


*Wisconsin*  
**Wire Works Inc.**

**Copper  
Alloy  
Welding  
Wire**



*Drawn to Quality.*

 Made in U.S.A.®

## *Who we are...*

Wisconsin Wire Works Inc. is an integrated manufacturer of copper and copper alloy welding wire. Five copper-industry veterans founded our company in 1994, and in a relatively short time, we've built an enviable reputation as a reliable supplier of top-quality welding products. Today, our customers can be found on every continent.

If there's a secret to our success, it's that we *listen to our customers*. We're small enough to know our customers well, and we survey them regularly to learn how we can serve them better. In return, our customers tell us they've come to rely on us for the quality of our wire, our timely delivery and our prompt, personal service.

## *Drawn to quality.*

Wisconsin Wire Works Inc.'s welding consumables are made by welding professionals *for* welding professionals. Our facilities reflect our founders' decades of combined experience; designed for efficient, economical manufacturing yet flexible enough to accommodate changing market needs.

Our base stocks are purchased from well-established suppliers. Our drawing equipment is state-of-the-art, and we maintain it carefully. One small example: we rework our drawing dies on a regular schedule — not just when they need it — and the extra effort shows in the surface quality of our wire.

Our inspection program is thorough and unforgiving. No product leaves our plant unless it meets or exceeds established quality standards for size, cleanliness and proper cast and helix.

Speaking of cleanliness, our manufacturing facilities are located in a state known for its natural beauty, and we strive to be good neighbors to our environment. We select and use process materials so as to keep landfill utilization to a minimum. We use non-contaminating lubricants exclusively, and we clean all products thoroughly before shipment.

**Our staff of experienced welding engineers, metallurgists and fabrication specialists is ready to help you solve your welding problems. We invite you to call us for more information about our products and services or look us up on the Web at [www.wisconsinwireworks.com](http://www.wisconsinwireworks.com).**

Our standard spools are precision layer-level wound to ensure smooth and reliable feeding, an important consideration for automatic and robotic welding applications.

Products are available in all popular U.S. and international weights on spools, straightened-and-cut lengths, reels, coils and economical barrel packs.

We use only robust cartons incorporating hermetic moisture barriers to guarantee good appearance and long shelf life. International shipments are boxed for safety and security.

## SILICON BRONZE

### WWW SIL WELD

**ER CuSi-A** filler metal is a copper-base alloy containing approximately 3% silicon. It is used for gas tungsten and gas metal arc welding of copper-silicon and copper-zinc alloys (brass) and for welding steel to itself or to these alloys. **WWW SIL-WELD** is particularly suited to weld galvanized (zinc coated) steels since it does not destroy the zinc coating in the vicinity of the weld, thereby retaining its corrosion protection, while the bronze weld metal itself is highly corrosion resistant.

## WWW SIL WELD

### AWS A5.7/ER CuSi-A

PRODUCT	0.030 in 0.8 mm	0.035 in 0.9 mm	0.045 in 1.2 mm	0.062 in 1.6 mm	3/32 in 2.4 mm	1/8 in 3.2 mm
36-in BARE (900 mm)				●	●	●
30-lb SPOOLS (13.6 Kg)	●	●	●	●	●	

## DEOXIDIZED COPPER

### WWW COPP WELD

**ER Cu** filler metal is deoxidized copper with small quantities of phosphorus, silicon, tin, manganese and silver. The phosphorus and silicon are primarily deoxidizers, and silicon and other elements improve fluidity and ease of welding. This metal is normally used to weld deoxidized copper (C12000 and C12200) and electrolytic tough pitch copper (C11000). Preheating is desirable for most work, but it is essential for heavier gauge welding. Preheating temperatures of 400°F to 1000°F (205°C to 540°C) are suitable.

## WWW COPP WELD

### AWS A5.7/ER Cu

PRODUCT	0.035 in 0.9 mm	0.045 in 1.2 mm	0.062 in 1.6 mm	3/32 in 2.4 mm	1/8 in 3.2 mm
36-in BARE (900 mm)			●	●	●
30-lb SPOOLS (13.6 Kg)	●	●	●	●	

Note: TIG sizes available up to 1/4 in diameter

## PHOSPHOR BRONZE A

### WWW PHOS A WELD

**ER CuSn-A** filler metal is a copper-tin alloy containing about 5% tin. It is used to weld bronze, brass, and copper. Phosphor Bronze A is frequently used to repair castings and join copper-tin alloys of similar chemical composition.

