# *KEMKO*® 082 GP Flooring Binder

Epoxy Binder for Industrial and Institutional Flooring

| | |
|---|---|
| Type: | Two-component, solvent-free, epoxy resin / hardener. |
| Primary Use: | Impact, abrasion and chemical resistant primer and binder for industrial and institutional floor surfacings and repair mortars. |
| Substrates: | Concrete, masonry, stone (dry and damp) and steel. |
| Minimum Temp: | Installation- 50 F, Cure- 50 F (substrate temperature). |
| Thickness: | Up to approx. l-½inches depending on application, aggregate blend and mix binder content. |
| Color: | Clear amber (unpigmented). |
| Coverage: | Primer- 160-200 sq ft / gal.<br>Binder- Varies with thickness, aggregate and binder content. Check trial mix for yield. |
| 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 082, GP Flooring Binder is a two-component, low viscosity, chemical resistant, epoxy primer and binder designed specifically for interior surfacings and repair mortars in industrial and institutional environments. Blended with suitable aggregate, KEMKO 082 is used as a primer and binder in multi-layer broadcast, self-leveling, slurry and trowel-compacted systems. The product is suitable for general service applications such as surfacings with impact and abrasion resistance, filling of shallow depressions, sloping-to-drains, and repairing spalls and surface defects as well as chemical exposure applications requiring surfacings resistant to common industrial and institutional chemicals. Surfacings made with KEMKO 082 find use in heavy and light manufacturing, warehouse and institutional facilities, breweries, wineries, bottling plants, dairies, canneries, food processing plants, etc. Each type of surfacing has specific application and performance characteristics. Evaluation of trial mixes particularly under low temperature, damp conditions prior to installation is recommended.

***Features***: The binder's resistance to wear, impact and chemical exposure and tolerance of surface dampness make it ideally suited for a variety of surfacing applications. Industrial and institutional surfacings made with KEMKO 082 provide resistance to forklift traffic, steel wheel loads, impact from dropped objects and attack from moderately aggressive chemicals. The product has a convenient 2:1 (by vol.) mixing ratio and low viscosity for high aggregate loading. The components do not contain volatile solvents (VOC's).

***Limitations***: The recommended minimum and maximum substrate temperatures during application are 50 and 90 deg F, respectively. The minimum substrate temperature for cure is 50 deg F. Allow for full cure before exposing the surfacing to harsh chemicals and abuse. Do not apply on wet substrates. The recommended maximum installed thickness is approx. 1 1/2 inch per lift. Do not add solvents or otherwise thin this material.

***Packaging***: Standard package sizes of Part A + Part B are 3, 15 and 150 gallon units.

***Shelf Life***: Three years minimum in unopened, original containers when stored between 60 and 90 deg F in a dry place away from sunlight.

***Color Selection***: The standard color is clear amber. Custom colors are available, but may be subject to minimum quantities and/or slightly higher price.

***Chemical Resistance***: KEMKO 082 provides excellent resistance to salt and fresh water, detergent and salt solutions, alcoholic and carbonated beverages, gasoline, kerosene, crude, fuel and mineral oil, weak alkali and inorganic acids, trichlor, heavy duty brake fluid, Skydrol and many other chemicals. Exposure to organic acids (vinegar), strong acids and alkali, hot water (above 140 F), bleaches and other highly corrosive chemicals should be occasional and time limited. Resistance under these conditions should be determined by actual test before the product is applied. KEMKO 082 has limited resistance to hydrocarbon solvents. 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.

***Surface Preparation***: concrete surfaces may be dry or clamp but must be sound and free of all bond inhibiting substances. Prepare surfaces for bonding in accordance with ASTM C 811, 'Surface Preparation of Concrete for Application of Chemical. Resistant Resin Monolithic Surfacings' 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.

***Aggregate Selection***: The preferred aggregate for most applications is high silica sand (>85% SiO2), washed, kiln-dried, graded and bagged. The sand particles should be round to subangular in shape. For most multi-layer broadcast applications, the recommended sand is a #20x40 or #30x50 mesh. For thin, self-leveling surfacings, a 5:1 blend of #20x30 or #30x50 mesh sand and #140 or 200 mesh ground silica is recommended. For screed-applied slurries, use #8x16, #12x20 or #16x30 mesh depending on the applied topping thickness. The recommended sand for thick, trowel-compacted patching, sloping and surfacing mixtures is a 2:1 or 3:1 blend of #12 or 16 mesh and #70 or 90 mesh. For all mixtures, the maximum particle size of the aggregate employed should not exceed 1/3 of the installed surfacing thickness.

