



# KOSTER VAP I 2000 FS

Technical Data Sheet CT 233

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## Fast-setting system for control of concrete floor moisture and pH

### Features

KOSTER VAP I 2000 FS is a fast-setting, one-coat, membrane-forming, moisture vapor control system consisting of a unique combination of epoxy resins and other compounds formulated to prevent floor covering failures on concrete slabs with elevated levels of moisture. KOSTER VAP I 2000 FS exceeds the performance requirements in ASTM F3010-13 "Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings." KOSTER VAP I 2000 FS can be applied to concrete slabs with relative humidity up to 100% RH, and provides protection from sustained exposure to pH 14. Therefore, moisture and pH testing is not required. It is an excellent moisture blocker for virtually all types of flooring, including low permeance flooring such as vinyl, linoleum, carpet, rubber, and wood. KOSTER VAP I 2000 FS is compliant with all state and federal VOC regulations, having a VOC content of 0 g/L, which allows installation in sensitive areas such as hospitals, schools, and grocery stores. LEED Indoor Environmental Quality Credits are available for EQ 4.2 (Low-Emitting Materials, Paints and Coatings).

### Technical Data

Working time:	approx. 12 min (apply material immediately after mixing)
Cure time:	approx. 4-5 hr (depending on temperature and humidity)
Solids content:	100%
VOC, mixed:	0 g/l
Flash point:	> 200°F
Tensile bond to concrete:	≥ 200 psi (ASTM D7234)
Compressive strength:	≥ 8,700 psi
Flexural strength:	≥ 4,350 psi
Permeance:	0.047 perms (grains/h/ft <sup>2</sup> /in. Hg, ASTM E96 water method 73°F/50%RH)

### Fields of Application

KOSTER VAP I 2000 FS is formulated to treat new or existing concrete floors with high moisture and high pH. It is suitable for concrete slabs in offices, hospitals, schools, military facilities, supermarkets, manufacturing facilities, airplane hangars, single- and multi-unit housing, retail stores, and many other applications. KOSTER VAP I 2000 FS has low odor and zero VOC content, which allows application in occupied buildings with minimum disruption. Vapor retarders under the slab are not required.

### Substrate

It is the responsibility of the owner or the owner's representative to examine the slab for contaminants. Testing for contaminants is not required but is strongly recommended by KOSTER. Concrete substrates to receive KOSTER VAP I 2000 FS must be structurally

sound, solid, and meet industry standards as defined in ACI Committee 201 Report "Guide to Durable Concrete." Surfaces to be coated with KOSTER VAP I 2000 products must be free of moisture-sensitive patching and leveling materials, adhesives, coatings, curing compounds, concrete sealers, efflorescence, dust, grease, oils and any other materials or contaminants that can act as bond breakers. Concrete must be free of deleterious materials or reactive aggregates. Patching or leveling compounds that will be underneath KOSTER VAP I 2000 products must be long term resistant to high moisture and high pH.

### Concrete slabs with existing flooring failures

KOSTER strongly recommends identifying the cause of the failure. This usually requires cores to be taken and analyzed by a qualified laboratory. Contact the KOSTER American technical team to discuss details of taking cores and to discuss results of analysis of the cores and recommendations based on the findings.

### Surface Profiling

All concrete surfaces to be coated with KOSTER VAP I 2000 FS must be mechanically prepared by shotblasting to an ICRI Concrete Surface Profile CSP 3 (Ref. 1). Grinding is permitted only in areas inaccessible to shotblasting or for edging purposes. Acid etching is not permitted. Upon completion of the grinding and shotblasting, the concrete slab must be free of all dust, dirt and debris prior to the KOSTER VAP I 2000 FS installation. Do not use sweeping compounds, as most contain oil which may cause bonding issues.

Ref 1: ICRI 310.2R-2013, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair

### Application

#### Mixing

Each unit of the material is packaged containing the components in the correct ratio.

Using a long, slim, pointed tool such as a screwdriver, carefully puncture the rubber seal on top of the B component can and the metal bottom of the B component can. Allow sufficient time for the B component to drain into the A component. Remove the B component can. Use a slow speed electrical mixer (≤ 400 RPM) and "Jiffy-type" mixing paddle to mix the material for 3 minutes. Components A and B are mixed at a ratio of 2:1 by weight (1.76:1 by volume). Pour the fully mixed material in a continuous ribbon onto the substrate immediately after mixing, emptying the container completely. Do not invert container on floor to drain residual material.