## WWW PHOS A WELD

### AWS A5.7/ER CuSn-A

PRODUCT	0.035 in 0.9 mm	0.045 in 1.2 mm	1/16 in 1.6 mm	3/32 in 2.4 mm	1/8 in 3.2 mm
36-in BARE (900 mm)			●	●	●
30-lb SPOOLS (13.6 Kg)	●	●	●		

## PHOSPHOR BRONZE C

### WWW PHOS C WELD

**Phosphorus Bronze C** contains 8% tin. It is similar in composition to AWS 5.6 ECuSn-C except that it is offered here as a bare wire filler metal. It is harder and stronger than AWS 5.7 ER CuSn-A, and is preferred for welding phosphor bronzes, high strength bronzes and brasses. The alloy's color matches phosphor bronze well.

**WWW PHOS C WELD** is used with gas tungsten arc (GTAW) and gas metal arc (GMAW) welding processes.

## WWW PHOS C WELD

### UNS C52100

PRODUCT	0.035 in 0.9 mm	0.045 in 1.2 mm	1/16 in 1.6 mm	3/32 in 2.4 mm	1/8 in 3.2 mm
36-in BARE (900 mm)			●	●	●
30-lb SPOOLS (13.6 Kg)	●	●	●		

## LOW-FUMING BRONZE

**Low-Fuming Bronze-C** (also called Low-Fuming Brass-C) is a popular copper-zinc brazing alloy that is commonly used for oxyacetylene welding of brasses and for brazing copper and copper alloys to carbon and low alloy steels, cast iron, tool steels and nickel alloys. The alloy can also be used to braze combinations of these metals when high corrosion resistance is not demanded.

**WWW LOW-FUMING BRONZE** is recommended for the OFW welding and brazing process using AWS classification FB3-K flux. The alloy should not be used with arc welding processes.

## WWW LOW-FUMING BRONZE

### AWS A5.27 RCuZn-C/AWS A5.8 RBCuZn-C

PRODUCT	1/16 in 1.6 mm	3/32 in 2.4 mm	5/32 in 4.0 mm	3/16 in 4.8 mm
36-in BARE (900 mm)	●	●	●	●

## WWW A1 BRONZE WELD

AWS A5.7/ER CuAl-A1

PRODUCT	0.035 in 0.9 mm	0.045 in 1.2 mm	0.062 in 1.6 mm	3/32 in 2.4 mm	1/8 in 3.2 mm
36-in BARE (900 mm)			●	●	●
30-lb SPOOLS (13.6 Kg)	●	●	●	●	

## WWW A2 BRONZE WELD

AWS A5.7/ER CuAl-A2

PRODUCT	0.035 in 0.9 mm	0.045 in 1.2 mm	0.062 in 1.6 mm	3/32 in 2.4 mm	1/8 in 3.2 mm
36-in BARE (900 mm)			●	●	●
30-lb SPOOLS (13.6 Kg)	●	●	●	●	

Note: Metallizing coils available

## WWW A3 BRONZE WELD

AWS A5.7/ER CuAl-A3

PRODUCT	0.045 in 1.2 mm	0.062 in 1.6 mm	3/32 in 2.4 mm	1/8 in 3.2 mm
36-in BARE (900 mm)			●	●
30-lb SPOOLS (13.6 Kg)	●	●	●	

## WWW NICKEL BRONZE WELD

AWS A5.7/ER CuNiAl

PRODUCT	0.035 in 0.9 mm	0.045 in 1.2 mm	0.062 in 1.6 mm	3/32 in 2.4 mm	1/8 in 3.2 mm
36-in BARE (900 mm)			●	●	●
30-lb SPOOLS (13.6 Kg)	●	●	●	●	

## WWW MANG-NICKEL BRONZE WELD

AWS A5.7/ER CuMnNiAl

PRODUCT	0.035 in 0.9 mm	0.045 in 1.2 mm	0.062 in 1.6 mm	3/32 in 2.4 mm	1/8 in 3.2 mm
36-in BARE (900 mm)			●	●	●
30-lb SPOOLS (13.6 Kg)	●	●	●	●	

## ALUMINUM BRONZE A1

### WWW A1 BRONZE WELD

ER CuAl-A1 filler metal is a moderate-strength aluminum bronze alloy predominantly used for weld overlay and metallizing in automotive and other manufacturing applications and for the build-up and repair of bearing and corrosion-resistant surfaces. It is not intended for use in joining.

WWW A1 BRONZE WELD is used with gas tungsten arc (GTAW) and gas metal arc (GMAW) welding processes as well as arc and plasma metallizing.

