



KOSTER VAP I 2000

Technical Data Sheet CT 235

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System for control of concrete floor moisture and pH

Features

KOSTER VAP I® 2000 is a one-coat 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 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 can be applied to concrete slabs with up to 100% RH, MVER of up to 25 lbs, 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 vinyl, linoleum, carpet, rubber, terrazzo, and wood.

Technical Data

Working time:	approx. 15 min (apply material immediately after mixing)
Cure Time:	approx. 12 hr (depending on temperature and humidity)
Solids Content:	100%
VOC, mixed:	≤ 10 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:	0.085 perms (grains/h/ft ² /in. Hg, ASTM E96 water method 73°F/50%RH)

Fields of Application

KOSTER VAP I® 2000 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 has low odor and low VOC content, which allows application in occupied buildings with minimum disruption. Vapor retarders under the concrete slab are not required.

Substrate

It is the responsibility of the owner or the owner's representative to provide a substrate that meets KOSTER's requirements. Testing for contaminants is not required but is recommended if there is any question whether the slab has contaminants that could interfere with bonding of the epoxy coating. Concrete substrates to receive KOSTER VAP I® 2000 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.

Concrete Repair

Repair weak or spalled areas before shotblasting. Material used to repair concrete below a KOSTER VAP I 2000 system must be moisture-tolerant. Mix KOSTER VAP I 2000 with KOSTER TA Fiber at a ratio of between 1:2 to 1:4 by volume. KOSTER Turbo Mortar F can also be used for concrete repair. Install KOSTER Turbo Mortar F following KOSTER's installation instructions. Repair areas, and allow the repair material to fully cure before shotblasting.

Static, Non-Moving Cracks and Voids

Cracks that are very narrow (less than approximately 10 mils) do not require special preparation. Flood small cracks with KOSTER VAP I® 2000 during regular application. Cracks and non-moving joints must be filled as completely as possible to stabilize adjacent concrete against movement due to moisture changes within the concrete. Clean wide cracks using a wire brush and vacuum to remove debris, or cut cracks 1/8 in wide x 1/8 in deep inch using a thin, diamond-rimmed abrasive blade on an angle grinder. Brush and vacuum to remove dust. Prime the side walls with KOSTER VAP I® 2000 before filling with a mix of KOSTER VAP I® 2000 and KOSTER TA Fiber at a mixing ratio that results in a trowelable consistency. Large voids, spalls, and wide cracks must be treated before the entire surface area is prepared by shotblasting. Remove all debris, loose particles, dust, contaminants etc. Allow sufficient curing time before preparing the surface by shotblasting to CSP 3.

Dynamic, Moving Joints and Cracks

All dynamic, moving joints and cracks must be honored through the entire flooring system and filled with an elastic material that is suited for the general conditions, the use of the facility, and the anticipated type and amount of movement. If there is any doubt as to the integrity of any existing backing materials, it is always best to remove, clean and re-fill the joint. Clean the joint completely and remove all remnants of the old elastic material from the side walls. Joints or cracks in concrete slabs that have dirt, residue from previous coating, or other contaminants should be cut 1/4 in wide x 1/2 in deep to remove the contaminants. Clean the joint or crack thoroughly until it is free of dust and debris. Coat the side walls of the joint with KOSTER VAP I® 2000 in the area where the

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joint sealant is intended to bond to the side of the joint. Do not flood the joint. The elastic joint must be installed so that the joint runs through the entire flooring system, including all final floor coverings. Fit the joint with a backer rod and install a suitable elastic joint sealant such as KOSTER Joint Sealant FS-H.

Surface Profiling

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

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

CAUTION: Follow OSHA recommended work practices to avoid exposure to respirable silica dust when cutting, grinding, and shotblasting concrete.

Application

Mixing

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

2.4 gallon unit: 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 2.63:1 by weight (2.4:1 by volume).

6 gallon unit: Pre-mix the A component. Then pour the B component into the short-filled A component container while continually mixing. Mix for 3 minutes. 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 at substrate and ambient temperature between 50° and 90°F. Do not apply KOSTER VAP I ® 2000 to concrete less than 7 days old. Provide ventilation during application and curing. KOSTER VAP I ® 2000 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. Examine the work immediately after rolling to assure complete, uniform coverage with no missed or thin areas. When KOSTER VAP I ® 2000 is applied to a concrete surface, 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 to be exposed to sunlight more than 48 hours. KOSTER VAP I ® 2000 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 must be clean and free of dust, dirt, and debris. Sanding is not required. If installing coatings over KOSTER VAP I ® 2000 such as polymethyl methacrylate, epoxy, or polyurethane, the recoat window is 48 hours after KOSTER VAP I ® 2000 was applied. 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 moisture control coating must be installed at a minimum continuous layer thickness ≥11 mils (0.011-in). Spread rate on ICRI CSP 3 surface is not to exceed 150 sq ft/gal.

Rougher surface profile or porous or absorptive concrete will require the use of more material to achieve a sufficient coating thickness.

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

Spread Rate at CSP 3	Average Thickness	Permeance*
sq ft / gal	mils (0.001 in)	grains/hr/sqft/in.Hg
150	11	0.086
100	16	0.056

*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 235 002	0.7 gal
CT 235 010	2.4 gallon kit
CT 235 025	6 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 products 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

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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 FS	Art.-Nr. CT 233
KOSTER VAP I 2000 UFS	Art.-Nr. CT 234
KOSTER Gauge Rake	Art.-Nr. CT 915 001
KOSTER VAP I 06 Primer	Art.-Nr. SL 131 009
KOSTER SL Premium	Art.-Nr. SL 280 025
KOSTER SC	Art.-Nr. SL 282 022

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