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Compliance. Strength. Performance.

LEAD-FREE ECO SOLUTIONS FOR COMPLIANCE AND HIGH STRENGTH APPLICATIONS

Our ECO solutions answer the lead-free call with strength and usability!

The E-Shield represents our lead-free*, silicon-based copper alloys. The perfect solution for potable water compliance and high strength part applications.

We have been producing this material in the USA since 2008. It has been tested thoroughly and consistently performs with exceptional corrosion resistance plus high strength and elongation. The control we have on our process repeatedly produces the best results.

* This product complies with 0.25% weighted average lead content on wetted surfaces in accordance with Safe Drinking Water Act (SDWA) / Federal Public Law No. 111-380.



Top 10 Reasons ECO Solutions Are Today's SUPERIOR ALLOYS



The ECO solutions alloys have the necessary performance characteristics to meet potable water compliance required to ensure safe water distribution.

Many advantages include:

1. Machinable, Forgeable and Castable
2. Compliant with S.3874 Reduction of Lead in Drinking Water Act*
3. NSF/ANSI 14 Compliant
4. No Lead, No Arsenic and No Bismuth Added
5. Excellent Dezincification Resistance**
6. Mechanical Strength Equal to Stainless Steel
7. Wear and Corrosion Resistance Equivalent to Commercial Bronze
8. Corrosion Resistant to Chemicals Found in Water and Gas
9. Doesn't Become Brittle at High Temperatures
10. EPA Registered CuVerro Antimicrobial Alloy***

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** Dezincification: Testing of ECO BRONZE was performed by an independent laboratory to the ISO-6509 testing protocol, and shows ZERO dezincification.

*** Laboratory testing shows that, when cleaned regularly, CuVerro® surfaces kill greater than 99.9% of the following bacteria within 2 hours of exposure: Methicillin-Resistant Staphylococcus aureus, Staphylococcus aureus, Enterobacter aerogenes, Pseudomonas aeruginosa, and E. coli O157:H7. The use of CuVerro® antimicrobial copper products is a supplement to and not a substitute for standard infection control practices; users must continue to follow all current infection control practices, including those practices related to cleaning and disinfection of environmental surfaces. This surface has been shown to reduce microbial contamination, but it does not necessarily prevent cross-contamination. It should not be interpreted that CuVerro® is making claims to solely prevent hospital-associated infections nor should it be implied that CuVerro® products make such claims. CuVerro® is a registered trademark of Wieland Rolled Products North America and is used with permission. (C-0004-1303)



ECO BRASS C69300

High performance lead-free* silicon brass rod, dezincification and stress corrosion cracking resistant



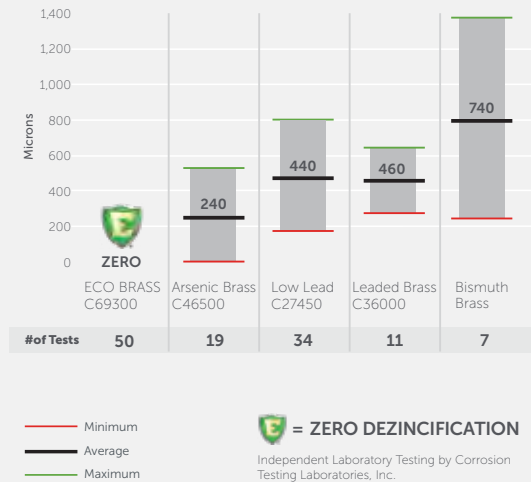
ECO BRONZE C87850

Tough, potable water castings, dezincification resistant, wear resistant, lead-free* bearing and bushing solution



Performance Driven ECO BRASS

Dezincification Depth of Brass Alloys
Measured by the ISO6509 Test



Chemistry Specification (C69300)

Cu (%)	Si (%)	P (%)	Pb (%)	Fe (%)	Sn (%)	Ni (%)	Mn (%)	Sb (%)	Zn	ASTM
73.0-77.0	2-7-3.4	0.04-0.15	0.09 max	0.10 max	0.20 max	0.10 max	0.10 max	-	Remainder	B371

Chemistry Specification (C87850)

Cu (%)	Si (%)	P (%)	Pb (%)	Fe (%)	Sn (%)	Ni (%)	Mn (%)	Sb (%)	Zn	ASTM
75.0-78.0	2-7-3.4	0.05-0.20	0.09 max	0.10 max	0.30 max	0.20 max	0.10 max	0.10 max	Remainder	B30

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ECO FORGE C69850

Highly forgeable lead-free* alloy that is dezincification and stress corrosion cracking resistant



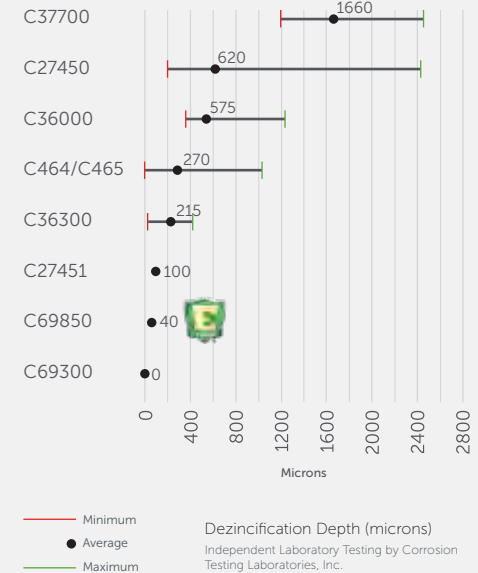
ANTIMICROBIAL BRASS CUVERRO® C69300

CuVerro's® efficacy as an antimicrobial copper alloy has been proven to continuously kill the bacteria** that cause infections. Made with ECO BRASS, CuVerro® provides peace of mind.



