Semi-flexible Epoxy Traffic Coating/Surfacing

KEMKO® M-1 TR Surface Coat

Type:	Two-component, solvent-free, epoxy resin / hardener.
Primary Use:	Impact, abrasion and chemical resistant coating for resurfacing of concrete and asphalt pavement.
Substrates:	Concrete, steel and waterproofing membranes. Dry surfaces only.
Minimum Temp:	Installation: 50° F, Cure: 50° F (substrate temperature).
Thickness:	Single or multiple coats @ 20 - 30 mils per coat.
Finish:	Smooth or variable texture with aggregate broadcast.
Colors:	Black and concrete gray (blue-gray).
Coverage:	013 - .019 gal / sq ft; 53.5 - 80 sq ft / gal.
Waterproofing:	As a wear course binder in conjunction with a suitable membrane.
Shelf Life:	Three years minimum in sealed containers (see below for conditions).

The properties listed in this bulletin are typical and descriptive of the product and should not be used for specification purposes. For specification preparation, reference the specification of this product available from ChemCo Systems, Inc. This product is available only through KIP System (KEMKO® Injection Process) licensee/applicators.

***Description*:** KEMKO® M - l, TR Surface Coat is a two-component, semi-flexible, epoxy coating with excellent resistance to automotive chemicals (fuels, lubricants, hydraulic fluids) and pavement deicing compounds. When seeded or blended with aggregate, it can be used on properly prepared concrete pavements and steel decks and on flexible membranes bonded to parking garage decks to provide a traffic surface with excellent skid resistance and wear characteristics.

***Applications*:** Service areas of auto repair shops and aprons around gasoline pumps in filling stations, as well as parking structures, stadiums, plaza decks and walkways.

***Features*:** Unlike many other traffic coatings with automotive chemical resistance, KEMKO M - 1 does not embrittle when exposed to sunlight for long periods of time and is environmentally safe. It has a convenient 1:1 (by vol.) mixing ratio and is formulated for low "self-leveling" viscosity without the use
of volatile solvents (VOC's).

***Limitations*:** Substrates must be dry. The minimum substrate temperature during application and initial cure period (24 - 48 hr) is 50 deg F. Apply the material after the daily substrate temperature cycle has reached its peak. Substrates on or below grade must have a functioning vapor barrier to minimize the potential for blistering or delaminating of the applied coating. Environmental exposure may cause color changes- black becoming lighter; gray turning sand color. Do not add solvents or otherwise thin this material.

***Packaging*:** Standard package sizes of Part A + Part B are 10 and 100 gallons.

***Shelf Life*:** Three years minimum in unopened, original containers when stored between 60 and 90 deg F in a dry place away from sunlight. Remixing of components may be required upon long-term storage.

***Chemical Resistance*:** Resistant to a wide range of commonly used automotive chemicals including, gasoline, diesel, hydraulic fluids, anti-freeze, battery acid and deicing compounds. Ongoing exposure to Gasohol and heavy-duty brake fluid (polyether glycol based lubricants) is not recommended. Performance is a function of the specific chemical and concentration, ambient and solution temperatures, exposure times and housekeeping procedures. For information on specific chemicals and exposure conditions, contact a ChemCo Systems, Inc., technical representative.

***Color Selection*:** Standard colors are black and concrete gray (blue-gray). Custom colors are available and may require minimum quantities and/or slightly higher cost.

***Surface Preparation*:** Substrate surfaces must be dry, sound and free of all bond-inhibiting substances. Prepare surfaces for coating in accordance with *ASTM D 4259*, 'Standard Practice for Abrading Concrete,' or *ACI 503R, Chapter 5*, 'Preparing Surfaces for Epoxy Compound Application,' and ChemCo Systems, Inc.'s specific recommendations. Properly prepared concrete surfaces should have a minimum strength of 250 psi in direct tension. Steel surfaces should be cleaned to 'white metal' according to SSPC SP 5-63.

***Mixing*:** KEMKO M - 1 is a two-component adhesive. The resin to hardener (Part A: Part B) mix ratio is 1:1, by volume. Premix the individual components before drawing from bulk packaging. Wear safety glasses and clean neoprene rubber gloves when handling the material. Use quantities that can be applied before the potlife of the mixed material expires. Transfer the appropriate quantities of Part A and Part B into a mixing container. Blend thoroughly using a Jiffy mixer blade attached to a low speed (350 - 750 rpm) electric or pneumatic drill. Proper mixing will take 2 - 3 minutes.

***Installing*:** Pour the mixed material onto the substrate and spread to the desired coverage with a V-notch trowel or squeegee. Allow the coating to level followed by back rolling with a 3/8" nap roller. Allow the coating to become tacky to tack-free (4 - 7 hr @ 70° F) before applying the next coat. Avoid excessive cure times between coats. Aggregate, if used, must be broadcast onto the KEMKO M - 1 within 15 minutes of applying the coating. The recommended aggregate size is #20x40 or #30x50 mesh. Typical broadcast rates are .75 - 1.5-lb/sq ft. For vehicular surfaces, use of polish resistant aggregate, e.g., aluminum oxide, silicon carbide, blast furnace slag, trap rock, etc., is recommended for maintenance of long-term skid resistance. Allow overnight cure (12 - 16 hours) before opening to traffic. At pavement temperatures below 60° F, heavy traffic use should be limited for another 8 hours. For most applications, cure sufficient for traffic exposure has been obtained when the binder resists indentation by a thumbnail and aggregate cannot be dislodged with thumb pressure.
For additional application information, see *ACI 503R, Chapter 7*, "Applying Epoxy Compounds."

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Typical Properties (1)

	Property	Test Method	Value
Mix Ratio, A:B,	by vol		1:1
	by wt		100: 94
Color:	Part A	VISUAL	Opaque amber
	Part B		Black or concrete blue-gray
	Mixed		Black or concrete blue-gray
Weight per Gallon, lb:	Part A	ASTM D 1475	9.3
	Part B		8.8
	Mixed		9.1
Viscosity, cp:	Part A	ASTM D 2393	1000
	Part B		2500
	Mixed		1600
Gel Time, 200 g, minutes		ASTM D 2471	30
Tensile Strength, psi		ASTM D 638	2000
Elongation at Break, %		ASTM D 638	40
Taber Abraser, mg loss		ASTM D 4060	168 (2)

(1) Cure schedule, 7 days at 73° ± 4° F and test temperature, 73° F ± 4° F.

(2) CS-17 wheels, 1000 g load, 1000 cycles.

***Clean up*:** All tools and equipment must be cleaned before the mixed material cures. Cleaning can be facilitated with a solvent such as acetone or heavy-duty detergents. Cured material may be removed from equipment and tools by soaking in an epoxy stripper.

***Handling and Toxicity*:** This bulletin does not accompany the product when sold. For hazard warnings, safe handling and first aid instructions.

READ CAREFULLY THE MATERIAL SAFETY DATA SHEETS AND CONTAINER WARNING LABELS.

Part A: Liquid epoxy resin, HMIS Health Hazard Rating- 2 (Moderate Hazard). Warning! Causes eye and skin irritation. May cause allergic skin reaction, Harmful if swallowed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid prolonged or repeated contact with skin.

Part B: Liquid epoxy hardener, HMIS Health Hazard Rating- 3 (Serious Hazard). Contains alkaline amines. Danger! Causes severe eye and skin burns. May cause allergic skin and respiratory reaction, Combustible, corrosive. Do not get in eyes or skin or on clothing. Avoid breathing vapor, Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Keep away from heat and open flame.

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