

# DEPENDABLE®

## VAPORSEAL™

VAPORSEAL is a 2-component, moisture tolerant, epoxy based product that blocks liquids and alkalinity, while retarding the transmission of moisture, odor and other elements through concrete slabs. This low viscosity product achieves excellent penetration on dry and damp surfaces. VAPORSEAL's high density enables it to reduce up to 25 lbs. of vapor emission to acceptable levels for the installation of most floor covering systems, including VCT, sheet vinyl, wood, laminates, carpet and epoxy floor systems.

### Features and Benefits

- Treats 25 lb MVER - 100% humidity concrete
- Reduces vapor transmission to near zero
- Alkalinity barrier - up to 13-14 ph
- Easy to install
- Low VOC - 55g/L
- Compatible with most floor covering systems
- Inspection and 10 year guarantee available

### The DEPENDABLE Difference

- Cover next day
- Covers even 7-day-old concrete
- Infiltration barrier to oil
- Superior bond to dry or damp surfaces
- Excellent chemical resistance

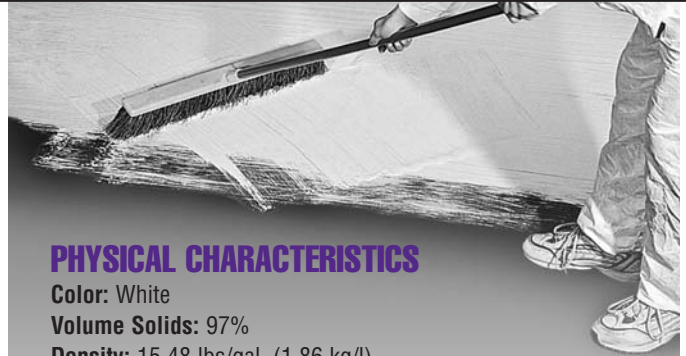
### Where to use...

VAPORSEAL is used to reduce vapor transmission in suspended, on-grade, and below-grade concrete. VAPORSEAL may be used in industrial facilities, office buildings, retail, institutional or residential buildings.

### Application Conditions...

Slab (surface) and air temperature must be 55°F or greater. Product must be kept between 60° and 75°F at time of mixing.

(See usage and limitation information inside)



### PHYSICAL CHARACTERISTICS

- Color:** White
- Volume Solids:** 97%
- Density:** 15.48 lbs/gal. (1.86 kg/l)
- VOC Content, mixed:** 0.5 lbs/gal (55g/l)
- Working Time:** 50°F (10°C) 90 Minutes  
73°F (23°C) 60 Minutes  
85°F (30°C) 30 Minutes
- Accept foot traffic:** 73°F (23°C) 12 hours
- Cover Time:** 73°F (23°C) 12-24 hours
- Compressive Strength:** 11,000 psi (80MPa)
- Flexural Strength:** 4,300 psi (30MPa)
- Bond Tested with:** New concrete (5 days) 110 psi (.8MPa)  
Moist concrete (28 days) 550 psi (3.8MPa)  
Dry concrete (28 days) 580 psi (4.0MPa)

### Sample Water Vapor Transmission Reduction Test: ASTM E96-95

Test	Test Results	
	(BEFORE) Untreated Control Wet Method	(AFTER) VAPORSEAL 1 coat Wet Method
<b>Water Vapor Transmission</b>		
• Lbs/24 hours x 1000 ft <sup>2</sup>	19.24	<b>1.03</b>
• Grams/hour x m <sup>2</sup>	3.91	<b>0.21</b>
<b>Permeance:</b>		
• perms	15.54	<b>0.83</b>
• Grams/Pa x s x m <sup>2</sup>	8.89 x 10 <sup>-07</sup>	<b>4.76 x 10<sup>-08</sup></b>

### VAPORSEAL™ Application Rates and Yield of 2.1 gal. (8.1L) kit - 1 Coat

Moisture Vapor Emission Rate* (lb/24H / 1000ft <sup>2</sup> )	Relative* Humidity	Application Rate** (ft <sup>2</sup> /gal.)	Yield per 2.1 gal. kit (ft <sup>2</sup> )	Approx. WFT Thickness (mils)
0-15	< 90%	115	240	14
15-20**	90-95%	95	200	16
20-25	> 95%	75	160	21

\* tested in accordance with ASTM F1869 or P1270

\*\* Application rate is best determined from actual MVER per ASTM 1869 tested in three days immediately prior to installation, otherwise base on RH of floor. Over new concrete (LESS THAN 7 DAYS OLD) or where RH exceeds 90%, at least the 15-20 lb. MVER application rate of 200 sq. feet per kit should be used. Note: Some variations may apply due to porosity and absorption of substrate. Values are theoretical and thicknesses are approximate.