#### Application

Apply KOSTER VAP I 2000 FS at substrate and ambient temperatures between 50° and 90°F. KOSTER VAP I 2000 FS may be applied to damp concrete with no standing water on the surface. Saturated,

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surface dry concrete is an acceptable substrate. Do not apply KOSTER VAP I 2000 FS to concrete less than 7 days old. Provide ventilation during application and curing. KOSTER VAP I 2000 FS is applied in one coat. Spread to the appropriate coverage rate using a notched squeegee. Immediately back roll with a 3/8-in nap epoxy rated roller at a right angle to the direction of the squeegee application, evenly distributing the product across the entire area to be treated. Examine the work immediately after rolling to assure complete, uniform coverage with no missed or thin areas.

When KOSTER VAP I 2000 FS is applied to concrete, it may flow into voids that are connected to the surface. Air is displaced out of these voids as the coating flows in, resulting in "outgassing." If excessive surface voids, pin holes, or bubbles are encountered, contact the KOSTER American technical team before proceeding. Do not allow KOSTER VAP I 2000 FS to be exposed to sunlight more than 48 hours. KOSTER VAP I 2000 FS does not develop an amine blush, so cementitious underlayments can be applied at later ages as long as the surface has been protected from sunlight. Prior to installation of underlayments, coatings, or floor coverings, cured KOSTER VAP I 2000 FS must be clean and free of dust, dirt, and debris. Sanding is not required. If installing coatings over KOSTER VAP I 2000 FS such as polymethyl methylacrylate, epoxy, or polyurethane, the recoat window is 48 hours after KOSTER VAP I 2000 FS has cured for 5 hours. To obtain KOSTER's 15 year warranty, KOSTER VAP I 2000 products must be applied by a KOSTER trained applicator.

### Coverage

KOSTER VAP I 2000 FS moisture control coating must be installed at a minimum continuous layer thickness  $\geq 11$  mils (0.011 in). Spread rate on ICRI CSP 3 surface is not to exceed 150 sq ft/gal.

A rougher surface profile or porous or absorptive concrete will require more material to achieve a sufficient coating thickness.

Testing shows the following relationship between coverage, coating thickness, and permeance:

Spread rate at CSP 3 sqft/gal	Average thickness mils (0.001 in)	Permeance* (grains/hr/sqft/in.Hg)
150	11	0.070
100	16	0.047

\*ASTM E96 water method, 73°F/50%RH

### Cleaning

Clean tools immediately after use with xylene or similar solvent. Store and dispose of cleaning solvent and rags according to jobsite rules and applicable regulations.

### Packaging

CT 233 002	0.7 gal
CT 233 010	2.4 gallon kit

### Storage

Store in original containers away from sunlight at 50°F - 90°F.

### Safety

Consult Safety Data Sheet. May cause irritation to eyes, skin, or respiratory system. Avoid contact with eyes or prolonged contact with skin. Provide adequate ventilation. Wear personal protective equipment including gloves, safety eyewear, long sleeves, full length trousers, and

non-absorbent shoes. In case of eye contact, flood eyes with clean water and seek medical attention. In case of skin contact, wash area with soap and water. Do not use solvents on skin.

### Warranties

KOSTER warrants that its product shall be in accordance with the specifications published in the current revision of the product's data sheet. KOSTER covenants that in the event any of its products fail to meet their published specifications, KOSTER shall replace those products proved to be defective. KOSTER shall not be responsible for any incidental or consequential damages due to the breach of its warranties. Notwithstanding the foregoing, KOSTER's sole liability hereunder shall not exceed the cost of the defective product originally purchased. EXCEPT AS SET FORTH ABOVE, KOSTER MAKES NO OTHER WARRANTIES EXPRESS OR IMPLIED AND MAKES NO WARRANTY AS TO THE MERCHANTABILITY OR FITNESS OF THE PRODUCT FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The user must determine if the product is suited for the intended use and the user must bear the risks and liabilities associated with it.

### Related products

KOSTER VAP I 2000 Zero VOC	Art.-Nr. CT 230
KOSTER VAP I 2000 UFS	Art.-Nr. CT 234
KOSTER VAP I 2000	Art.-Nr. CT 235
KOSTER VAP I 06 Primer	Art.-Nr. SL 131 009
KOSTER SL Premium	Art.-Nr. SL 280 025
KOSTER SL	Art.-Nr. SL 281 025
KOSTER SC	Art.-Nr. SL 282 022

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