



## KÖSTER VAP I 2000 UFS

Technical Data Sheet CT 234

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- Offizieller Prüfbericht: "Standardprüfverfahren für die Wasserdampfdurchlässigkeit von Materialien", Law Project Number 281382 (LAW Engineering, Inc. Atlanta, USA), 19.7.2013, in englischer Sprache"  
 - LEED Compliance Test By Berkley Analytics, "VOC Emission Test Certificate", Certificate Nr. 170825-01, Aug 25, 2017.

## Ultra fast setting moisture vapor control system for the prevention of flooring failures such as osmotic blistering and delamination

### Features

KÖSTER VAP I 2000 UFS is a one coat moisture vapor control system consisting of a unique combination of epoxy resins and other chemical compounds. KÖSTER VAP I 2000 UFS is formulated to prevent floor failures on concrete slabs with elevated levels of moisture vapor emission. KÖSTER VAP I 2000 UFS has no upper limits for water vapor emissions; it can be applied to concrete slabs with a relative humidity (RH) of 100% and it provides protection from a sustained exposure to a pH of 14. Due to its unique formulation KÖSTER VAP I 2000 UFS is extremely dense resulting in an extremely low water vapor permeance. This makes KÖSTER VAP I 2000 UFS perfect as a primer for virtually all types of flooring, including low permeance flooring, such as sheet goods and rubber tile.

### Technical Data

Consistency	low viscous
Mixing Ratio (by weight)	2 : 1
Pot life at + 23 °C	approx. 12 min. (immediately apply material after mixing)
Active ingredients	100%
Flash point	> + 200 °C
Curing time at + 20 °C	approx. 2 hours
Mechanical an chemical final strength at + 23 °C	after 7 days
Application / processing temperature	+ 10 °C - + 30 °C
VOC, mixed	< 10 g/l
Earliest water resistance	after 24 hours / + 23 °C
Storage temperature	+ 10 °C - + 25 °C
μ value	higher than 135,000
Sd value	higher than 65 m

### Fields of Application

KÖSTER VAP I 2000 UFS is a special resin for application on concrete floors such as industrial and multi-purpose halls, offices, hospitals, schools, supermarkets, manufacturing facilities, airplane hangars, storage and retail space, and commercial and residential construction which are exposed to moisture from the underside. It protects against high concrete alkalinity (pH 13 - 14) and serves as a primer by reducing the water vapor diffusion prior to the application of epoxy or polyurethane resin coatings or respectively the adhesion of vapor tight floor coverings such as PVC, rubber, wood, and solid backed carpet.

### Substrate

KÖSTER VAP I 2000 UFS is used to seal concrete surfaces. The minimum age of the concrete surface to be sealed must be 7 days. The surface to be sealed must be clean, absorbent, free of dust, oil and grease, and other adhesion reducing substances. Any kind of surface contamination such as adhesives, coatings, curing compounds, efflorescence, dust, grease, oils, etc., have to be removed completely by shot blasting. Smooth concrete surfaces must be roughened by sand or shot blasting. The substrate must have a minimum adhesive

tensile strength of 1.5 N / mm<sup>2</sup>. During application and curing the surface must have a minimum + 3° C above the dew point. The concrete must be free of alkali sensitive aggregates, and the surface free of water soluble silicates as often found in surface hardeners, sealing agents, and crystalline waterproofing products. In such cases, additional measures have to be taken.

### Surface preparation

Concrete substrates to receive a KOSTER VAP I 2000 product must be structurally sound, solid, absorptive and meet acceptable industry standards. Surfaces to be coated with KOSTER VAP I 2000 products must be free of patching and leveling materials, adhesives, coatings, curing compounds, concrete sealers, efflorescence, dust, grease, oils and any other materials or contaminants that may act as bond breakers. All concrete surfaces that are going to be coated with a KOSTER VAP I 2000 product need to be mechanically prepared. The preferred method to achieve this is shotblasting. Grinding is permitted only in areas inaccessible to shot blasting or for edging purposes. More aggressive surface profiling may be required e. g. to remove contaminants. Upon completion of the shotblasting and grinding, the concrete slab must be vacuumed free of all dust, dirt and debris prior to the KOSTER VAP I 2000 UFS installation.

Concrete slabs may be burdened with contaminants that inhibit bonding. It is the owner or the owner's representative's responsibility to examine the slab for contaminants.

### Application

The two components of KÖSTER VAP I 2000 UFS are mixed using an electrical stirring device below 400 rpm until a homogeneous consistency is achieved. To avoid defects due to insufficient mixing, replot the material and mix it again.

KÖSTER VAP I 2000 UFS is applied evenly with a roller or squeegee in one coat. The formation of puddles must absolutely be avoided. Concrete surface profile, absorption rate and moisture vapor rates can effect coverage requirements. The substrate must be completely covered with a glossy film. The minimum continuous layer thickness is 0.4 mm. Pinholes have to be avoided. The necessary quality control procedure includes a visual inspection of the surface after curing. If a second coat is necessary to achieve the continuous minimum layer thickness, it is to be applied between 2 and 24 hours after the first coat. After a waiting time of min. 3 hours, subsequent work steps such as the application of sealants, coatings or coverings can be carried out. In order to avoid air entrapment, use only solvent free or respectively water free adhesives.

Always work at decreasing or constant temperatures. Increasing temperatures may lead to the formation of water vapor under the still liquid coating which may lead to defects, and has to be avoided.

### Consumption

Approx. 500 g / m<sup>2</sup>

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.

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### Cleaning

Clean tools immediately after use with KÖSTER Universal Cleaner.

### Packaging

CT 234 002	2.96 kg combipackage
CT 234 003	3 gallon kit
CT 234 010	10 kg combipackage

### Storage

Store the material at + 10 °C to + 25 °C. If stored in originally sealed packages it can be stored for min. 1 year.

### Safety

Wear appropriate Protective Personal Equipment (PPE) when installing the material. Observe all governmental, state, and local safety regulations when processing the material.

Mixed material must be used immediately and entirely after mixing. **Material residues must be stored outdoors as they develop a high reaction heat and smoke may form**. This also applies to large-volume applications.

### Other

Liquid polymers react to temperature fluctuations by changing their viscosity and/or curing behavior. Low temperatures will slow the reaction; high temperatures will accelerate the reaction rate. Mixing large volumes will also increase the reaction rate. Coating work should therefore only be carried out at falling or constant temperatures. The instructions given in the Technical Guidelines must be followed.

A dew point distance of +3 °C must be maintained during and for at least 12 hours after coating work. Coatings must be protected from moisture in all forms until completely cured. At material temperatures below +15 °C the consistency changes - the material becomes more viscous.

### Related products

KÖSTER VAP I 2000	Prod. code CT 230
KÖSTER Gauging rake	Prod. code CT 915 001
KÖSTER VAP I 06	Prod. code SL 131 009
KÖSTER SL Premium	Prod. code SL 280 025
KÖSTER SL	Prod. code SL 281 025
KÖSTER Universal Cleaner	Prod. code X 910 010

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