## ALUMINUM BRONZE A2

### WWW A2 BRONZE WELD

ER CuAl-A2 filler metal is an intermediate-strength aluminum bronze alloy used for welding aluminum bronze plate fabrications and for joining dissimilar metals such as cast iron, carbon steels, copper, bronze and copper-nickel materials. Applications include wear surface reconstruction, casting repair and general maintenance, and galvanized sheet metal fabrication when high strength welds are required.

WWW A2 BRONZE WELD is used with gas tungsten arc (GTAW) and gas metal arc (GMAW) welding processes as well as arc and plasma metallizing.

## ALUMINUM BRONZE A3

### WWW A3 BRONZE WELD

ER CuAl-A3 filler metal is a high-strength aluminum bronze alloy used mainly for welding aluminum bronze castings of similar composition. It also finds considerable use for the build-up and repair of bearing surfaces of copper alloy parts.

WWW A3 BRONZE WELD is used with gas tungsten (GTAW) and gas metal arc (GMAW) welding processes.

## NICKEL-ALUMINUM BRONZE

### WWW NICKEL BRONZE WELD

ER CuNiAl is used to join and repair wrought and cast nickel aluminum bronze materials. Typical applications include the fabrication or repair of ship fittings and propellers, and other components subject to salt and brackish water.

## MANGANESE-NICKEL-ALUMINUM BRONZE

### WWW MANG-NICKEL BRONZE WELD

ER CuMnNiAl is used in applications that require resistance to cavitation, erosion, and corrosion. This alloy is also used to join or repair high-strength bronzes of similar chemical composition and for high-strength repairs of cast iron.

## NOMINAL CHEMICAL VALUES

WWW-Alloy	Cu	Zn	Sn	Mn	Fe	Si	Ni	P	Al	Pb	Total Others
WWW Copp Weld	98.0	–	1.0	0.50	–	0.50	–	0.15	0.01	0.02	0.50
WWW Sil Weld	Bal	1.0	1.0	1.5	0.50	2.8-4.0	–	–	0.01	0.02	0.50
WWW A1 Bronze Weld	Bal	.20	–	0.50	–	0.10	–	–	6.0-8.5	0.02	0.50
WWW A2 Bronze Weld	Bal	0.02	–	–	1.5	0.10	–	–	8.5-11.0	0.02	0.50
WWW A3 Bronze Weld	Bal	0.10	–	–	2.0-4.5	0.10	–	–	10.0-11.5	0.02	0.50
WWW Nickel Bronze Weld	Bal	0.10	–	.60-3.50	3.0-5.0	0.10	4.0-5.50	–	8.50-9.50	0.02	0.50
WWW Mang-Nickel Bronze Weld	Bal	0.15	–	11.0 to 14.0	2.0 to 4.0	0.10	1.5 to 3.0	–	7.0 to 8.5	0.02	0.50
WWW Phos A Weld	Bal	–	4.0-6.0	–	–	–	–	.10-.35	0.01	0.02	0.50
WWW Phos C Weld	Bal	.20	7.0-9.0	–	0.10	–	–	.03-.35	–	.005	–
WWW Low-Fuming Bronze	56.0-60.0	Bal	.75-1.10	.01-.50	.25-1.25	.04-.15	–	–	0.01	.005	–

## STANDARD PACKAGING SPOOLED WIRE

Diameter	.030	.8mm	.035	.9mm	1.0mm	.045	1.2mm	.062	1.6mm	.092
2#	x	x	x	x						
10#	x	x	x	x	x	x	x			
25#	x	x								
30#			x	x	x	x	x	x	x	x

Note: Other sizes and weights on a custom order basis.

## STANDARD PACKAGING BARE FILLER ROD – 36" LENGTHS

Diameter	1/16*	3/32	1/8	5/32	3/16	1/4
50# ctn.	x	x	x	x	x	x

Also available in 10# cartons at an additional cost.

\* Also available on 30# spools

**STANDARD BARREL PACKS ARE AVAILABLE**



319 Universal Street • P.O. Box 385  
 Wales, Wisconsin 53183  
 262-968-6982 • FAX 262-968-6985  
[www.wisconsinwireworks.com](http://www.wisconsinwireworks.com)  
 email: [info@wisconsinwireworks.com](mailto:info@wisconsinwireworks.com)



*Wisconsin*  
**Wire Works Inc.**

We offer technical support  
for the products we make.

An in-house welding facility  
is available for:

- Custom overlays
- Process and prototype development
- Dissimilar metals joining
- Problem solving



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[www.wisconsinwireworks.com](http://www.wisconsinwireworks.com)  
email: [info@wisconsinwireworks.com](mailto:info@wisconsinwireworks.com)