

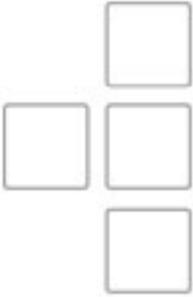


Liquid Metal Coatings LLC

7015 West 16th Ave. Lakewood, CO 80215

Tel 303-202-2042 Fax 303-202-2044

www.liquidmetalcoatings.com



## Performance

### Care Maintenance

Your new metal finish is a one-of-a-kind work of craftsmanship that will last many years with the proper care:

#### **Patina Finishes:**

The non-sealed finishes will slowly develop a rich antique patina. When necessary wipe metal with a soft dry cloth to clean or 0000 steel wool to maintain polish.

#### **Wax Finishes:**

The paste wax finish acts as a sealer that prevents natural tarnishing for 2-3 months in exterior applications and up to 1 year when indoors. Your piece can be resealed when the metal starts oxidizing and changing color. Use Johnson's Paste Wax, this is the only brand that will seal the metal without removing the patina finish. Brush or wipe on a thin layer of wax, let dry and buff out with a soft, dry cloth.

#### **Non-Clear Coated finishes:**

Dust with a soft cloth and clean with a mild soap, or if metal becomes very dirty, gently use a 0000 steel wool on finish. A non-abrasive household brass polish can be used to remove signs of oxidation, weathering or aging. Both these steps will start to remove the top surface of the metal and any patina on the high points -be gentle.

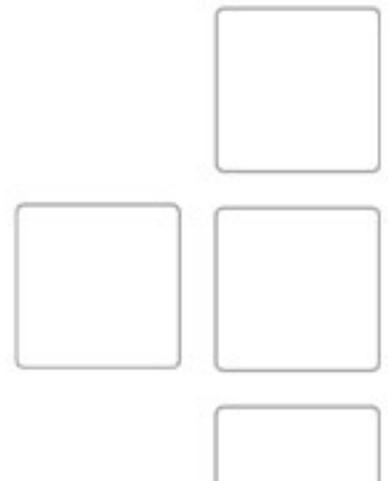
For Stainless Steel and Nickel Silver: Clean with a soft, damp cloth and a small amount of household ammonia.

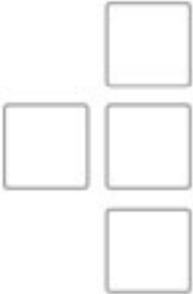
#### **Clear Coated Finishes:**

Clean with a soft damp cloth and use a very mild soap if the finish is very dirty. NEVER use brass polish; it will damage the seal coat.

\*\*Liquid Metal Coatings specifically prohibits the use of acetone.

The use of acetone on the metal finish will damage the product and void the warranty.





## Performance

### Testing

The following Structural and Thermal tests were conducted and the composite metal coatings have met the following specifications:

### Recent Test Data from US Navy:

Testing was performed in accordance with ASTM D4541-95, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers. Apparatus used was a specification Class A2 Fixed Alignment Adhesion Tester Type II made by Elcometer (model 106) with a 0-2000 PSI scale. An aluminum pull-off dolly was attached to the coated surface using a two-component epoxy paste adhesive. The adhesive was allowed to cure for four days before the start of testing. The coated substrate was 0.135" thick steel (KTA-Tator low copper steel test coupons). Pull-off strength of coating averaged at 1250 PSI with a range of 1000-1600 PSI. There was no coated substrate (adhesion) failure. Failure of each specimen was by coating decohesion near the coating/adhesive interface. (In other words: At a high PSI, the epoxy adhesive pulled off the coating, but the coating did not pull off the steel test plate)

### Private Tests:

U.S. Testing in Los Angeles conducted an ASTM-E84 flame spread test. The results show the metal composite will not support a flame and is a UBC Class 1, NFPA Class-A rated material.

An experimental ocean-going skiff was coated with copper in December 1996; to date the skiff has not been removed from the ocean water. Observations show no signs of marine life or barnacles; the copper has a patina but has not corroded.

### Test Data on Steel and Concrete:

Accelerated Weatherometer ASTM D-2565 (89) Modified: Results taken at 400 hours, 800 hours, 1200 hours, 1600 hours and 3000 hours. KTA Envirotest ASTM D-2246 (87) Modified: Results taken at 690 hours, 1165 hours, 1629 hours, 2126 hours, 2811 hours and 3000 hours. There was no delimitation, corrosion, pitting or blistering of the composite metal.

ASTM D 1475 (90) Weight per Gallon: 23.9 pounds

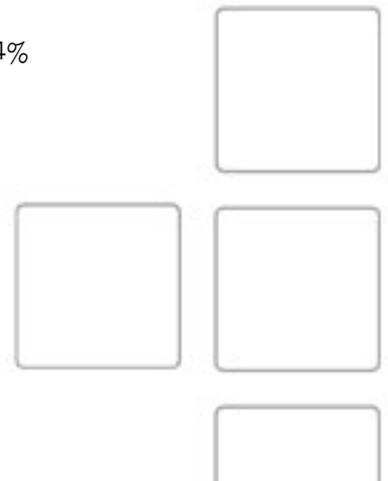
ASTM D 1475 (90) Specific Gravity: 2.87 g/l.

