

# KELLY-MOORE PAINT COMPANY, INC.



## CHEMICAL MASTIC KM-15 HIGH BUILD EPOXY MASTIC

### PRODUCT DESCRIPTION

A two component, high solids, chemical resistant amine cured epoxy mastic. Chemical Mastic KM-15 is specially modified with a proprietary blend of selective resins, wetting agents and penetrates to provide excellent adhesion and protection of steel surfaces, and to upgrade old, deteriorated coatings. Ideal as a coating system over marginal prepared surfaces where blasting is impractical or prohibited. Recommended as a high build primer under a wide variety of topcoats.

### PRODUCT FEATURES

1. Excellent adhesion to steel.
2. USDA Approved.
3. A high build primer or finish coat.
4. Out performs standard epoxies.
5. Excellent against "undercutting".
6. Easy to apply, self-priming on steel.
7. Excellent build to protect sharp edges.
8. Tight film, low permeability.
9. Good chemical, abrasion and impact resistance.
10. Available in many colors.
11. Available in a low temperature cure & fast cure version.

### TECHNICAL DATA

**COLORS:** Standard Industrial Colors and Aluminum.  
Tint, Deep, and Neutral Base

**CLEAN UP:** MEK

**FINISH:** Gloss

**POT LIFE:** 3 hours @ 75°F when reduced  
with MEK

**VOLUME SOLIDS:** 82% ± 3%

**RECOAT TIME:** 8 hours at 75°F (5 dry mils)

**COVERAGE** (Theoretical): 1,315 sq. ft. at 1.0 mil  
DFT

**APPLICATION:** Spray, brush or roller

**RECOMMENDED THICKNESS:** 5.0 - 7.0 dry mils  
at 188-263 sq. ft. per gallon

**APPLICATION TEMP.:** 45°-120°F

**MIXING RATIO:** 4:1 by volume. Mix 4 parts Base  
(Part A) to 1 part Hardener (Part B)

**DRY SERVICE TEMP.:** 170°F Max

**INDUCTION TIME:** None

**SHELF LIFE:** 1 year minimum

**THINNING:** MEK

**PACKAGING:** 5 gal or 1 gal units

**V.O.C. (White):** 1.34 LBS/GL (161 GMS/L)

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## CHEMICAL RESISTANCE

(Splash/Spillage and short term immersion service). For Internal Lining Service, contact Kelly-Moore Paint for which chemicals are recommended for long term service.

Aluminum Nitrate - 50%	Grape Fruit Juice	Orange Juice
Aluminum Sulfate - 50%	Hexylene Glycol	Peanut Oil
Apple Juice	Hydraulic Fluid	Phosphoric Acid - 20%
Beer	Hexane	Power Steering Fluid
Brine	Honey	Rock Salt
Barium Chloride - 50%	Iodine	Sodium Bisulfate - 50%
Boric Acid - 25%	Jet Fuel - (JP4, JP5, JP7)	Sodium Bromide - 40%
Calcium Chloride - 50%	Kerosene	Sodium Carbonate - 30%
Castor Oil	Ketchup	Sodium Hydroxide - 50%
Copper Sulfate - 50%	Linseed Oil	Sulfuric Acid - 20%
Corn Oil	Lactic Acid - 25%	Transmission Fluid
Cutting Oil	Linseed Oil	Tomato Juice
Diesel Fuel	Milk	Vegetable Oil
Diethylene Glycol	Mineral Oil	Whiskey
Distilled Water	Mineral Spirits	Wine
Ethylene Glycol	Molasses	Xylene
Fish Oil	Motor Oil	
Fuel Oil	Mustard	
Gasoline (unleaded)	Naptha (Aliphatic)	
Glycerin	Oleic Acid	
Glyoxal	Olive Oil	

## PRODUCT USES

Specific areas include structural steel, tanks, vessels, water towers, equipment, pipe lines and racks, metal buildings, fences, catwalks, bridges, railings, fire escapes, etc., in chemical processing plants, pulp and paper mills, sewage and waste water treatment facilities, fertilizer plants, petroleum refineries, electric generating stations, coal handling operations, marine installations, etc. Chemical Mastic KM-15 can be used as a high performance primer under epoxy, polyurethane, acrylic, topcoating to upgrade corrosion resistance in severe chemical exposures.

## SURFACE PREPARATION

Remove all dirt, grease, oil, soil, chemical contaminants, and other matter before any mechanical preparation. The surface must be free of any salt contamination. Prepare and paint only clean surfaces in accordance with Steel Structures Painting Council (SSPC) or National Association of Corrosion Engineers (N.A.C.E.) specifications.

### 1. Steel

- a. Sand Blast - Best  
Sand Blast to a "Commercial" (SSPC-SP6) or "Near White" (SSPC-SP10) metal finish.
- b. Power Tool Clean  
Follow instructions as outlined in SSPC-SP3 specification.
- c. Hand Cleaning  
Follow instructions as outlined in SSPC-SP2 specification.