***Mixing***: KEMKO 082 is a two-component system. The resin to hardener (Part A: Part B) mix ratio is 2:1, by volume. Read all material safety data (MSDS) information before handling the

***ChemCo Systems, Inc.***
*2800 Bay Road*
*Redwood City, CA 94063*
*650-261-3790 Fax 650-261-3799*

## Typical Properties (1)

| Property | | | Test Method | Value |
|---|---|---|---|---|
| Mix Ratio, A:B, | by vol | | | 2 : 1 |
| | by wt | | | 100:43 |
| Color: | Part A | | VISUAL | Clear amber |
| | Pan B | | | Dark amber |
| | Mixed | | | Dark amber |
| Weight per Gallon, lb: | | Part A | ASTM D 1475 | 9.6 |
| | | Part B | | 8.5 |
| | | Mixed | | 9.2 |
| Viscosity, cp: | Part A | | ASTM D 2393 | 375 |
| | Part B | | | 150 |
| | Mixed | | | 300 |
| Gel Time, 1 quart, minutes | | | ASTM D 2471 | 25 |
| Tensile Strength, psi | | | ASTM D 638 | 7200 |
| Elongation at Break, % | | | ASTM O 638 | 3.5 |
| Compressive Yield Strength, psi | | | ASTM D 695 | 11,200 |
| Compressive Modulus, psi | | | ASTM D 695 | 270,000 |
| Heat Deflection Temp., deg F | | | ASTM D 648 | 106 |

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

product. Wear safety glasses and clean neoprene rubber gloves when handling the materials. Premix the individual components before drawing from bulk packaging. Transfer appropriate quantities of Part A and Part B into a mixing container. Use quantities that can be applied before the potlife of the mixed material expires. 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. For fluid, epoxy-rich mixtures, continue mixing and slowly add aggregate to the mixing vessel. Mix for an additional 1-2 minutes after addition of all the aggregate. For less fluid, epoxy-lean mixtures, transfer the mixed binder to a mortar or plaster mixer, add aggregate (coarse first, fine last) and mix an additional 1-2 minutes.

***Installing***: Most applications require prime coating the substrate with neat binder at a thickness is 8-10 mils (160-200 sq ft/gal). Apply the prime coat with a brush, roller or airless spray equipment. Broadcast systems and self-leveling surfacings are usually applied on partially cured (slightly tacky to tack-free) primer while slurries and trowel-compacted surfacings are usually applied on uncured (wet) primer. Avoid excessive primer coat cure time. Apply the surfacing system using conventional tools and installation techniques. Broadcast surfacings typically employ multiple layers consisting of 20-30 mils of binder with aggregate broadcast and optional top coat. Self-leveling surfacings (typical thickness, 1/8 inch) and slurry surfacings (typical thickness, 3/8 inch) may include a surface aggregate broadcast and top coat. Trowel-compacted surfacings (typical thickness, 1/4 inch) usually do not require an aggregate broadcast or top coat. For additional installation information, see ACI 503R, Chapter 7, “Applying Epoxy compounds.” For specific recommendations and installation procedures, contact ChemCo Systems, Inc.

***Clean-up***: Excess mixed product is best removed from tile work area and tools before it hardens. Use of rags, solvents such as acetone or heavy duty detergents facilitate cleaning. Cured product may be removed from 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.

***DISCLAIMER***: NO EXPRESS WARRANTY IS MADE WITH RESPECT TO THE RESULTS OF ANY USE OF THIS PRODUCT. NO IMPLIED WARRANTIES, INCLUDING AND NOT LIMITED TO AN IMPLIED WARRANTY OF MERCHANTABILITY OR AN IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE ARE MADE WITH RESPECT TO THIS PRODUCT. NO LIABILITIES FOR PERSONAL INJURY, LOSS OR DAMAGE RESULTING FROM THE USE OF THIS PRODUCT IS ASSUMED. CHEMCO SYSTEMS, INC. RESERVES THE RIGHT TO ALTER OR DISCONTINUE THE PRODUCT DESCRIBED HEREIN AT ANY TIME AND WITHOUT PRIOR NOTICE.



Publication Number: C EP KEM-127L, GP Flooring Binder Publication Date: July 1998