



Scotchkote™

324 Liquid Epoxy Coating

Product Description

3M™ Scotchkote 324 Liquid Epoxy Coating is designed to protect metal from corrosion and is particularly useful in coating tanks, valves, piping and special fabrications where a wide range of chemical resistance is required. The coating is a heat-cured, two-part, thermosetting, 83 percent solids liquid epoxy that may be applied using conventional air or airless spray equipment. A coating thickness up to 10 mils/254 µm can be obtained in one application without sag. The applied coating B-stages at ambient temperature to a hard gel, allowing inspection and repair prior to cure.

Features

- Easy 1 to 1 mix ratio by weight or 100 to 85 by volume.
- High build, 10 mils/254 microns in one application.
- Long pot life.
- Applicable with standard air or airless spray equipment.
- B-stages to allow inspection and repair before curing.
- High level of adhesion.
- Protects over wide temperature range.
- Excellent chemical resistance.
- Resists cathodic disbondment.
- Long-term performance history in varying service environments.

General Application Steps

1. Remove oil, grease and loosely adhering deposits.
2. Abrasive blast clean the surface to NACE No. 2/SSPC-SP 10 ISO 8501:1, Grade SA 2 1/2 near-white metal.
3. Apply Scotchkote 324 coating at the specified thickness.
4. B-stage the coating.
5. Visually or electrically inspect the coating for defects.
6. Repair all defects using Scotchkote 324.
7. Cure according to cure guide.

*For additional application instructions please refer to the Scotchkote 324 liquid epoxy coating application guide.

Operating Temperature Limits

Laboratory data indicates that Scotchkote 324 coating, when properly applied and cured, should perform in a

satisfactory manner at temperatures up to 140°F/60°C in wet environments and between 100°F/73°C and 350°F/177°C in dry environments. It is, however, difficult to accurately predict field performance from laboratory data due to the wide variation in actual field conditions.

Cure Specification

Scotchkote 324 coating must be cured according to the cure guide to achieve maximum performance properties.

Cure Guide

Temperature	Cure Time
350°F/177°C	15 minutes
300°F/149°C	30 minutes
250°F/122°C	60 minutes
200°F/97°C	24 hours

Typical Properties

Property	Value
Color	Light brown
Mix Ratio	1A to 1B by weight 100A to 85B by volume
Coverage without waste	140ft/lb/mil 0,65 m ² /kg/microns
Flash Point	
Part A	400°F/204°C
Part B	51°F/11°C
Shelf Life, unmixed closed container	24 months
Pot Life 10 lb./4.5 kg	
73°F/23°C	16 hours
85°F/29°C	7.5 hours
100°F/38°C	1.5 hours
Density	Side A - 10 lb./Gal. Side B - 11.1 lb./Gal.
Viscosity, CPS, 73°F/23°C	59,500

3M Scotchkote 324 Liquid Epoxy Coating - Test Data

Property	Test Description	Results
Impact	Gardner 5/8 in. 1,6 cm diameter tup 1/8 in. x 3 in. x 3 in. (0,32 cm x 7,6 cm x 7,6 cm) steel panel	Reverse - 110 in•lbs/1.21 kg•m
Abrasion Resistance	ASTM D 1044 CS-17 1000 g weight 5000 cycles	0.22 g loss
Adhesion to Steel (Shear)	ASTM D 1002 10 mil/254 µm glue line	2700 psi 189 kg/cm ²
Hardness	Shore D	50-75
Thermal Conductivity (cm)	MIL-I-16923E	5.8 x 10 ⁻⁴ cal/(sec)(cm ²)(°C/
Thermal Shock	310°F/154°C to -320°F/-195°C coated pipe	10 cycles no effect
Water Absorption	3M 10 mil/254 µm free film immersion 30 days	0.119 g/ft 1.29 g/m
Salt Spray	ASTM B 117	Pass
Weatherometer	ASTM E 42 1000 hours	Surface chalking
Cathodic Disbondment	5.0 volts; 230°F/110°C, 30 days	11 mm r

