFree® welding wire, a 45-lb welding wire spool, and Tru-Trac® wood reel technology. The company expanded to two locations, breaking ground on a new plant in Stillwater, OK, in December 1973 and commencing production of wire tire cord at the same facility in September 1974. By 1976, the Stillwater, OK, facility grew to an impressive 400,000 square feet.

1970 - 1999



...to Innovation

2000-2016



2017-2022

In the 2000s, The Heico Companies purchased the assets of National Standard, Inc., and formed DW-National Standard-Stillwater, LLC to focus operations on welding, bead, and industrial wire manufacturing. This acquisition gave NS ARC access to global resources and support contributing to what the company has become today. In 2014, DW-National Standard-Stillwater, LLC, acquired RevWires based in Troy, Ohio, adding flux-cored and metal-cored welding wires to its Stillwater, Oklahoma, plant's portfolio. Aluminum welding wires were added to the product portfolio shortly thereafter in 2015.

By September 2023, the NS welding wire division was rebranded as NS ARC, marking a new chapter in the company's storied history and reaffirming its position as a leading presence in the welding wire industry. With an illustrious past and a focus on continuous growth and innovation, NS ARC is dedicated to providing top-notch welding wire solutions for its valued customers across several industries around the world.

In April 2017, NS was certified by WBENC as a woman-owned, operated, and controlled business, further solidifying its commitment to diversity and excellence. Looking to the future, the Stillwater location began construction on a multi-million-dollar welding lab to drive quality and innovation and better serve customer requirements.

Our Product Tiers

NS National-ARC[™]

NS National-ARC[™], our premium tier of welding wires, offers tighter internal specifications regarding surface quality, which results in more consistency and higher performance. Our NS-101, NS-102 and NS-115 carbon steel wires have a reputation as being among the most reliable and consistent in the industry and are offered in both Copper-Glide[™] copper-coated and Silver-Glide[™] CopperFree[™] finishes. This tier also boasts top quality Alumi Glide[®] aluminum and Satin Glide[®] stainless steel welding wires as well as Tru-Core[®] flux-cored and metal-cored welding wires.

Select products in this tier meet ABS specifications, military specifications, and Made in the USA "Buy America" standards.

NS Standard-ARC[™]

Standard-ARC[®] welding wires provide a more limited but cost-effective selection while still offering high-quality products. Standard-ARC[®] S-3 and Standard-ARC[®] S-6 copper-coated welding wires are available in .035" and .045" diameters.

Viking[™]

A premium copper-coated import, Viking[™] is a MIG welding wire well-suited for reliable and cost-effective welding solutions. This welding wire is available in .035" and .045" diameters.



Our Product Tiers



Aluminum Velding Vire

Alumi Glide® 4043 *Aluminum Welding Wire*

Alumi Glide[®] 4043 Aluminum Welding Wire is a 5% silicon aluminum filler metal that is one of the most widely used aluminum welding alloys for fabrication and general repair. Smooth-running, it is often preferred because of its wetting characteristics and its reduced crack sensitivity over other aluminum welding wires.

It is available in spools and cut lengths for both MIG and TIG welding and is recommended for base metals 3003, 3004, 5052, 6061, 6063, and casting alloys 43, 355, 356, and 214.



Manufacturing Advantages

- Excellent wire surface finish ensuring trouble-free welding
- Superior cleanliness ensuring sound weldments
- Smooth-running
- Reduced crack sensitivity
- Gas metal arc welding and gas tungsten arc welding
- Superior wetting action and fluidity
- Improved flowing characteristics for easier handling
- Welding of heat-treatable alloys, such as 6XXX base metals and cast alloys

Applications

• Common welding applications include bicycles, trucks, trailers, automotive parts and equipment.

Shielding Gas Blends

- 100% Argon
- Argon/Helium mixtures

Specifications

Meets or Exceeds:

- AWS A5.10 classification ER4043, R4043
- Canadian Bureau of Welding CWB A5.10
- ISO 9001:2015
- Produced in Canada

Welding Positions

All-position MIG welding wire. Requires appropriate shielding gas usage, settings, and arc transfer modes.

Storage

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



arc transfer modes.

Alumi Glide[®] 4047 **Aluminum Welding Wire**

The Alumi Glide[®] 4047 Aluminum Welding Wire is a premium aluminum welding wire with 12% silicon. It is formulated to minimize the possibility of hot cracking during the welding process and features optimized metal flow for precise and controlled weld bead formation.

Its composition and properties make it highly resistant to cracking, which results in stronger and more reliable welds.

Manufacturing **Advantages**

- Low melting point and high fluidity
- Minimized hot cracking
- Lower shrinkage rate
- Excellent wetting action for joint sealing
- Exceptional mechanical properties and structural integrity
- Higher silicon content excellent fluidity to the weld pool
- Gas metal arc welding and gas tungsten arc welding
- Excellent for welding with 1XXX, 3XXX, 5XXX, 6XXX and 7XXX series alloys
- Improved corrosion resistance for welding in harsh environments
- Typical tensile strength of 27 KSI

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.10 classification ER4047, R4047
- Canadian Bureau of Welding CWB A5.10
- ISO 9001:2015
- Produced in Canada

Welding Positions

All-position MIG welding wire. Requires appropriate shielding gas usage, settings, and arc transfer modes.

Storage

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

- 100% Argon
- Argon/Helium mixtures



Alumi Glide[®] 4043A/4943 Aluminum Welding Wire

The Alumi Glide[®] 4943A Aluminum Welding Wire is a premium aluminum filler metal. This alloy is an alternative to 4043 boosting up to 25% higher Ultimate Tensile and 50% higher yield strength in the as welded condition.

It's known for its exceptional wetting characteristics and reduced crack sensitivity. Available in spools and cut lengths for both MIG and TIG operations, the Alumi Glide® 4943A aluminum welding wire is recommended for a range of base metals and casting alloys.



Welding Positions

All-position MIG welding wire. Requires appropriate shielding gas usage, settings, and arc transfer modes.

Storage

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

Shielding Gas Blends

- 100% Argon
- Argon/Helium mixtures

Manufacturing Advantages

- Trouble-free welding with excellent wire surface finish
- Reduced weld cracking sensitivity
- Reduced post-weld cleaning
- Easy handling and smooth-running
- Gas metal arc welding and gas tungsten arc welding
- Excellent wetting characteristics
- Improved fluidity and flowing action
- Welding of heat-treatable base alloys
- Repair and fabrication of bicycles, trucks, trailers, automotive parts, and equipment
- Welding in high-stress or high-wear applications

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.10 classification ER4043A/4943, R 4043A/4943
- Canadian Bureau of Welding CWB A5.10
- ISO 9001:2015
- Produced in Canada



Alumi Glide[®] 5183 **Aluminum Welding Wire**

The Alumi Glide[®] 5183 Aluminum Welding Wire is a premium aluminum-magnesium alloy wire with a nominal composition of 5% magnesium.

Its unique composition and properties make it ideal for welding 5XXX series base alloys. It offers slightly higher strength than 5356 and consistently achieves 40 Ksi ultimate tensile when welding 5083 base material.

Manufacturing **Advantages**

- Excellent corrosion resistance
- Smooth-running
- Higher strength welding
- Increased mechanical properties
- Excellent wire surface finish for trouble-free welding
- Gas metal arc welding and gas tungsten arc welding
- Excellent for joint types, including fillet welds, butt welds, and lap welds
- Well-suited for high-speed welding applications

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.10 classification ER5183, R5183
- Canadian Bureau of Welding CWB A5.10
- ISO 9001:2015
- ABS
- Produced in Canada

Welding Positions

All-position MIG welding wire. Requires appropriate shielding gas usage, settings, and arc transfer modes.

Storage

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

- 100% Argon
- Argon/Helium mixtures





Alumi Glide® 5356 Aluminum Welding Wire

The Alumi Glide[®] 5356 Aluminum Welding Wire is a 5% magnesium aluminum filler metal, available in spools and cut length for both MIG and TIG applications. It has increased levels of Mg, Ti, and Mn along with the addition of chrome and a slight reduction in silicon.

These changes work together to increase its corrosion resistance, making it the best aluminum for use in or near saltwater. It is commonly used on 5050, 5052, 5083, 5356, 5454, and 5456 and is the most widely used aluminum filler metal.



Manufacturing Advantages

- Superior wire surface finish ensuring trouble free welding
- Exceptional cleanliness ensuring sound weldments
- Unique diameter control for consistent feeding, robotic, or manual
- Gas metal arc welding and gas tungsten arc welding
- Lower hot cracking susceptibility
- Excellent feeding characteristics and arc stability
- Excellent and complete joint penetration and robust bonding

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.10 classification ER5356, R5356
- Canadian Bureau of Welding CWB A5.10
- ISO 9001:2015
- ABS
- Produced in Canada

Welding Positions

All-position MIG welding wire. Requires appropriate shielding gas usage, settings, and arc transfer modes.

Storage

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

- 100% Argon
- Argon/Helium mixtures



Alumi Glide[®] 5556 Aluminum Welding Wire

The Alumi Glide[®] 5556 Aluminum Welding Wire is an aluminum filler metal that contains 5% magnesium, which helps to enhance the strength and corrosion resistance of the weld joint. Produces slightly higher strength than 5356.

It is commonly used for joining various aluminum alloys, including 5XXX series alloys like 5083 and 5086, as well as 6XXX series alloys such as 6061 and 6063. It offers excellent weldability and fluidity, resulting in smooth and reliable weld bead formation, and can be used for MIG and TIG welding operations.