### PACKAGING

(Do Not Allow to Freeze)

2.1 gallon (8.1 litre) Kit, 33 lbs. (15 kg)

Consisting of: Part A — Resin 29.5 lbs. (13.39 kg)  
Part B — Hardener 3.5 lbs. (1.61 kg)

## PREPARATION AND APPLICATION

### Emission/Moisture Testing

All areas to be treated must be tested in accordance with ASTM F1869-04, Anhydrous Calcium Chloride test, to determine the moisture vapor emission rate (MVER) or in accordance with ASTM F2170-04 (the in situ probe test), to determine relative humidity (RH) of the concrete slab. Performing both tests are preferable, with the MVER determined immediately before installation in fully enclosed structure and HVAC operating 24x7. The floor area, location of tests, ambient temperature and humidity during test should be recorded and mapped, and at least one test performed for each 1000 sq. feet of floor surface to be treated.

For concrete slabs with emission rates over 20 lbs MVER or relative humidity (RH) over 97%, a sample application is strongly recommended to verify obtaining the degree of reduction of vapor transmission desired.

While hydrostatic pressure may be mitigated by use of VAPORSEAL, substantial hydrostatic pressure while VAPORSEAL is being applied and cured may lead to excess pinholing.

### SURFACE PREPARATION

All surfaces to be treated must be clean, sound, solid and open/absorptive. Testing such as core samples for porosity, reactive aggregates and the presence of penetrating sealers is advised. Concrete slab must be at least 4" thick to be considered structurally sound, and any separate layer of concrete should be at least 2" thick. Concrete repair and leveling layers may only be considered structurally sound if they are hydraulic cement based, absorptive, profiled and at least 1" in thickness. Repairs containing latex or other components which prevents water absorption must be removed. Surfaces must also be clean and completely free of any dirt, dust, paint, sealer or other contaminant that might interfere with penetration or bond. If duct tape applied to surface and removed pulls up dust, the floor is not sufficiently clean. Do not apply to floors which have applied sealers unless the sealer is completely removed.

Concrete surfaces should be mechanical prepared to achieve a surface profile of ICRI CSP 2-3 (ICRI - International Concrete Repair Institute). Shotblasting is preferred. Hydrodemolition is acceptable and grinding may be performed with care. Acid etching is never permitted. Leveling should be done on top of VAPORSEAL that has sand broadcast in it with suitable repair materials such as SKIMFLOW ES or SKIMCRETE XL.

NOTE: After mechanical preparation, test for absorptive surface and absence of sealers, place dime-sized drops of water at several places on floor. Water should penetrate concrete within about 30 seconds. If water beads, surface is not ready to receive VAPORSEAL.

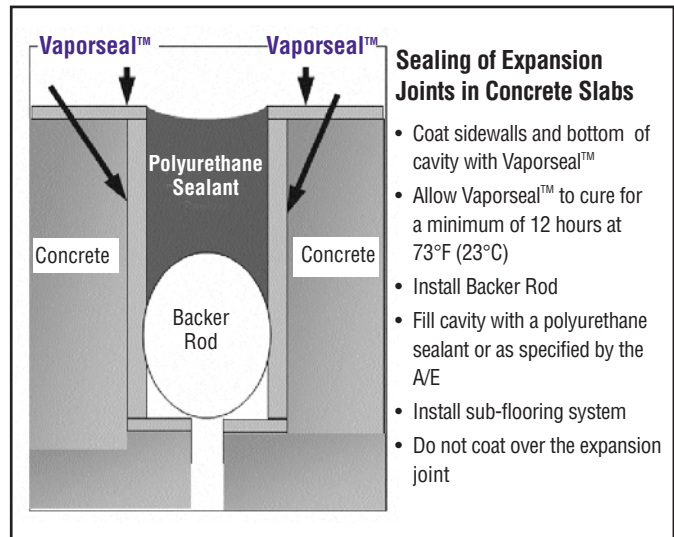
A final cleaning with a pressure washer would be advised where appropriate. In all cases, a thorough vacuuming (using a dust containing filter) and damp mopping is needed prior to application.

Finally, saturate the surface with water. The surface must be thoroughly dampened with no standing water. A damp surface allows proper penetration of the VAPORSEAL and prevents pin holes.