Performance Driven ECO FORGE

Dezincification Depth of Brass Alloys
Measured by the ISO6509 Test



Chemistry Specification (C69850)

Cu (%)	Si (%)	P (%)	Pb (%)	Fe (%)	Sn (%)	Ni (%)	Mn (%)	Sb (%)	Zn	ASTM
67.5-69	1.53-2.0	0.04-0.15	0.09 max	0.10 max	0.20 max	0.10 max	0.10 max	-	Remainder	B371

Chemistry Specification (C69300)





Cu (%)	Si (%)	P (%)	Pb (%)	Fe (%)	Sn (%)	Ni (%)	Mn (%)	Sb (%)	Zn	ASTM
73.0-77.0	2-7-3.4	0.04-0.15	0.09 max	0.10 max	0.20 max	0.10 max	0.10 max	-	Remainder	B371

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Alloy Comparison Chart

NSF/ANSI/CAN
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COMPLIANT

Name	Alloy	Ingot Form	Rod Form	Applications	Compliance	USA Manufactured
 ECO BRASS	Rod: C69300 and Ingot: C87850	EZ Melt Ingot Engineered Parts	Rod: Round, Hex, Hex RC, Special Shapes	PEX fittings, stop valves, ball valves, faucets, plumbing fittings and components	NSF/ANSI/CAN 61 compliant NSF/ANSI 14 compliant S. 3874 Reduction of lead in drinking water act compliant	Yes
 ECO BRONZE	Rod: C69300 and Ingot: C87850	EZ Melt Ingot Engineered Parts	Round, Hex, Hex RC, Special Shapes	Ideal for bearings and bushings, waterworks, valves, fittings and components	NSF/ANSI/CAN 61 compliant NSF/ANSI 14 compliant S. 3874 Reduction of lead in drinking water act compliant	Yes
 ECO BRASS CuVerro®	C69300	EZ Melt Ingot Engineered Parts	Round, Hex, Hex RC, Special Shapes	Antimicrobial hardware, handles, touch surfaces	NSF/ANSI/CAN 61 compliant NSF/ANSI 14 compliant S. 3874 Reduction of lead in drinking water act compliant	Yes
 ECO FORGE	C69850	Rod	Round Forge	Formulated for excellent forging for lead-free products	NSF/ANSI/CAN 61 compliant NSF/ANSI 14 compliant S. 3874 Reduction of lead in drinking water act compliant	Yes

Alloy Comparison Chart

Name	Alloy	Specifications	Minimum Mechanical Properties				
	ECO BRASS	Rod: C69300	Application: Machine - Forging ASTM: B371 Lengths: 10 to 16 feet Bundle Weights: 1,000-4,000 lbs	Diameter (inch) >0.150"=0.500" >0.500"=1.000" >1.000"=2.000"	Tensile Strength (ksi) 85 75 70	Yield Strength (ksi) 45 35 30	Elongation (%) 5 10 10
		Ingot: C87850	Application: Ingot ASTM: B30 Lengths: 12 inches Ingot Weights: 17 lbs/Ingot 1,000-4,000 lbs 2,500 lbs/pallet	Casting Method Sand Permanent Mold Continuous Cast	Tensile Strength (ksi) 59 64 65	Yield Strength (ksi) 22 32 25	Elongation (%) 16 16 8
	ECO BRONZE	Rod: C69300	Application: Machine - Forging ASTM: B371 Lengths: 10 to 16 feet Bundle Weights: 1,000-4,000 lbs	Diameter (inch) >0.150"=0.500" >0.500"=1.000" >1.000"=2.000"	Tensile Strength (ksi) 85 75 70	Yield Strength (ksi) 45 35 30	Elongation (%) 5 10 10
		Ingot: C87850	Application: Ingot ASTM: B30 Lengths: 12 inches Ingot Weights: 17 lbs/Ingot 1,000-4,000 lbs 2,500 lbs/pallet	Casting Method Sand Permanent Mold Continuous Cast	Tensile Strength (ksi) 59 64 65	Yield Strength (ksi) 22 32 25	Elongation (%) 16 16 8
	ECO BRASS CuVerro®	C69300	Application: Machine - Forging ASTM: B371 Lengths: 10 to 16 feet Bundle Weights: 1,000-4,000 lbs	Diameter (inch) >0.150"=0.500" >0.500"=1.000" >1.000"=2.000"	Tensile Strength (ksi) 85 75 70	Yield Strength (ksi) 45 35 30	Elongation (%) 5 10 10
	ECO FORGE	Rod: C69850	Application: Forging ASTM: B371 Lengths: 10 to 16 feet Bundle Weights: 1,000-4,000 lbs	Diameter (inch) >0.150"=0.500" >0.500"=1.000" >1.000"=2.000"	Tensile Strength (ksi) 60 55 50	Yield Strength (ksi) 40 35 30	Elongation (%) 5 10 10

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When you need lead-free* alloys, look no further than our ECO solutions.

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For further information please contact:

800-537-4291 | ecobrass-usa@wieland.com

To learn more or obtain a list of ECO BRASS® plumbing manufacturers visit

www.ECOBRASS-USA.COM



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