Manufacturing Advantages

- Higher tensile strengths
- Excellent corrosion resistance
- Improved crack resistance
- Good ductility
- Compatibility with anodizing processes
- Exceptional mechanical properties
- Gas metal arc welding and gas tungsten arc welding
- Excellent and complete joint penetration and robust bonding
- Lower impurity content for clean and defect-free welds
- Suitable for welding various aluminum alloys, especially the 5XXX series alloys

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.10 classification ER5556, R5556
- Canadian Bureau of Welding CWB A5.10
- ISO 9001:2015
- Produced in Canada

Welding Positions

All-position MIG welding wire. Requires appropriate shielding gas usage, settings, and arc transfer modes.

Storage

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

- 100% Argon
- Argon/Helium Mixtures





Copper-Coated Welding Wire

Copper-Glide[™]NS-101 Copper-Coated Welding Wire

AWS ER7OS-3, EM13K

Copper-Glide[™] NS-101 Copper-Coated Welding Wire is a premium copper-coated mild steel solid filler metal designed to extract maximum weld quality and user appeal from ER70S-3 wire.

Careful attention to the manganese and silicon contents assures maximum deoxidation, flat bead profiles, and low-spatter welds.

Manufacturing Advantages

- Low carbon-killed and semi-killed steel
- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Welding steel with light mill scale, light rust, or thin oil
- Used for single and multi-pass weldments
- Applications requiring a minimum 70,000 psi tensile strength
- Reduced spatter for cleaner welds and minimal post-weld cleaning
- Smooth and stable arc characteristics for consistent welding



Applications

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

Specifications

Meets or Exceeds:

- AWS A5.18/A5.18M: ER70S-3
- AWS A5.17: EM13K
- ASME SFA-A5.18: ER70S-3
- CWB W48: B-G 49A 2 C1 S3
- ABS



Welding Positions

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

Storage

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

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow rate of 35-50 CFH



Copper-Glide[™]NS-101US Copper-Coated Welding Wire

AWS ER70S-3, EM13K

Copper-Glide[™] NS-101US Copper-Coated Welding Wire is a Made-in-America premium mild steel solid filler metal designed to provide our welders with maximum weld quality and user appeal from ER70S-3 and EM13K wire.

With precise control over manganese and silicon contents, this welding wire ensures flat bead profiles, optimal deoxidation, and low-spatter welds for a cleaner job.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing Advantages

- Low carbon killed and semi killed steel
- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Welding steel with light mill scale, light rust, or thin oil
- Used for single and multi-pass weldments
- Applications requiring a minimum 70,000 psi tensile strength
- Smooth and stable arc characteristics for consistent welding
- Premium copper plating for excellent wear resistance during feeding
- Reduced porosity in welds for better fusion and reduced risk of defects



Applications

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

Specifications

Meets or Exceeds:

- AWS A5.18/A5.18M: ER70S-3
- AWS A5.17: EM13K
- ASME SFA-A5.18: ER70S-3
- MIL-E-23765/1: MIL-70S-3
- CWB W48: B-G 49A 2 C1 S3
- ABS
- Made in the USA



Welding Positions

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

Storage

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

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow rate of 35-50 CFH

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 hightemperature 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

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



Welding Positions

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

Storage

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

- 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



Copper-Glide[™]NS-115 Copper-Coated Welding Wire

AWS ER70S-6

Copper-Glide[™] NS-115 Copper-Coated Welding Wire is a premium copper-coated mild steel solid filler metal 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 appeal to users seeking better performance in their ER70S-6 applications.

Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Welding steel with medium to heavy mill scale, light rust, or thin oil
- Single and multi-pass weldments
- Applications requiring a minimum 70,000 psi tensile strength
- Suitable for a broad range of fabrication and construction projects
- Good feedability and uniformity for consistent feed rate and uniform weld bead appearance
- Improved fusion and reduced risk of defects with minimal porosity

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.18/A5.18M: ER70S-6 H4
- ASME SFA-A5.18: ER70S-6
- AWS A5.17: EH11K
- ABS
- CWB W48: B-G 49A 3 C1 S6



Welding Positions

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

Storage

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

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow rate of 35-50 CFH

Copper-Glide™NS-115US Copper-Coated Welding Wire

AWS ER70S-6

Copper-Glide[™] NS-115US Copper-Coated Welding Wire is a premium copper-coated mild steel solid filler metal. It delivers superior results for every weld and ensures smooth and uniform welding arc, minimizing spatter and achieving excellent bead appearance for ER70S-6 applications.

The welding wire exhibits excellent feedability, precise wire positioning, and higher silicon content for flatter bead profiles.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Welding steel with medium to heavy mill scale, light rust, or thin oil
- Single and multi-pass weldments
- Applications requiring a minimum 70,000 psi tensile strength
- Good feedability and uniformity for consistent feed rate and uniform weld bead appearance
- Lower hydrogen content for reduced risk of hydrogen-induced cracking in the welds



Applications

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

Specifications

Meets or Exceeds:

- AWS A5.18/A5.18M: ER70S-6 H4
- ASME SFA-5.18: ER70S-6
- AWS A5.17: EH11K
- ABS
- Made in the USA
- Mil-E-273765/1: MIL-70S-6
- CWB W48: B-G 49A 3 C1 S6



Welding Positions

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

Storage

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

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow rate of 35-50 CFH

Copper-Glide[™] S-3 Copper-Coated Welding Wire

AWS ER70S-3, EM13K

Copper-GlideTM S-3 Copper-Coated Welding Wire, well-known as Standard-*ARC* S-3, is a copper-coated mild steel solid filler metal designed to extract maximum weld quality and user appeal from ER70S-3.

The welding wire contains manganese and silicon contents that assure maximum deoxidation, which results in more desirable flat bead profiles and low-spatter welds. It provides ideal arc starts, arc stability, and feedability for efficient welding processes.

Manufacturing Advantages

- Low carbon-killed and semi-killed steel
- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Welding steel with light mill scale, light rust, or thin oil
- Single and multi-pass weldments
- Applications requiring a minimum 70,000 psi tensile strength
- Offers balanced combination of strength and ductility in welds
- Improved mechanical properties for various applications

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.18/A5.18M: ER70S-3
- ASME SFA-A5.18: ER70S-3
- CWB W48: B-G 49A 2 C1 S3





Welding Positions

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

Storage

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

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow rate of 35-50 CFH

Copper-Glide[™] S-6 Copper-Coated Welding Wire

AWS ER70S-6

The Copper-GlideTM S-6 Copper-CoatedWelding Wire, well-known as Standard-*ARC* S-6, is a copper-coated mild steel filler metal that combines the power of manganese and silicon for ER70S-6 applications.

This welding wire is engineered to deliver a smooth and uniform welding arc, minimizing weld spatter and ensuring excellent bead appearance. The high silicon content reduces the molten metal surface tension, producing flatter bead profiles.

Manufacturing Advantages

- Short circuit, globular, spray transfer, and pulse welding
- Automatic or semi-automatic welding
- Welding steel with mill scale, rust, or oil
- Single to multi-pass weld applications
- Applications requiring up to 70,000 psi tensile strength
- Welding rimmed steels
- Low welding heat applications
- Higher travel speed welding

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.18: ER70S-6
- ASME SFA-A5.18:ER70S-6
- CWB W48: B-G 49A 3 C1 S6



Welding Positions

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

Storage

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

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow rate of 35-50 CFH

CopperFree™ Welding Wire

Silver-Glide[™]NS-101 CopperFree[™] Welding Wire

AWS ER70S-3, EM13K

Silver-Glide[™] NS-101 CopperFree[™] Welding Wire is a premium copper-free mild steel solid filler metal designed to produce maximum quality welds from ER70S-3 and EM13K wire.

It provides excellent arc starts, stability, and feedability while producing minimal spatter with no copper flaking and moderate de-oxidizers. Manganese and silicon content are carefully balanced to ensure maximum deoxidation, flat bead profiles, and low-spatter welds.

Manufacturing Advantages

- Low carbon killed and semi killed steel
- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Welding steel with light mill scale, light rust, or thin oil
- Used for single and multi-pass weldments
- Applications requiring a minimum 70,000 psi tensile strength
- Suitable for elevated-temperature applications

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.18/A5.18M: ER70S-3
- AWS A5.17: EM13K
- ASME SFA-A5.18: ER70S-3
- CWB W48: B-G 49A 2 C S3
- ABS



Welding Positions

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

Storage

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

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow rate of 35-50 CFH

Silver-Glide[™] NS-101US CopperFree[™] Welding Wire

AWS ER70S-3, EM13K

Silver-Glide[™] NS-101US CopperFree[™] Welding Wire is a premium solid filler metal that is manufactured to provide the highest quality welds with ER79S-3 and EM13K wire.

Its balance of manganese and silicon content ensures maximum deoxidation, flat bead profiles, and low-spatter welds for GMAW and MIG welding operations.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing Advantages

- Low carbon-killed and semi-killed steel
- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Welding steel with light mill scale, light rust, or thin oil
- Used for single and multi-pass weldments
- Applications requiring a minimum 70,000 psi tensile strength
- Establishes a smooth and stable arc for easier control during welding
- Enhanced crack resistance in high-stress or high-fatigue applications

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.18/A5.18M: ER70S-3
- AWS A5.17: EM13K
- ASME SFA-A5.18: ER70S-3
- MIL-E-23765/1: MIL-70S-3
- CWB W48: B-G 49A 2 C1 S3
- ABS
- Made in the USA

THE LARCEST DEDICATED WELDING WELDING

Welding Positions

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

Storage

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

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow rate of 35-50 CFH



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 hightemperature 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

Applications

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

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

Welding Positions

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

Storage

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

- 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

Silver-Glide[™] NS-115 CopperFree[™] Welding Wire

AWS ER70S-6

Silver-Glide[™] NS-115 CopperFree[™] Welding Wire is a 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.

Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Welding steel with medium to heavy mill scale, light rust, or thin oil
- Single and multi-pass weldments
- Applications requiring a minimum 70,000 psi tensile strength
- Compatible with variety of low-alloy steels and other similar base metals
- Superior crack resistance to enhance durability and reliability of welds
- Minimized contamination for cleaner welds

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.18/A5.18M: ER70S-6 H4, ER48S-6
- ASME SFA-5.18: ER70S-6
- AWS A5.17: EH11K
- CWB W48: B-G 49A 3 C1 S6
- ABS

THE LARGEST DEDICATED WELDING WIEB BRAND IN THE USA

CopperFree

Welding Positions

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

Storage

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

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow rate of 35-50 CFH



Silver-Glide[™] NS-115US CopperFree[™] Welding Wire

AWS ER70S-6

Silver-Glide[™] NS-115US CopperFree[™] Welding Wire is a mild steel solid filler wire that features a unique composition, high levels of manganese and silicon, and copper-free formulation.

It delivers exceptional performance and flexibility for GMAW operations with ER70S-6 wire. The welding wire contains higher silicon content that reduces molten metal surface tension, resulting in flatter bead profiles.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Welding steel with medium to heavy mill scale, light rust, or thin oil
- Single and multi-pass weldments
- Applications requiring a minimum 70,000 psi tensile strength
- Compatible with variety of low-alloy steels and other similar base metals
- Minimized contamination for cleaner welds

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.18/A5.18M: ER70S-6 H4, ER48S-6
- ASME SFA-5.18: ER70S-6
- AWS A5.17: EH11K
- MIL-E-273765/1: MIL-70S-6
- CWB W48: B-G 49A 3 C1 S6
- ABS
- Made in the USA



Welding Positions

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

Storage

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

- 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



Viking[™] Welding Wire

Viking[™] Copper-Coated Welding Wire

AWS ER70S-6

Viking[™] is a premium copper-coated import MIG welding wire that is well-suited for general GMAW welding applications. (Sold only in pallet quantities.)

It is excellent for welding steel with mill scale, rust or oil and is designed for single and multi-pass welding applications.

Manufacturing Advantages

Well-suited for these applications:

- General GMAW applications
- Welding steel with mill scale, rust, or oil
- Single to multi-pass welding applications
- MIG (Metal Inert Gas)
- MAG (Metal Active Gas)
- For DC+ CC/CV
- Low carbon-killed and semi-killed steel
- Robotic, mechanized, or semi-automatic welding
- Applications requiring a minimum 70,000 psi tensile strength
- Improved mechanical properties for various applications

Applications

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

Specifications

Meets or Exceeds:

- ER70S-6 (AWS A5.18, ASME SFA-A5.18)
- CWB W48: B-G 49A 3 C1 S6



Welding Positions

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

Storage

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

- 100% CO₂
- 75-95% Argon/Balance CO₂
- 95-98% Argon/Balance O₂
- Flow rate of 35-50 CFH



Flux-Cored Welding Wire

www.NSARC.com 33

Tru-Core[®] FC 70T Flux-Cored Welding Wire

AWS E70T-1C H8, E70T-9C H8

Tru-Core[®] FC 70T is a flux-cored, gas-shielded electrode designed for single and multiple pass welding of carbon steels in the flat position and for horizontal fillets. It is suitable for welding most carbon steels requiring a minimum tensile strength of 70,000 psi.

This electrode is designed to operate with 100% carbon dioxide shielding gas. The rutile-based slag system promotes a smooth arc transfer and extremely easy slag removal.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing

Advantages

• Welding structural steel when the work is positioned where increased productivity and high deposition rates are a priority

• Patented forming, feeding, and drawing equipment

Consistent strip-to-core ratio

• Precise thermal treatment that controls the type, amount, and uniformity of surface oxides on the wire

- Consistent diffusible hydrogen levels
- Consistent distribution of core ingredients
- Suitable for producing aesthetically pleasing and uniform weld beads



Applications

- Agricultural Equipment
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Structural Steel
- Trailers

Specifications

Meets or Exceeds:

- AWS A5.20, ASME SFA-A5.20 E70T-(1M, 1C, 9M, 9C) H8
- AWS A5.36 E70T1-(C1A0, M21A0, C1A2, M21A)-CS1 H8
- CWB W48: E490T1-C1A3-CS1-H8 (E492T-9-H8)
- Made in the USA



Welding Positions

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

Storage

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

- 100% CO₂
- 75-80% Årgon + balance CO_2
- Flow rate: 35-45 CFH

Tru-Core[®] FC 71T Flux-Cored Welding Wire

AWS E71T-1C H8

The Tru-Core[®] FC 71T is a flux-cored, gas-shielded, all-position electrode intended to weld carbon steel, as well as certain low alloy steels, where a minimum tensile strength of 70,000 psi is required. It is intended for single and multiple pass welding using 100% CO₂ or 75-80% Argon/balance CO₂ mixtures.

Major advantages of this electrode include deep penetration, smooth stable arc transfer, low spatter levels, and a slag system specially formulated for a high melting point. This provides a very quick-freezing slag.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing Advantages

• Welding most carbon steel and certain low alloy steels

- Ideal for welding gauges varying from 10-gauge sheet metal to heavy plate sections
- Patented forming, feeding, and drawing equipment
- Consistent strip-to-core ratio

• Precise thermal treatment that controls the type, amount, and uniformity of surface oxides on the wire

• Consistent diffusible hydrogen levels



Applications

- Agricultural Equipment
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Structural Steel
- Trailers

Specifications

Meets or Exceeds:

- AWS A5.20: E71T-1C H8, E71T-1M H8, E71T-9C H8, E71T-9M H8
- ASME SFA-A5.20: E71T-1C H8, E71T-1M H8, E71T-9C H8, E71T-9M H8
- CWB W48: E491Ta-M21A3-CS1-H8 (E491T-9M-H8)
- Made in the USA



Welding Positions

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

Storage

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

- 100% CO₂
- 75% Argon/25% CO₂
- Flow rate: 35-45 CFH

Tru-Core[®] FC 71T-12C Flux-Cored Welding Wire

AWS E71T-1C H8, E71T-9C H8, E71T-12C H8

Tru-Core[®] FC 71T-12C is a flux-cored, gas-shielded, all-position electrode designed specifically for use with 100% CO₂ shielding gas. It is intended for single and multiple pass applications, for both in-position and out-of-position welding. The metal transfer in the arc is small-droplet in nature, resulting in a smoother arc and lower spatter levels when compared with other E71T-9C, -12C electrodes.

The slag characteristics allow for both fast freezing and good coverage of the weld, which produces a flatter, more uniform bead geometry in all position welds. Microalloying of the weld metal provides enhanced CVN impact values.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing

- Welding most carbon steels and certain low alloy steels
- Ideal for welding thicknesses varying from 10-gauge sheet metal to heavy plate sections
- Patented forming, feeding, and drawing equipment
- Consistent strip-to-core ratio
- Precise thermal treatment that controls the type, amount, and uniformity of surface oxides on the wire
- Consistent diffusible hydrogen levels

Advantages

Applications

- Agricultural Equipment
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Structural Steel
- Trailers

Specifications

Meets or Exceeds:

- AWS A5.20: E71T-1C H8, E71T-1C H8, E71T-9C H8, E71T-12C H8
- ASME SFA-A5.20: E71T-1C H8, E71T-9C H8, F71T-12C H8
- Made in the USA



Welding Positions

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

Storage

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

- 100% CO
- Flow rate: 35-45 CFH


Tru-Core[®] FC 71T-12M Flux-Cored Welding Wire

AWS E71T-1M H8, E71T-9M H8, E71T-12M H8

Tru-Core[®] FC 71T-12M is a flux-cored, gas-shielded, all-position electrode, designed specifically for use with gas mixtures from 75% to 80% Argon/balance CO₂. It is intended for single and multiple pass applications for both in-position and out-of-position welding.

Up to 80% Argon can be used with no degradation in welding performance or mechanical properties. The arc transfer is small-droplet in nature with no appreciable spatter. The slag is fluid enough to provide good flow and wetting but freezes quickly, promoting flat, uniform bead shapes in all positions. Microalloving of the weld metal enhances CVN impact values at lower temperatures.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing **Advantages**

- Welding most carbon steels and certain low alloy steels
- Ideal for welding thicknesses varying from 10-gauge sheet metal to heavy plate sections
- Patented forming, feeding, and drawing equipment
- Consistent strip-to-core ratio
- Precise thermal treatment that controls the type, amount, and uniformity of surface oxides on the wire
- Consistent diffusible hydrogen levels

TRU-CORE

Applications

- Agricultural Equipment
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Structural Steel
- Trailers

Specifications

Meets or Exceeds:

- AWS A5.20: E71T-1M H8, E71T-9M H8, E71T-12M H8
- ASME SFA-A5.20: E71T-1M H8, E71T-9M H8, E71T-12M H8
- Made in the USA



Flux-Cored

Welding Positions

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

Storage

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

- 75-80% Argon/Balance CO₂
- Flow rate: 35-45 CFH

Tru-Core[®] FC 71T-AG Flux-Cored Welding Wire

AWS E71T-1M H8, E71T-9M H8

Tru-Core[®] FC 71T-AG is a gas-shielded, all-position electrode for use with E71T-1M H8, E71T-9M H8 wire. The arc transfer of Tru-Core® FC 71T-AG welding wire is characterized by small-droplet nature, ensuring a smooth and spatter-free welding process.