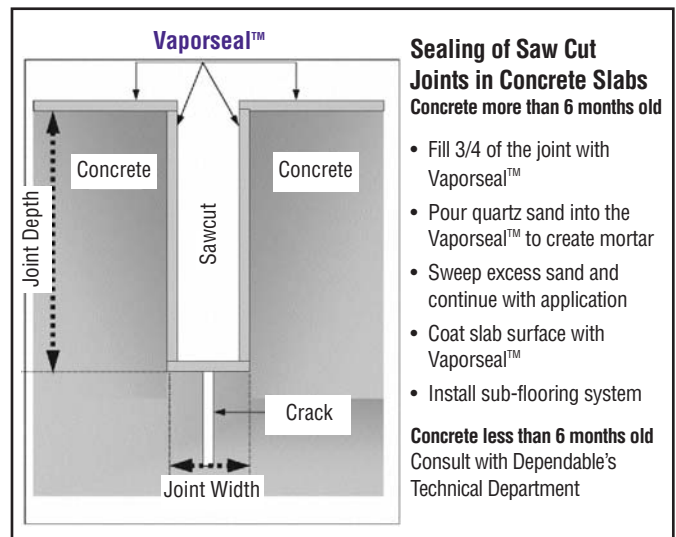


### Joints

Expansion (cold or construction) joints should be left intact. VAPORSEAL is not warranted against structural movement at expansion joints. To help reduce moisture emissions through expansion joints, coat the walls and bottom of the cleaned joint with VAPORSEAL. Once allowed to dry, an expansion joint cover or an elastomeric sealant may be used.



For concrete slabs over 6 months old, sawcut (control) joints and cracks should be filled by pouring VAPORSEAL to 3/4ths of the joint depth. Pour silica quartz into the VAPORSEAL to create a mortar. Sweep away excess sand and proceed with overall VAPORSEAL installation.



### Oil Contaminated Floor Slabs:

Follow all surface preparation instructions as detailed above. Treat the surface with a degreasing cleaning agent by the detergent scrubbing method as detailed in ICRI Guideline 03732. Clean the treated surface with high pressure water blasting at 2500 psi. Prior to coating, the surface must be damp, without any standing water. Do not allow the surface to dry before coating application. Surface drying may allow oil to rise and prevent proper bond with DEPENDABLE VAPORSEAL.

## MIXING

Use chemical resistant gloves and goggles when mixing or applying VAPORSEAL.

Part A and Part B are supplied in the appropriate mix ratio (100:12). Pierce the hole in the top container of Part B and allow the Part B hardener to drain completely into Part A. Mix thoroughly. Mixing is accomplished mechanically with an appropriate mix paddle. Mix for 4-5 minutes at about 300 rpm to produce a streak free, homogenous product. Care must be taken to mix all the product and avoid any action that might entrap air. DO NOT THIN the product.

Once mixed, pour the material into a separate clean, 5 gal. container to assure complete mixture. Once transferred, re-mix the unit to be certain of consistency.

## APPLICATION

### Application Conditions

Slab (surface) and air temperature must be 55°F or greater. Product must be kept between 60° and 75°F at time of mixing.

**Tools needed:** soft-edge squeegee, short nap synthetic roller, high quality stiff bristle masonry brush or broom.

To ensure proper coverage rate, measure off the area to be covered. Mark with tape or otherwise measure out the area of floor intended to be covered by the container or containers mixed. Film gauges are also useful to check the thickness of the wet material. Follow the coverage rate from appropriate emission rate (see chart).

Millage thickness may vary with porosity, but overall coverage of 75-115 sq. ft. per gallon should generally be maintained. Very rough or porous concrete may require heavier application rate.

Pour a strip of DEPENDABLE VAPORSEAL across the still moist floor surface. Move with a squeegee or broom in a uniform thickness. Carefully scrub the material into the surface with a stiff bristle broom/brush. Scrub the entire area at least twice in different directions each time. Back roll to achieve a uniform coverage and smoother surface.



## CURING, COVERING

Broadcasting Sand before covering. Generally, water-borne adhesives should not be used directly over VAPORSEAL without DEPENDABLE approval. Many floor covering materials also require a more level or smooth surface. An application of SKIMFLOW ES or another approved DEPENDABLE product is recommended to provide a proper substrate for the floor covering and the adhesive.