**Note:** Prime surface the same day.

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2. **Galvanized Steel/Aluminum**: Solvent clean per SSPC-SP1 or steam clean. Sweep blast to achieve a minimum 1 mil profile. Apply one (1) coat of KM-15 as a primer at 3-4 mils DFT.
3. **Previously Painted Surfaces**: Solvent clean per SSPC-SP1 and/or power wash. Remove loose existing paint by wire brush or other hand tools. Feather edges. Make test application to check for compatibility.
4. **Concrete**

In all cases of surface preparation, the pH should be checked. A pH reading of 7.0 to 8.5 is acceptable. Also, a Water Dissipation Test should be made on random areas of the floor to determine if the proper degree of porosity has been achieved. Before the installation of any Kelly-Moore Paint Products, the substrate should be examined for moisture. Test for moisture vapor transmission using ASTM F-1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor using Anhydrous Calcium Chloride. The maximum allowable rate is 3 lbs. per 1,000 square feet per 24 hours. Test for relative humidity in concrete floor slabs using Probes according to ASTM F-2170. This test measures the presence relative humidity of the slab below the surface. The maximum relative humidity should be below 80%.

New concrete must be cured at least a minimum of 28 days before applying a coating. On-grade slabs must have moisture vapor barrier in place. All laitance, sealers, efflorescence, chemical contaminants, grease, oil and other foreign material must be removed. The prepared surface must be clean, dry and structurally sound. Kelly-Moore Paint recommends mechanical preparation by means of shot blasting or diamond grinding to achieve a CSP-2 or CSP-3 profile, in accordance with the International Concrete Repair Institute (ICRI). The profile should reflect something similar to a 60-100 grit sandpaper. If the substrate is not properly prepared and the appropriate profile is not achieved, failure of the product to adhere to the substrate may occur.

Old concrete surfaces must be structurally sound. Any unsound areas must be repaired prior to proceeding with the resinous installation. For proper patching and repairing, use KM-PC-1000 with graded aggregate. Remove existing paint and loose concrete by rough sanding, sandblasting, high pressure water cleaning, shot blasting or grinding. In some cases where plant conditions allow, a stripper maybe used to remove excessive build-up of paints or sealers.

## **Coating System**

Two coats of KM-15 Epoxy at approximately 5-7 mils dry per coat is recommended for light traffic areas. For heavy forklift and high abrasion areas, KM-CT-352 Polyester Polyurethane Coating at 2-3 mils dry film thickness is recommended as the top coat over one coat of KM-15 Epoxy.

## **V.O.C.**

### **Unthinned**

1.34 lbs/gl  
161 GMS/Liter

### **Thinned 5%**

1.6 lbs/gl  
192 GMS/Liter

### **Thinned 10%**

1.83 lbs/gl  
219 GMS/Liter

### **Thinned 20%**

2.23 lbs/gl 267  
GMS/Liter

## **MIXING INSTRUCTIONS**

Stir each component to a uniform consistency, using a slow speed variable speed explosion proof drill with a Jiffy Mixer. Do not mix by hand. Make sure any pigment settled to the bottom is incorporated. Do not vary proportions. Chemical Mastic KM-15 is prepared by mixing 4 parts base (Part A) to 1 part Hardener (Part B) with a power mixer. KM-15 may be thinned up to 10% by volume for airless spray and up to 20% by volume for conventional spray. When rolling, thin 10-20% by volume.

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## APPLICATION PROCEDURE

<u>Airless Spray</u>	<u>Graco</u>	<u>Conventional Spray</u>	<u>DeVilbiss</u>
Gun	Silver Plus	Gun	MBC or JGA
Pump	33:1 Extreme	Fluid Tip	D
Tip Range	.019 to .023	Air Cap	64
Hose	3/8 inch I.D.	Atomizing Pressure	60 psi
Pressure	2400 to 2700 psi	Hose	½ inch I.D.
Filter Size	60 Mesh		

**Roller** – Use a 3/8” – ½” nap, phenolic core, shed resistant roller cover. Roll in the same direction always keeping a wet edge. Do not over roll product.

**Brush** – Use pure bristle brush.

When spraying, use a 50% overlapping crosshatch pattern to minimize the occurrence of pinholes. Do not apply to surfaces below 45°F or above 120°F. Do not apply over dew or frost. The surface should be dry and at least 5°F above the dew point.

## RECOAT TIME

<u>TEMPERATURE</u>	<u>TACK FREE</u>	<u>MINIMUM RECOAT</u>	<u>MAXIMUM RECOAT</u>
90°F	1 - 2 hours	5 - 6 hours	3 days
75°F	3 - 4 hours	7 - 8 hours	7 days
50°F	8 - 12 hours	36 - 48 hours	10 days

Times may be longer for thickness above 5 dry mils. For safety and proper product curing, good ventilation is necessary when painting indoors or in confined areas. Be sure the batch numbers are all the same to provide uniform color. Epoxy coatings may yellow or darken during application and after final cure. This will affect the color but will have no effect on the performance of the product. Heaters that emit carbon dioxide and carbon monoxide can cause the coating to yellow. For maximum exterior gloss and color retention apply a topcoat of KM-375 polyurethane.

## CAUTIONS

KM-15 is flammable. Keep away from all sources of ignition during mixing, application and cure. KM-15 Hardener is corrosive. The Hardener and Base can cause eye and skin burns as well as allergic reactions. Use goggles, fresh air masks or NIOSH approved respirators, protective skin cream and protective clothing. This product is sold without warranty as to performance expressed or implied. Users are urged to make their own tests to determine the suitability for their particular conditions.

**SEE SAFETY DATA SHEET FOR FULL SAFETY PRECAUTIONS.FOR  
PROFESSIONAL AND INDUSTRIAL USE ONLY  
KEEP AWAY FROM CHILDREN. NOT FOR RESIDENTIAL USE**

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