The fluid slag composition allows for excellent flow and wetting, while its fast-freezing properties promote the formation of flat and uniform bead shapes in all positions. The microalloying of the weld metal enhances CVN impact values, particularly at lower temperatures. Up to 80% Argon can be used with no degradation in welding performance or mechanical properties.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing **Advantages**

- Welding most carbon steels and certain low alloy steels
- Ideal for welding thicknesses varying from 10-gauge sheet metal to heavy plate sections
- Patented forming, feeding, and drawing equipment
- Consistent strip-to-core ratio
- Precise thermal treatment that controls the type, amount, and uniformity of surface oxides on the wire
- Consistent diffusible hydrogen levels

TRU-CORE®

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Applications

- Agricultural Equipment
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Structural Steel
- Trailers

Specifications

Meets or Exceeds:

- AWS A5.20: E71T-1M H8, E71T-9M H8
- ASME SFA-A5.20: E71T-1M H8, E71T-9M H8
- CWB W48: E491T1-M21A3-CS1-H8 (E491T-9M-H8)
- Made in the USA



Welding Positions

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

Storage

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

- 75-80% Argon/Balance CO₂
- Flow rate: 35-45 CFH

Tru-Core[®] FC 71T-CG Flux-Cored Welding Wire

AWS E71T-1C H8, E71T-9C H8

Tru-Core[®] FC 71T-CG is a flux-cored, gas-shielded, all-position electrode, designed specifically for use with 100% CO_2 shielding gas. The small-droplet metal transfer in the arc creates a smoother arc and reduces spatter levels compared to other E71T-1C and -9C electrodes.

The slag characteristics of Tru-Core[®] FC 71T-CG enable better flow and wetting of the weld, resulting in a flatter and more uniform bead geometry across all positions. With microalloying of the weld metal, it enhances CVN impact values for superior strength and durability.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing Advantages

- Welding most carbon steels and certain low alloy steels
- Ideal for welding thicknesses varying from 10-gauge sheet metal to heavy plate sections
- Patented forming, feeding, and drawing equipment
- Consistent strip-to-core ratio
- Precise thermal treatment that controls the type, amount, and uniformity of surface oxides on the wire
- Consistent diffusible hydrogen levels

Applications

- Agricultural Equipment
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Structural Steel
- Trailers

Specifications

Meets or Exceeds:

- AWS A5.20: E71T-1C H8, E71T-9C H8
- ASME SFA-A5.20: E71T-1C H8, E71T-9C H8
- Made in the USA



Welding Positions

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

Storage

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

- 100% CO₂
- Flow rate: 35-45 CFH



Tru-Core[®] FC 81T-Ni1 Flux-Cored Welding Wire

AWS E81T1-Ni1C

Tru-Core® FC 81T-Ni1 is a low alloy steel electrode for gas-shielded, flux-cored arc welding of those carbon and low alloy steels requiring a minimum tensile strength of 80 ksi and good CVN values at temperatures of -40°F and lower. This electrode is intended for welding in all positions, both single and multiple pass welds, using a shielding gas of 100% Carbon Dioxide.

The arc transfer is a smooth, small droplet mode, with very little spatter residue. The slag freezes quickly enough to facilitate welding in all positions but provides the type of flow and wetting properties to allow good bead geometry and tie in, even in horizontal fillets.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing Advantages

- Any combination of all position welding
- Good welder appeal
- A minimum tensile strength of 80 ksi
- Good CVN values at lower temperatures
- Increased impact strength in welds for enhanced performance
- Smooth arc characteristics with minimum spatter for less post-weld cleaning
- Higher deposition rates for increased productivity
- Single and multi-pass weldments



Applications

- Agricultural Equipment
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Structural Steel
- Trailers

Specifications

Meets or Exceeds:

- AWS A5.29: E81T1-Ni1C
- ASME SFA-A5.29: E81T1-Ni1C
- Made in the USA



Welding Positions

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

Storage

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

- 100% CO₂
- Flow rate: 35-45 CFH

Tru-Core[®] FC 81T-Ni1M Flux-Cored Welding Wire

AWS E81T1-Ni1M H8

Tru-Core[®] FC 81T-Ni1M is a low alloy steel electrode for gas-shielded, flux-cored arc welding of those carbon and low alloy steels requiring a minimum tensile strength of 80 ksi and good CVN values at temperatures of -40°F and lower. Its arc transfer operates in a smooth, small droplet mode, ensuring minimal spatter residue.

The slag quickly solidifies, enabling welding in various positions while providing the necessary flow and wetting properties for impeccable bead geometry and tie-in, especially in horizontal fillets.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing **Advantages**

- Any combination of all position welding
- Good welder appeal
- A minimum tensile strength of 80 ksi
- Good CVN values at lower temperatures
- Ability to weld on plate thicknesses from 1/4" to heavy plate sections
- Enhanced resistance to cracking and improved ductility in welds
- Higher deposition rates for increased productivity
- Provides deeper penetration for thick materials

Applications

- Agricultural Equipment
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Structural Steel
- Trailers

Specifications

Meets or Exceeds:

- AWS A5.29: E81T1-Ni1M H8
- ASME SFA-A5.29; E81T1-Ni1M H8
- Made in the USA

Welding Positions All position welding is possible when using the

correct shielding gas blends, welding process, and welding parameters.

Storage

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

- 75-80% Argon/Balance CO
- Flow rate: 35-45 CFH



Tru-Core[®] FC 81T-Ni2 Flux-Cored Welding Wire

AWS E81T1-Ni2C H8

Tru-Core[®] FC 81T-Ni2 is a low alloy steel electrode for gas-shielded, flux-cored arc welding of those carbon and low alloy steels requiring a minimum tensile strength of 80 ksi and good CVN values at temperatures of -40°F and lower. It operates with a smooth, small droplet mode that results in minimal spatter residue.

The welding wire has a unique characteristic in which the slag quickly solidifies to enable welding in various positions. It still provides the necessary flow and wetting properties for flawless bead geometry and tie-on, particularly in horizontal fillets.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing Advantages

- Any combination of all position welding
- Good welder appeal
- A minimum tensile strength of 80 ksi
- Good CVN values at lower temperatures
- \bullet Ability to weld on plate thicknesses from $^{1\!/\!4''}$ to heavy plate sections
- Single and multi-pass weldments
- Lower diffusible hydrogen content for reduced risk of hydrogen-induced cracking
- Enhanced mechanical properties in welds for enhanced strength
- Smooth and stable arc characteristics for precise control during welding

Applications

- Agricultural Equipment
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Structural Steel
- Trailers

Specifications

Meets or Exceeds:

- AWS A5.29: E81T1-Ni2C
- ASME SFA-A5.29: E81T1-Ni2C
- Made in the USA



Welding Positions

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

Storage

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

- 100% CO₂
- Flow rate: 35-45 CFH

Metal-Cored Welding Wire

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Tru-Core® MC 70C Metal-Cored Welding Wire

AWS E70C-6M H4, E70C-3M H4

Tru-Core[®] MC 70C is a metal-cored, gas-shielded electrode intended for gas metal arc welding with shielding gas blends of 75-95% Argon, balance Carbon Dioxide.

It is designed to weld carbon steels and certain low alloy steels in applications demanding higher productivity and requiring a minimum of 70,000 psi tensile strength. The core is comprised entirely of metallic powders, allowing the electrode to perform like a solid wire. It is recommended for use in single and multiple pass applications.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing Advantages

- Welding most carbon steels, such as ASTM A 36, A 285, A 515 Grade 70, and A 516 Grade 70, as well as certain low alloy steels
- Ideal for gauges ranging from heavier sheet metal to thick plate
- Ideal Manual, automatic, or robotic applications
- Suitable for producing aesthetically pleasing and uniform weld beads
- Higher deposition rates for increased productivity
- Suitable for welding low-alloy steels and different base metals



Applications

- Agricultural Equipment
- Auto Body
- Automotive Exhaust
- General Fabrication
- Heavy Equipment
- Pressure Vessels
- Shipbuilding
- Structural Steel
- Structures
- Railcars

Specifications

Meets or Exceeds:

- AWS A5.18/A5.18M, ASME SFA-A5.18 E70C-3M H4, E70C-6M H4
- AWS A5.36 E70T15-M12P2-CS1 H4, E70T15-M20P2-CS1 H4, E70T15-M21P2-CS1 H4
- CWB W48: E490T15-M12A3-CS1-H4
- Made in the USA



Welding Positions

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

Storage

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

- 75-95% Argon/Balance CO₂
- Flow rate: 35-45 CFH

Tru-Core[®] MC 80C-Ni1 Metal-Cored Welding Wire

AWS E80C-Ni1 H4

Tru-Core® MC 80C-Ni1 is a low alloy steel, composite metal-cored electrode for gas shielded arc welding low alloy, and certain carbon steels requiring tensile strengths in excess of 80 ksi and good CVN values at temperatures as low as -50°F.