Chemical Resistance Exposure at 73°F/23°C

* Acetic acid up to 50%	* Crude Oil	* Methanol	* Sodium Hydroxide
* Acetone 100%	Cyclohexane	* MIBK (Methyl Isobutyl Ketone)	* Sodium Hypochlorite
* Aluminum Chloride	Cyclohexene	* Mineral Oil	* Sodium Meta Silicate up to 5%
* Aluminum Hydroxide	Cyclopentane	* Mineral Spirits	Sodium Nitrate
* Aluminum Nitrate	Detergent	* Molasses	Sodium Sulfate
* Aluminum Sulfate	* Diesel Fuel	* Motor Oil	* Sodium Thiosulfate up to 50%
Ammonium Carbonate	* Diethylene Glycol	Muriatic Acid	Stannic Chloride
* Ammonium Chloride	Dipropylene Glycol	* Naphtha	Sulfur
* Ammonium Hydroxide up to 29%	* Ethanol	Nickel Chloride	* Sulfuric Acid up to 50%
Ammonium Nitrate	* Ethylbenzene	Nickel Nitrate	* Synthetic Sea Fuel (60% Naphtha, 20% Toluene, 15% Xylene, 5% Benzene)
Ammonium Phosphate	* Ethylene Glycol	Nickel Sulfate	* Turpentine
Ammonium Sulfate	* Ferric Chloride up to 50%	Nitric Acid up to 30%	Undecanol
Amyl Alcohol	* Ferric Sulfate	Nonane	* Urea
Barium Carbonate	* Ferrous Nitrate	* Octane	* Urine
Barium Chloride	* Ferrous Sulfate	* Oxalic Acid	* Vinegar
Barium Hydroxide	* Formaldehyde up to 50%	* Pentane	* Water
Barium Nitrate	* Formic Acid up to 10%	* Perchloroethylene	* Demineralized
Barium Sulfate	Freon, Gas and Liquid	* Phosphoric Acid up to 50%	* Distilled
* Benzene	* Gas (Mfg)	* Phosphorous Trichloride	* Fresh
Boric Acid	* Gas (Natural)	* Potassium Aluminum Sulfate	* Salt
* Borax	* Gasoline Leaded	Potassium Bicarbonate	* Sea
Butyl Alcohol	* Gasoline Unleaded	Potassium Borate	* Xylol
* Cadmium Chloride	* Glycerine	Potassium Carbonate	Zinc Chloride
Cadmium Nitrate	* Heptane	Potassium Chloride	Zinc Nitrate
Cadmium Sulfate	Haxane	* Potassium Dichromate up to 10%	Zinc Sulfate
* Calcium Carbonate	Hexylene Glycol	* Potassium Hydroxide	* 10-10-10 Fertilizer, Saturated
* Calcium Chloride	Hydrochloric Acid up to 25%	* Potassium Nitrate	
* Calcium Hydroxide	* Hydrogen Sulfide	Potassium Sulfate	
* Calcium Nitrate	* Isopropyl Alcohol	Propylene Glycol	
* Calcium Sulfate	* Jet Fuel	* Sewage	
Carbon Disulfide	* Kerosene	Silver Nitrate	
* Carbon Tetrachloride	* Linseed Oil	* Soap Solution	
Caustic Potash	* Lubricating Oil	* Soaps	
* Caustic Soda	Magnesium Carbonate	* Sodium Bicarbonate	
* Citric Acid up to 25%	Magnesium Chloride	* Sodium Bisulfate	
Copper Chloride	Magnesium Hydroxide	* Sodium Carbonate	
Copper Nitrate	Magnesium Nitrate	* Sodium Chlorate	
Copper Sulfate	Magnesium Sulfate	* Sodium Chloride	
	Mercuric Chloride		

* Also tested at 140°F/60°C for 9 months. No degradation observed.

Handling and Safety Precautions

Read all Health Hazard, Precautionary, and First Aid statement found in the Material safety Data Sheet (MSDS) and /or product label prior to handling or use.

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Corrosion Protection Products

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For ordering information, technical information, product information, or to request a copy of the Material Safety Data Sheet:

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