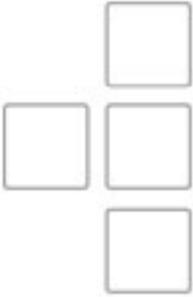
ASTM D 2369 (90) Percent of Solids by Weight: 94.21%

ASTM D 2369 (90), D2832 (90) Percent of Solids by Volume: 68.84%

ASTM D 4212 (88) Viscosity #2 Zahn Cup: 36-38 Seconds

Leach Rate Test Data: 1020 parts per billion





## Performance

### Warranty

All finishes produced by Liquid Metal Coatings receive a 7-point inspection during each of the critical coating steps as well as a final inspection prior to the delivery or pickup of the item. Nothing leaves the factory without these inspections. As a result we are confident that our finishes will retain their beauty and serviceability for many years.

Our finishes are warranted to the original purchaser against defects in material and workmanship. The term of this warranty is five years from the date of purchase, however, the term of this warranty may be decreased for specific projects for extreme, unpredictable or uncontrollable environments or unusual applications; such adjustments in warranty period will be stated on sales documents. During the warranty period, and at the discretion of Liquid Metal Coatings, we may repair the defects in the finish, replace the original item with a refinished item of equal quality, or may provide a prorata refund of the original purchase price.

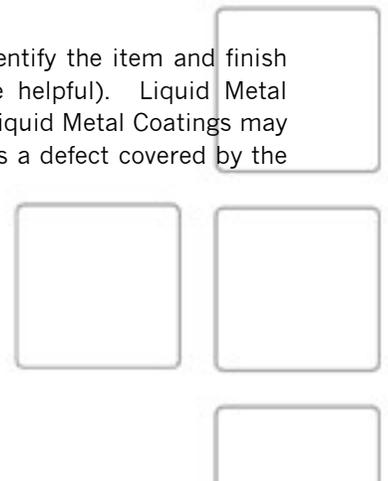
The warranty does not cover damages which occur due to failures in substrates provided by others; during shipment; failures caused by products not supplied by Liquid Metal Coatings; or failures which result from acts of God, vandalism, negligence, accidents, misuse, abuse, improper handling, transportation, storage, installation, use or maintenance; misapplication, alterations, refinishing, severe abrasion, chemical exposure, high temperature, discoloration from rubber-like place-mats, covers or cloths, or service by anyone other than an authorized Liquid Metal Coatings representative. Aging, weathering, tarnishing, oxidation or other change of color, minor scratches, and other minor imperfections are considered normal and are not covered by this warranty.

Failure to care and maintain the finish in accordance with the instructions provided in the "CARE & MAINTENANCE" information including the use of polishes and cleaners other than those specified shall nullify this warranty. The warranty does not cover finishes on items used for floor display.

The limited warranty set forth is the only expressed warranty (whether written or oral) applicable to Liquid Metal Coatings finishes and no one is authorized to modify or expand this written warranty. The provisions herein shall constitute the purchaser's exclusive remedy for breach of this warranty. All implied warranties including merchantability and fitness for a particular use shall expire with the warranty term. Liquid Metal Coatings is not responsible for incidental or consequential damages, and its liability shall in all instances be limited to repair, replacement, or refund. All decisions of Liquid Metal Coatings with regard to this warranty shall be final. Some states do not allow the exclusion or limitation of consequential damages, so the above limitation or exclusion may not apply to you.

### To Obtain Help Under this Warranty:

Contact Liquid Metal Coatings with original proof of purchase, identify the item and finish and describe the claimed defects (photographs or sketches are helpful). Liquid Metal Coatings will investigate your claim and take appropriate action. Liquid Metal Coatings may charge an inspection fee, but if it is determined that the finish has a defect covered by the warranty, the inspection fee will be waived.



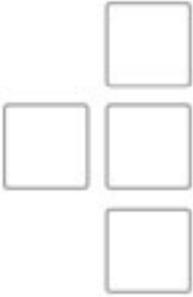


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**MSDS**

**HMIS Ratings**

Health: 2  
Flammability: 3  
Reactivity: 0  
Pers. Protection: H

**Section I -Product Identification**

Material Name: Composite Metal  
CAS Number: None  
Chemical Formula: Mixture

**Section II -Ingredients and Exposure Limits**

<u>INGREDIENT</u> <u>OSHA(PEL)</u>	<u>CAS NO.</u>	<u>% Wt.</u>	<u>ACGIH(TLV)</u>	
Copper	7440-50-8	20-95	1	1
Brass	Alloy/Mixture	20-95	1	1
Bronze	Alloy/Mixture	20-95	1	1
Nickel Silver	Alloy/Mixture	20-95	1	1
Thermal Setting Resin material	Chem/Mixture*	5-80	TLV/PEL not established for this material	
Styrene Monomer 50ppm	100-42-5	2.25-36	50ppm	

\*The chemical formula has been withheld and is a trade secret

**Section III -Physical Data**

Boiling Point Range: 133 F - 547 F at 760 mm Hg  
Vapor Pressure: 5.00 mm Hg at 20 C  
Vapor Density : (Air =1): Heavier than Air  
Evaporation Rate: (Ether =1): Slower than Ethyl Ether  
WT/GL (LB): 32  
Nonvolatile Solids %: 63.5 (ASTM D-2369)  
Volatile Organic Compounds (VOC), Product: 42.5g/l (304-91)