This electrode is intended to be used with a shielding gas blend of 95-99% Argon/Balance Oxygen but performs well with 75-95% Argon/Balance Carbon Dioxide as well. It can be used in single and multiple pass applications, both in fillets and groove welds.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing **Advantages**

• Welding steels from $\frac{1}{4}$ " thickness up to heavy plates sections

 Typically used on grades ASTM, A203 Grade A, ASTM A352 Grades LC1 and LC2, and weathering steel such as ASTM A588

- Lower diffusible hydrogen content for reduced risk of hydrogen-induced cracking
- Provides deep penetration for welding thick materials
- Minimal spatter for easier post-weld cleanup
- Higher welding speed for improved productivity

TRU-CORE

Applications

- Automotive Exhaust

- Railcars

Specifications

Meets or Exceeds:

- AWS A5 28: F80C-Ni1 H4
- ASME SFA-A5.28: E80C-Ni1 H4
- Made in the USA

Agricultural Equipment • Auto Body

- General Fabrication
- Heavy Equipment
- Pressure Vessels
- Shipbuilding
- Structural Steel
- Structures

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

Welding Positions

Storage

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

- 95-99% Argon/Balance O
- 100% CO
- Flow rate: 35-45 CFH





Tru-Core® MC 90C-D2 Metal-Cored Welding Wire

AWS E90C-D2 H4

Tru-Core® MC 90C-D2 is a low alloy steel, composite metal-cored electrode for gasshielded arc welding of low alloy, and certain carbon steels that demand outstanding tensile strengths exceeding 90 ksi and excellent CVN values, even at temperatures as low as -20°F.

The core composition, consisting entirely of metallic powders, enables its usage within the GMAW process. It features flat bead geometry, low fume emissions, superior mechanical properties, nearly slag-free welds, and smooth arc transfer.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing Advantages

 \bullet Welding steels from $^{1\!/\!4''}$ thickness up to heavy plates sections

• Typically used on grades matching the mechanical properties and corrosion resistance of high strength, low alloy pressure vessel steels, such as ASTM A302, and manganese molybdenum castings such as ASTM A49, A291, and A735

• Lower diffusible hydrogen content for reduced risk of hydrogen-induced cracking

• Provides deep penetration for welding thick materials

Applications

- Agricultural Equipment
- Auto Body
- Automotive Exhaust
- General Fabrication
- Heavy Equipment
- Pressure Vessels
- Shipbuilding
- Structural Steel
- Structures
- Railcars

Specifications

Meets or Exceeds:

- AWS A5.28/A5.28M: E90C-D2 H4
- ASME SFA-A5.28: E90C-D2 H4
- Made in the USA



Welding Positions

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

Storage

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

- 95-98% Argon/Balance O₂
- 75-95% Argon/Balance CO₂
- Flow rate: 40-55 CFH



Tru-Core[®] MC 110C-K4 Metal-Cored Welding Wire

AWS E110C-K4 H4

Tru-Core[®] MC 110C-K4 is a low alloy steel, metal-cored electrode for gas-shielded arc welding of low alloy, and carbon steels requiring tensile strengths exceeding 110 ksi and excellent CVN values, even in freezing temperatures as low as -60°F. It is suitable for both single and multiple pass applications with fillet or groove welds.

Its feedability contributes to a seamless welding process while its ability to produce nearly slag-free welds results in clean finishes. It can achieve flat bead geometry to create precise and visually appealing welds while offering a smooth arc transfer.

100% Made in the U.S.A. with American steel to meet "Buy America" Standards.

Manufacturing **Advantages**

• Welding steels from $\frac{1}{4}$ " thickness up to heavy plates sections

• Typically used on grades ASTM A514, HY-100, and armor plate

• Lower diffusible hydrogen content for reduced risk of hydrogen-induced cracking

• Lower heat input during welding for minimal risk of distortion or warping

• Provides deep penetration for welding thick materials

 High deposition efficiency for increased productivity and faster welding

Applications

- Agricultural Equipment
- Auto Body
- Automotive Exhaust
- General Fabrication
- Heavy Equipment
- Pressure Vessels
- Shipbuilding
- Structural Steel
- Structures
- Railcars

Specifications

Meets or Exceeds:

- AWS A5.28: F110C-K4 H4
- ASME SFA-A5.28: E110C-K4 H4
- Made in the USA



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

Storage

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

Shielding Gas Blends

- 75-95% Argon/Balance CO₂
- Flow rate: 35-45 CFH

Metal-Cored

Stainless-Steel Welding Vire

Satin Glide[®] 308L Stainless-Steel Welding Wire

Satin Glide[®] 308L Stainless-Steel Welding Wire is a reliable filler metal that is often utilized in welding applications specifically for joining or repairing stainless-steel components made from the 304 or 304L stainless-steel alloys.

It provides excellent corrosion resistance, high strength, and good weldability and produces clean and smooth welds with minimal spatter and distortion.



Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Single and multi-pass weldments
- Superior corrosion resistance for corrosive environments
- Compatible with various austenitic stainless steel base metals, including 301, 302, 304, and 308
- Lower spatter during welding for cleaner welds and less post-weld cleaning

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.9/A5.9M: ER308, ER308L
- ASME SFA-A5.9: ER308, ER308L

Welding Positions

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

Storage

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

- Short Circuit Transfer: 90% Helium, 7-1/2% Argon, 2-1/2% CO₂
- Spray Transfer: 95-98% Argon, 2-5% CO₂
- Spray Transfer: 98-99% Argon, 1-2% $\mathrm{O_2}$
- Flow rate: 35-50 CFH



Satin Glide® 308LHS Stainless-Steel Welding Wire

Satin Glide[®] 308LHS Stainless-Steel Welding Wire is a filler metal that is typically used for welding equipment and components made with 304-type stainless steel. It is manufactured with higher silicon content, which is designed to improve the wetting of the material, offering potentially higher travel speeds.

The proprietary lubricant that is embedded within the wire enhances its performance for a smooth and hassle-free welding operation.

Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Single and multi-pass weldments
- Compatible with various austenitic stainlesssteel base metals, including 301, 302, 304, and 308
- Higher silicon content for improved wetting of the weld puddle
- Suitable for welding thin gauge materials due to low carbon and silicon content

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.9/A5.9M: ER 308Si, ER308LSi
- ASME SFA-A5.9: ER308Si, ER308LSi

Welding Positions

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

Storage

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

- Short Circuit Transfer: 90% Helium, 7-1/2% Argon, 2-1/2% CO₂
- Spray Transfer: 95-98% Argon, 2-5% CO₂
- Spray Transfer: 98-99% Argon, 1-2% O₂
- Flow rate: 35-50 CFH





Satin Glide[®] 309L Stainless-Steel Welding Wire

Satin Glide[®] 309L Stainless-Steel Welding Wire is a filler metal that features composition and metallurgical properties that ensure excellent compatibility with a variety of base metals.

Formulated with a high content of chromium and nickel, this welding wire provides greater protection against rust, oxidation, and corrosive environments. Its lower carbon content makes it suitable for welding applications where reduced carbon precipitation is desired to prevent sensitization and intergranular corrosion.



Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Single and multi-pass weldments
- Dissimilar base metal welding
- Compatible with various austenitic stainlesssteel base metals
- Lower carbon content to reduce risk of carbide precipitation and sensitization
- Suitable for high-temperature corrosion resistant applications

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.9/A5.9M: ER309, ER309L
- ASME SFA-A5.9: ER309, ER309L

Welding Positions

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

Storage

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

- Short Circuit Transfer: 90% Helium, 7-1/2% Argon, 2-1/2% CO₂
- Spray Transfer: 95-98% Argon, 2-5% CO₂
- Spray Transfer: 98-99% Argon, 1-2% $\mathrm{O_2}$
- Flow rate: 35-50 CFH



Satin Glide[®] 309LHS Stainless-Steel Welding Wire

Satin Glide[®] 309LHS Stainless-Steel Welding Wire is a premium filler metal that promotes excellent weldability and smooth arc characteristics.

It offers stable and controlled arc ignition and is engineered with a higher silicon content for improved wash and wetting behavior in gas shielded welding processes. This can lead to potentially higher travel speeds for a quicker job.

Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Single and multi-pass weldments
- Dissimilar base metal welding
- Compatible with various austenitic and ferritic stainless-steel base metals
- Lower carbon content to reduce risk of carbide precipitation and sensitization
- Higher silicon content for improved wetting of the weld puddle
- High-temperature capabilities for overlays and cladding applications

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.9/A5.9M: ER309Si, ER309LSi
- ASME SFA-A5.9: ER309Si, ER309LSi



Welding Positions

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

Storage

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

- Short Circuit Transfer: 90% Helium, 7-1/2% Argon, 2-1/2% CO₂
- Spray Transfer: 95-98% Argon, 2-5% CO₂
- Spray Transfer: 98-99% Argon, 1-2% $\mathrm{O_2}$
- Flow rate: 35-50 CFH



Satin Glide[®] 316L Stainless-Steel Welding Wire

Satin Glide[®] 316L Stainless-Steel Welding Wire from NS *ARC* is a stainless-steel filler metal with low carbon content that is specifically designed for welding applications that involve 316 or 316L stainless steels.

The low carbon content within this welding wire reduces the possibility of carbide precipitation, which can lead to sensitization and intergranular corrosion.



Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Single and multi-pass weldments
- Lower carbon content to reduce risk of carbide precipitation and sensitization
- Compatible with various austenitic stainlesssteel base metals
- Smooth arc characteristics for precise control and consistent weld appearance

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.9/A5.9M: ER316, ER316L
- ASME SFA-A5.9: ER316, ER316L

Welding Positions

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

Storage

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

- Short Circuit Transfer: 90% Helium, 7-1/2% Argon, 2-1/2% CO₂
- Spray Transfer: 95-98% Argon, 2-5% CO₂
- Spray Transfer: 98-99% Argon, 1-2% $\mathrm{O_2}$
- Flow rate: 35-50 CFH



Satin Glide[®] 316LHS Stainless-Steel Welding Wire

Satin Glide[®] 316LHS Stainless-Steel Welding Wire is a stainless-steel filler metal that features higher silicon content that improves the wetting of the weld metal, which potentially increases the travel speed for a quicker and more efficient job.

The welding wire is engineered with lower carbon content to reduce the risk of carbide precipitation.

Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Single and multi-pass weldments
- Compatible with various austenitic stainlesssteel base metals
- Lower carbon content to reduce risk of carbide precipitation and sensitization
- Higher silicon content for improved wetting of the weld puddle

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.9/A5.9M: ER316Si, ER316LSi
- ASME SFA-A5.9: ER316Si, ER316LSi

Welding Positions

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

Storage

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

- Short Circuit Transfer: 90% Helium, 7-1/2% Argon, 2-1/2% CO₂
- Spray Transfer: 95-98% Argon, 2-5% CO₂
- Spray Transfer: 98-99% Argon, 1-2% O₂
- Flow rate: 35-50 CFH



Satin Glide[®] 409CB Stainless-Steel Welding Wire

Satin Glide[®] 409CB Stainless-Steel Welding Wire is a ferritic stainless-steel filler metal that is designed for joining and welding 409 stainless steel.

The high-temperature resistance of this stainless-steel welding wire means that it can be used in elevated temperature environments, achieving remarkably strong weld. It promotes excellent flow characteristics and produces smooth and clean welds with pleasing bead appearances while offering good penetration.



Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Single and multi-pass weldments
- Compatible with various ferritic stainless-steel base metals
- Modified with columbium for special heatresistant welding on base metals
- Minimalized spatter during welding for cleaner welds with less post-weld cleaning

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.9/A5.9M: ER409Nb
- ASME SFA-A5.9: ER409Nb

Welding Positions

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

Storage

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

- Short Circuit Transfer: 90% Helium, 7-1/2% Argon, 2-1/2% CO₂
- Spray Transfer: 95-98% Argon, 2-5% CO₂
- Spray Transfer: 98-99% Argon, 1-2% O_2
- Flow rate: 35-50 CFH



Satin Glide[®] 430L Stainless-Steel Welding Wire

Satin Glide[®] 430L Stainless-Steel Welding Wire is a filler metal that promotes greater resistance to corrosion. It features a lower carbon content, which minimizes the formation of chromium carbides while reducing the risk of sensitization.

The benefit is that this can help reduce the occurrence of welding defects, such as cracking and distortion.

Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Single and multi-pass weldments
- Lower carbon content to reduce risk of carbide precipitation and sensitization
- Compatible with various ferritic stainless-steel base metals
- Smooth arc characteristics for precise control and consistent weld appearance

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.9/A5.9M: ER430L
- ASME SFA-A5.9: ER430L

Welding Positions

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

Storage

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

- Short Circuit Transfer: 90% Helium, 7-1/2% Argon, 2-1/2% CO₂
- Spray Transfer: 95-98% Argon, 2-5% CO₂
- Spray Transfer: 98-99% Argon, 1-2% $\mathrm{O_2}$
- Flow rate: 35-50 CFH



Satin Glide[®] 430LCB Stainless-Steel Welding Wire

Satin Glide[®] 430LCB Stainless-Steel Welding Wire is a filler metal that exhibits exceptional welding properties with its resistance to corrosion. Its lower carbon level increases its resistance to intergranular corrosion and reduces the risk of sensitization on the stainless steel.

Additionally, this welding wire contains columbium for even greater reduction of chromium carbide precipitation and intergranular corrosion.



Manufacturing Advantages

- All metal transfer modes of GMAW
- Robotic, mechanized, or semi-automatic welding
- Single and multi-pass weldments
- Compatible with various ferritic stainless-steel base metals
- Lower carbon content to reduce risk of carbide precipitation and sensitization
- Modified with columbium for special heatresistant welding on base metals

Applications

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

Specifications

Meets or Exceeds:

- AWS A5.9/A5.9M: ER430LNb Modified
- ASME SFA-A5.9

Welding Positions

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

Storage

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

- Short Circuit Transfer: 90% Helium, 7-1/2% Argon, 2-1/2% CO₂
- Spray Transfer: 95-98% Argon, 2-5% CO₂
- + Spray Transfer: 98-99% Argon, 1-2% $\mathrm{O_2}$
- Flow rate: 35-50 CFH





Alumi Glide® Aluminum Welding Wires

Typical Weld Metal Composition (Weight %)

	Al (Aluminum)	Mn (Manganese)	Fe (Iron)	Cu (Copper)	Be (Beryllium)	Si (Silicon)	Mg (Magnesium)	Cr (Chromium)	Ti (Titanium)	Zn (Zinc)	Other Elements
4043	Remainder	0.05 Max	0.80 Max	0.30 Max	0.0003 Max	4.5-6.0	0.05 Max		0.20 Max	0.10 Max	0.05 Max & Total 0.15 Max
4943	Remainder	0.05 (max.)	0.40 (max.)	0.10 (max.)	0.0003 (max.)	5.0-6.0	0.30-0.50		0.15 (max.)	0.10 (max.)	0.05 Max & Total 0.15 Max
5356	Remainder	0.05-0.20	0.40 (max.)	0.10 (max.)	0.0003 (max.)	0.25 (max.)	0.25 (max.)	0.05-0.20	0.06-0.20	0.10 (max.)	0.05 Max & Total 0.15 Max

Copper-Glide[™] and Silver-Glide[™] Welding Wires

Typical Mechanical Properties (as welded)

	Certified As	TENSILE STRENGTH PSI	YIELD STRENGTH PSI	MINIMUM ELONGATION %	CVN IMPACT VALUES @ 0° F		Certified As	TENSILE STRENGTH PSI	YIELD STRENGTH PSI	MINIMUM ELONGATION %	CVN IMPACT VALUES @ 20° F
	NS Plus -101	77,100	61,700	29	90 ft-lbf		NS Plus -102	95,700	80,800	24	34 ft-lbf
NS-101	NS Plus 101 CopperFree™	79,900	66,200	28	68 ft-lbf	NS-102 (ER80S-D2)	NS Plus 102 CopperFree™	95,700	80,800	24	34 ft-lbf
	AWS MINIMUM	70,000	58,000	22	20 ft-lbf		AWS MINIMUM (ER80S-D2)	80,000	68,000	17	20 ft-lbf
	Typically conduct	ed with CO2 shield	ing gas. Wire perfo	rmance data availab	le upon request		NS Plus -102	98,700	84,400	27	52 ft-lbf
						NS-102 (ER90S-D2)	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% C	CO2), ER90S-D2 (98	% Ar/2% O2) Wire pe	erformance data ava	ilable upon request
							NS Plus -115	82,200	65,200	29	60 ft-lbf
						NS-115	NS 115 CopperFree™	88,800	73,500	27	39 ft-lbf
							AWS MINIMUM	70,000	58,000	22	20 ft-lbf

Copper-Glide™ and Silver-Glide™ Welding Wires

Typical Wire Chemistry Percentages (as required per AWS)

	Certified As	с	Mn	Si	Р	s	Cu	Ni	Cr	Мо	v
	NS Plus [®] -101 Typ.	0.09	1.17	0.59	0.009	0.009	0.16	0.04	0.04	0.012	0.005
NS-101	NS 101 CopperFree™ Typ.	0.09	1.17	0.60	0.014	0.014	0.07	0.06	0.07	0.008	0.005
	AWS A5.18/A5.18M	0.06/0.15	0.90/1.40	0.45/0.70	0.035 (max.)	0.035 (max.)	0.50 (max.)	0.15 (max.)	0.15 (max.)	0.15 (max.)	0.03 (max.)
	AWS A5.17/A5.17M	0.06/0.16	0.90/1.40	0.35/0.75	0.030 (max.)	0.030 (max.)	0.35 (max.)	-	_	_	-
	NS Plus [®] -102 Typ.	0.09	1.76	0.66	0.01	0.01	0.14	0.07		0.46	
NC 102	NS 102 CopperFree™ Typ.	0.1	1.81	0.63	0.016	0.016	0.06	0.06		0.47	
N2-102	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	
	NS Plus [®] -115 Typ.	0.08	1.49	0.9	0.01	0.01	0.14	0.05	0.04	0.008	0.006
NS-115 -	NS 115 CopperFree™ Typ.	0.09	1.52	0.91	0.011	0.011	0.07	0.06	0.06	0.01	0.01
	AWS A5.18/A5.18M	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.)
	AWS A5.17/A5.17M	0.06/0.15	1.40/1.85	0.80/1.15	0.030 (max.)	0.030 (max.)	0.35(max.)				

Typical Mechanical Properties (as welded)

	TENSILE STRENGTH PSI	YIELD STRENGTH PSI	MINIMUM ELONGATION %	CVN IMPACT VALUES @ 20° F
ER70S-6 Typical*	88,800	73,500	27	39 ft-lbf
AWS MINIMUM	70,000	58,000	22	20 ft-lbf

Typical Wire Chemistry Percentages (as required per AWS)

	с	Mn	Si	Р	S	Cu	Ni	Cr	Мо	v
ER70S-6 Typical*	0.07	1.45	0.85	0.020	0.025	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.)

Packaging Dimensions

DIAMETER	PART #	PKG	LBS	PKG DIMENSIONS (in.)	PALLET LBS	PALLET DIMENSIONS (in.)	PALLET COUNT
0.035	1020534	Spool	33	12 x 12 x 4	2376	44 x 31 x 34	72 spools/pallet
0.035	1010914	Spool	44	12 x 12 x 4	2640	44 x 27 x 34	60 spools/pallet
0.045	1010915	Spool	44	12 x 12 x 4	2640	44 x 27 x 34	60 spools/pallet
0.035	1010916	Drum	550	21 dia. x 32 tall	1100	42 x 36 x 21	2 drums/pallet
0.045	1010918	Drum	550	21 dia. x 32 tall	1100	42 x 36 x 21	2 drums/pallet



Tru-Core[®] Cored Welding Wires

Typical Weld Metal Composition (as required per AWS)

		с	Mn	Si	Ρ	s	Cu	Ni	Cr	Мо	v
EC 70T	100% CO ₂	0.06	1.6	0.67	0.013	0.01	0.09	0.35	0.05	0.01	0.012
PC 701	AWS/ASME	0.12 (max.)	1.75 (max.)	0.90 (max.)	0.03 (max.)	0.030 (max.)	0.35 (max.)	0.50 (max.)	0.20 (max.)	0.30 (max.)	0.08 (max.)
	100% CO ₂	0.04	1.54	0.41	0.01	0.008	0.06	0.02	0.06	0.01	0.016
FC 71T	75% Ar/25% CO ₂	0.05	1.41	0.45	0.009	0.01	0.06	0.02	0.03	0.002	0.017
	AWS/ASME	0.12 (max.)	1.75 (max.)	0.90 (max.)	0.03 (max.)	0.030 (max.)	0.35 (max.)	0.50 (max.)	0.20 (max.)	0.20 (max.)	0.08 (max.)
FC 71T-12C	100% CO ₂	0.04	1.36	0.36	0.007	0.009	0.06	0.42	0.04	0.001	0.02
10/11-120	AWS/ASME	0.12 (max.)	1.6 (max.)	0.90 (max.)	0.03 (max.)	0.030 (max.)	0.35 (max.)	0.50 (max.)	0.20 (max.)	0.30 (max.)	0.08 (max.)
EC 71T-12M	75% Ar/25% CO ₂	0.05	1.35	0.32	0.011	0.007	0.06	0.39	0.05	0.01	0.019
FC /11-12M	AWS/ASME	0.12 (max.)	1.6 (max.)	0.90 (max.)	0.03 (max.)	0.030 (max.)	0.35 (max.)	0.50 (max.)	0.20 (max.)	0.30 (max.)	0.08 (max.)
EC 71T-AG	75% Ar/25% CO ₂	0.04	1.38	0.43	0.009	0.007	0.06	0.02	0.06	0.01	0.016
FC/IFAG	AWS/ASME	0.12 (max.)	1.75 (max.)	0.90 (max.)	0.03 (max.)	0.030 (max.)	0.35 (max.)	0.50 (max.)	0.20 (max.)	0.30 (max.)	0.08 (max.)
FC 71T-CG	100% CO ₂	0.05	1.38	0.35	0.01	0.007	0.06	0.48	0.05	0	0.014
FC/II-CG	AWS/ASME	0.12 (max.)	1.75 (max.)	0.90 (max.)	0.03 (max.)	0.030 (max.)	0.35 (max.)	0.50 (max.)	0.20 (max.)	0.30 (max.)	0.08 (max.)
EC 81T-Ni1	100% CO ₂	0.04	1.23	0.45	0.006	0.007		0.99	0.05	0.001	0.02
FC 011-MI	AWS/ASME	0.12 (max.)	1.50 (max.)	0.80 (max.)	0.030 (max.)	0.030 (max.)		0.80-1.10	0.15 (max.)	0.35 (max.)	0.05 (max.)
EC 91T-Ni1M	75% Ar/25% CO ₂	0.04	1.38	0.54	0.009	0.009		0.97	0.03	0	0.05
FC 011-MILM	AWS/ASME	0.12 (max.)	1.50 (max.)	0.80 (max.)	0.030 (max.)	0.030 (max.)		0.80-1.10	0.15 (max.)	0.35 (max.)	0.05 (max.)
	75% Ar/25% CO ₂	0.04	1.6	0.82	0.009	0.01	0.06	0.02	0.05	0.01	0
MC 70C	90% Ar/10% CO ₂	0.04	1.61	0.85	0.006	0.009	0.05	0.02	0.04	0.001	<0.001
	AWS/ASME	0.12 (max.)	1.75 (max.)	0.90 (max.)	0.03 (max.)	0.03 (max.)	0.50 (max.)	0.50 (max.)	0.20 (max.)	0.30 (max.)	0.08 (max.)
	95% Ar/5% O ₂	0.04	1.48	0.43	0.008	0.009	0.05	0.9		0.14	0
MC 80C-Ni1	75% Ar/25% CO ₂	0.04	1.41	0.4	0.008	0.009	0.05	0.94		0.14	0
	AWS/ASME	0.12 (max.)	1.50 (max.)	0.90 (max.)	0.025 (max.)	0.030 (max.)	0.35 (max.)	0.80-1.10		0.30 (max.)	0.03 (max.)
MC 90C-D3	95% Ar/5% O ₂	0.02	1.79	0.89	0.011	0.007	0.05	0.02	0.04	0.55	<0.01
	AWS/ASME	0.12 (max.)	1.00-1.90	0.90 (max.)	0.025 (max.)	0.030 (max.)	0.35 (max.)			0.40-0.60	0.03 (max.)
MC 110C-K4	95% Ar/5% O ₂	0.04	1.67	0.43	0.008	0.01	0.04	2.21	0.34	0.46	0
MC 110C-R4	AWS/ASME	0.15 (max.)	0.75-2.25	0.80 (max.)	0.025 (max.)	0.025 (max.)	0.35 (max.)	0.50-2.50	0.15-0.65	0.25-0.65	0.03 (max.)

Tru-Core[®] Cored Welding Wires

Typical Diffusable Hydrogen (ml/100g)

EC 70T	100% CO ₂	7
FC 701	AWS A4.3	8.0 (max.)
	100% CO ₂	2.2
FC 71T	75% Ar/25% CO ₂	3.2
	AWS A4.3	4.0 (max.)
EC 71T-12C	100% CO ₂	3.4
10/11-120	AWS A4.3	4.0 (max.)
EC 71T-12M	75% Ar/25% CO ₂	2.74
10711-12M	AWS A4.3	4.0 (max.)
EC 71T-AG	75% Ar/25% CO ₂	2
PC/II-AG	AWS A4.3	4.0 (max.)
FC 71T-CG	100% CO ₂	3.2
FC/II-CG	AWS A4.3	4.0 (max.)
FC 81T-Ni1		
EC 91T-Ni1M	75% Ar/25% CO ₂	3.5
IC 011-MIM	AWS A4.3	4.0 (max.)
	75% Ar/25% CO ₂	1.1
MC 70C	90% Ar/10% CO ₂	2.06
	AWGIACAAE	
	AWS/ASME	4.0 (max.)
	95% Ar/5% O ₂	4.0 (max.) 1.6
MC 80C-Ni1	95% Ar/5% O ₂ 75% Ar/25% CO ₂	4.0 (max.) 1.6 1.1
MC 80C-Ni1	95% Ar/5% O2 75% Ar/25% CO2 AWS/ASME	4.0 (max.) 1.6 1.1 4.0 (max.)
MC 80C-Ni1	Aws/Asme 95% Ar/5% O2 75% Ar/25% CO2 Aws/Asme 95% Ar/5% O2	4.0 (max.) 1.6 1.1 4.0 (max.) 2.3
MC 80C-Ni1 MC 90C-D2	AWS/ASME 95% Ar/5% O2 75% Ar/25% CO2 AWS/ASME 95% Ar/5% O2 AWS/ASME 95% Ar/5% O2 AWS/ASME	4.0 (max.) 1.6 1.1 4.0 (max.) 2.3 4.0 (max.)
MC 80C-Ni1 MC 90C-D2	AWS/ASME 95% Ar/5% O2 75% Ar/25% CO2 AWS/ASME 95% Ar/5% O2 AWS/ASME 95% Ar/5% O2 AWS/ASME 90% Ar/10% CO2	4.0 (max.) 1.6 1.1 4.0 (max.) 2.3 4.0 (max.) 1.78



Typical Mechanical Properties (as welded)

		TENSILE STRENGTH KSI	YIELD STRENGTH KSI	ELONGATION (% IN 2")	CVN @ -20° F (-29°C)	
FC 70T	100% CO ₂	88.8	75.3	28	27.3 ft - lbf	
FC 701	AWS/ASME	70-95	58 (min.)	22 (min.)	20 ft-lbf	
	100% CO ₂	83.6	72.7	29	54.3 ft-lbf	
FC 71T	75% Ar/25% CO ₂	80.8	68.4	29	41.6 ft-lbf	
	AWS/ASME	70-95	58 (min.)	22 (min.)	20 ft-lbf	
EC 71T 12C	100% CO ₂	84.3	75.8	30	71.3 ft-lbf	
FC /11-12C	AWS/ASME	70-90	58 (min.)	22 (min.)	20 ft-lbf	
	75% Ar/25% CO ₂	83.5	72.6	29	79.6 ft-lbf	
FC /11-12M	AWS/ASME	70-90	58 (min.)	22 (min.)	20 ft-lbf	
	75% Ar/25% CO ₂	84.2	74.1	28	62.6 ft-lbf	
FC /11-AG	AWS/ASME	70-95	58 (min.)	22 (min.)	20 ft-lbf	
	100% CO ₂	80.5	69.1	33	59.6 ft-lbf	
FC 71T-CG	AWS/ASME	70-95	58 (min.)	22 (min.)	20 ft-lbf	
	100% CO ₂	85.9	76	29	77.7 ft-lbf	
FC 811-Ni1	AWS/ASME	80-100	68 (min.)	19 (min.)	20 ft-lbf	
FC OAT NIAM	75% Ar/25% CO ₂	99.1	88.3	26	55.7 ft - lbf	
FC 811-NIIM	AWS/ASME	80-100	68 (min.)	19 (min.)	20 ft-lbf	
	75% Ar/25% CO ₂	81.5	66.9	32	46.7 ft-lbf	
MC 70C	90% Ar/10% CO ₂	83.9	70.8	30	32.6 ft-lbf	
	AWS/ASME	70 (min.)	58 (min.)	22 (min.)	20 ft-lbf	
	95% Ar/5% O ₂	97.4	83.7	26.5	29 ft-lbf	
MC 90C-D2	AWS/ASME	90 (min.)	78 (min.)	17 (min.)	20 ft-lbf	
					CVN @ -50°F (-45°C)	
	95% Ar/5% O ₂	86	73.8	29	38.3 ft-lbf	
MC 80C-Ni1	75% Ar/25% CO ₂	83.2	70.7	32	35.7 ft - lbf	
	AWS/ASME	80 (min.)	68 (min.)	24 (min.)	20 (min.)	
					CVN @ -60°F (-51°C)	
MC 110C 1/1	90% Ar/10% CO ₂	111.7	101	18	26.7 ft-lbf	
-ic 1100-R4	AWS/ASME	110 (min.)	98 (min.)	15 (min.)	20 (min.)	

Satin Glide[®] Stainless-Steel Welding Wires

Stainless Steel Filler Metals for Welding Dissimilar Metals

BASE ALLOY	201,202, 301,302, 302B,303, 304,305,308	304L	309, 3095	310, 310S, 314	316	316L	317	317L	321, 347, 348	330	403,405, 410,414, 416,420	430,430F, 431,440A, 440B,440C	448	501, 502	505	CARBON STEEL	CR-MO STEEL	
201,202,301, 302,302B,303, 304,305,308	308	308	308	308	308	308	308	308	308	309	309	309	310	309	309	309	309]
304L		308L	308	308	308	308	308	308	309	309	309	309	310	309	309	309	309	
309, 3095			309	309	309	309	309	309	309	309	309	309	310	309	309	309	309	1
310,310S, 314				310	316	316	317	317	309	309	309	309	310	310	310	310	309	1
316					316	316	316	316	308	309 Mo	309	309	310	309	309	309	309]
316L						316L	316	316L	316L	309 Mo	309	309	310	309	309	309	309	
317							317	317	308	309 Mo	309	309	310	309	309	309	309	
317L								317L	308L	309 Mo	309	309	310	309	309	309	309	
321, 347, 348									347	309	309	309	310	309	309	309	309	
330										330	309	309	310	309	309	309	309	
403,405,410, 414,416,420											410	430	410	502	505	410	410]
430, 430F, 431, 440A, 440B, 440C												430	430	502	505	430	430	
448													448	502	502	430	430	
501, 502														502	502	502	502	
505															505	505	505]

Satin Glide[®] Stainless-Steel Welding Wires

Typical Wire Chemistry Percentages (as required per AWS)

ТҮРЕ	ASME SFA 5.9	AWS A5.9/ AWS A5.9M	Carbon	Cr	Ni	Mn	Si	OTHER
308L	Yes	Yes	0.03 Max	20.00/22.00	9.50/11.00	1.60/2.00	0.40/0.65	
308LHS	Yes	Yes	0.03 Max	20.00/22.00	9.50/11.00	1.60/2.00	0.70/1.00	
309L	Yes	Yes	0.03 Max	23.00/25.00	12.00/14.00	1.60/2.50	0.45/0.65	
309LHS	Yes	Yes	0.07 Max	23.00/25.00	12.00/14.00	1.60/2.50	0.70/1.00	
316L	Yes	Yes	0.03 Max	18.00/20.00	12.00/14.00	1.60/2.50	0.45/0.75	Mo 2.00/2.50
316LHS	Yes	Yes	0.03 Max	18.00/20.00	12.00/14.00	1.60/2.25	0.70/1.00	Mo 2.00/2.50
409CB	Yes	Yes	0.05 Max	11.00/12.00	0.50 Max	0.45/0.75	0.45/0.75	Cb 10xC Min/0.60
430L	Yes	Yes	0.03 Max	16.00/17.00	0.50 Max	0.25/0.60	0.25/0.50	
430LCB			0.03 Max	16.50/19.50	0.20/0.60	0.35/0.60	0.30/0.60	Cb 0.30/0.70 & Mo 0.20/0.50



Packaging

Packaging Options

Drums

- Packaged in a loose coil form
- Wire takes on a large sine wave or "S" shape
- Wire let-off system provides smooth feeding



Tru-Trac[®] Wood Reels

- "Twist-free" wire let-off from stationary tight wound reels requires only a few ounces of drag from up to 150' from the wire feeder
- Maximizes productivity and lowers welding costs
- Snag-free operations without drive roll overload delivers precise joint tracking



Spools/Baskets

- Fiber spools random layer wound
- Wire baskets precision layer level wound
- Plastic spools (on specified products) precision layer level wound

Masonite Spool

Masonite Spool





Plastic Spool





Width: 11.75in

Smart Pak®

- Packaged in a loose coil form
- Wire takes on a large sine wave or "S" shape
- Wire let-off system provides smooth feeding
- Multiple engineered wire dispensing solutions
- 100% recyclable
- Lifting strap for easy transport



*For illu options

*For illustrative purposes only. For all of our packaging options, visit https://nsarc.com/resources/packaging/



Packaging Weights & Dimensions

WEIGHT (lbs)	PACKAGE TYPE	PRODUCT LENGTH (in)	PRODUCT WIDTH (in)	PRODUCT HEIGHT (in)	ARBOR HOLE (in)	PKGS PER PALLET (in)	PALLET WEIGHT (LBS)
30	Spool	11.75	11.75	4.00	2-1/32	72	2160
33	Spool	11.75	11.75	4.00	2-1/32	72	2376
33	Wire Basket	11.75	11.75	4.00	2-1/32	72	2376
33	Spool (Viking)	12.00	12.00	4.00		72	2376
44	Spool (Viking)	12.00	12.00	4.00		60	2640
45	Spool	11.75	11.75	4.00	2-1/32	72	3240
45	Wire Basket	11.75	11.75	4.00	2-1/32	72	3240
50	Spool	11.75	11.75	4.00	2-1/32	32	1600
60	Coil	0.00	0.00	0.00	0	0	0
60	Spool	13.88	13.88	4.00	2-1/32	54	3240
250	Drum	20.40	20.40	16.00		4	1000
250	Smart Pak [®] 100% Recyclable Drum Pack	21.00	21.00	16.00		4	1000
300	Tru-Trac [®] Wood Reel	24.00	24.00	21.00	5	2	600
500	Drum	20.40	20.40	31.25		4	2000
500	Smart Pak [®] 100% Recyclable Drum Pack	21.00	21.00	32.00		4	2000
500	Tru-Trac [®] Wood Reel	30.00	30.00	23.00	5	2	1000
550	Drum (Viking)	21.00	21.00	32.00		2	1100
600	Drum	23.40	23.40	31.25		1	600
600	Smart Pak [®] 100% Recyclable Drum Pack	24.00	24.00	32.00		1	600
600	Tru-Trac [®] Wood Reel	30.00	30.00	21.50	5	2	1200
600	Wood Reel	30.00	30.00	17.00		2	1200
900	Drum	23.40	23.40	31.25		1	900
900	Smart Pak [®] 100% Recyclable Drum Pack	24.00	24.00	32.00		1	900
1000	Coil	0.00	0.00	0.00	0	0	0
1000	Drum	23.40	23.40	31.25		1	1000
1000	Smart Pak [®] 100% Recyclable Drum Pack	24.00	24.00	32.00		1	1000
1000	Tru-Trac [®] Wood Reel	30.00	30.00	21.50	5	2	2000
1000	Wood Reel	30.00	30.00	17.00		2	2000

Applications Matrix

	APPLICATION										
PRODUCT	Agricultural Equipment	Auto Body	Automotive Exhaust	General Fabrication	Heavy Equipment	Pipe Welding	Pressure Vessels	Railcars	Shipbuilding	Structures	Trailers
National-Arc 115 Copper-Glide (ER70S-6) (Copper-Coated Carbon-Steel)	x	х	x	х	х	х	x	x	х	х	х
National-Arc 101 Copper-Glide (ER70S-3) (Copper-Coated Carbon-Steel)	x	х	х	х	х	х	x	x	х	х	х
National-Arc 102 Copper-Glide (ER70S-6) (Copper-Coated Carbon-Steel)	x	Х	х	Х	Х	х	x	х	х	Х	х
National-Arc 115 Silver-Glide (ER70S-3) (Copper-Free Carbon-Steel)	x	Х		Х		х					
National-Arc 101 Silver-Glide (ER70S-6) (Copper-Free Carbon-Steel)	x	х		Х		х					
National-Arc 102 Silver-Glide (ER80S-D2) (Copper-Free Carbon-Steel)	x	х		Х		х					
National-Arc Alumi Glide (Aluminum)	x	х	х	Х	х	х	x	x	х	х	х
National-Arc Satin Glide (Stainless Steel)	x	Х	х	Х	х	х	x	х	х	х	х
National-Arc Tru-Core Flux Cored	x	Х		Х	х	х	х			Х	
National-Arc Tru-Core Metal Cored	x		Х	Х	Х		x	x	Х	Х	х
Viking (ER70S-6) (Import Copper-Coated Carbon Steel)	x	Х	х	Х	Х	Х	x	Х	Х	Х	х



Notes

CONTRACTOR OF THE STATE OF THE

The Largest Dedicated Welding Wire Brand in the U.S.A.









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