VAPORSEAL receiving a subsequent covering, such as a coating, topping or underlayment, shall have sand – broadcast, not thrown, so as not to disturb the coating – into the fresh VAPORSEAL. Clean, fresh water washed, and **dried** #20-50 silica sand shall be added to refusal - 30 to 40 lbs. per 100 square feet (15-18 kg/m<sup>2</sup>). (Weigh out the dried sand for coverage area needed to be covered.)

Allow 12-24 hours for VAPORSEAL initial cure before covering. Remove all loose sand and proceed with the topcoat. Floor covering installation proceeds once the Self-leveling material has sufficiently dried (see product data sheet for drying times).

## CLEAN-UP

Immediately clean all equipment and tools with denatured alcohol. If allowed to dry, clean with MEK.

## LIMITATIONS/PRECAUTIONS

- Do not apply over existing coatings, sealers or floor coverings.
- Do not apply where either slab or air temperature falls below 50°F (10°C) at or within 72 hours after installation.
- Do not apply to concrete slabs with less than 3500 psi compressive strength. (Consult DEPENDABLE Technical Services)
- Protect the area to be treated from strong sunlight, wind or drafts.
- Acid Etching should not be used as a method of preparation.
- Do not apply to new concrete slabs until at least 7 days old.
- Do not apply where VAPORSEAL will receive unprotected exposure to sunlight or UV radiation.
- Can NOT be sprayed.
- DO NOT FREEZE.

## Another **DEPENDABLE** Moisture Barrier...

### **CUTDOWN™**

For less demanding moisture problems and adhesive residue treatment. Can reduce up to 8 pounds of moisture vapor transmission while isolating odors, cutback and other adhesive residue.

## **DEPENDABLE** Self-Levelers... Tried, True & New.



### **DEPENDABLE SKIMFLOW ES™**

An Extended Set self-leveler that remains flowable for a longer period of time.

### **DEPENDABLE GSL™**

A gypsum cement underlayment that delivers high strength and outstanding adhesion; for use in many applications.

### **DEPENDABLE SKIMFLOW®**

A blended cement underlayment, pumpable or pourable, that is fast-setting and fast-to-cover.

### **WEARFLOW®**

At over 8,000-psi compressive strength, this outstanding abrasion-resistant self-leveler is rated for use as a heavy-duty commercial/industrial surface.

### **DEEPFLOW®**

A deep-filling, full-floor, gypsum-based underlayment. Available in a concentrate to be mixed with sand on-site, or pre-mixed in bags.

## **DEPENDABLE Patches...**

**SKIMCRETE XL®**, **SKIMCRETE®**,

**POLYSKIM®** and **WHITE SKIMCOAT™**

## **LIMITED WARRANTY**

DEPENDABLE guarantees that VAPORSEAL is free of manufacturing defects and will reduce the moisture emission rate of a concrete slab when applied strictly in accordance with DEPENDABLE's instructions and current technical bulletins. The limited warranty extends for the same term and to the same extent or proration as the floor covering placed over it immediately after installation, and is limited to the repair or replacement of the DEPENDABLE products used in the installation and the floor covering initially installed, or to the cost of DEPENDABLE's products and the floor covering initially installed if VAPORSEAL is not repaired or DEPENDABLE's products are not used in the replacement. The limited warranty does not cover products not manufactured by DEPENDABLE other than the floor covering. DEPENDABLE makes no warranty as to merchantability or fitness for a particular use and this limited warranty is in lieu of all other warranties, express or implied. No salesman, agent, distributor, or dealer has authority to expand, alter or waive these provisions.

## **SPECIAL WARRANTY**

By prior application and written reply approval from DEPENDABLE before installation, DEPENDABLE will issue a special limited 10 year "full floor" warranty to the project owner that moisture emission rates of up to 25 lbs. MVER will be reduced to 3 lbs. or such higher level required by the floor covering to be applied for at least 10 years if the floor is applied by a **certified DEPENDABLE installer** or is inspected before and during installation by a DEPENDABLE representative or inspector. This limited 10 year warranty will cover all DEPENDABLE products used on the floor, the floor covering listed in the application initially installed over VAPORSEAL for the warranted life of that floor covering, any other products approved in advance in writing by DEPENDABLE and all installation labor for repair, removal or replacement of the floor covering if the failure is caused by moisture and VAPORSEAL, applied in strict accordance with directions and technical bulletins, fails to maintain a reduction in moisture emissions consistent with the requirements of the floor covering.

For MSDS and 24 hour Emergency information,  
visit our web site: [www.floorprep.com](http://www.floorprep.com)  
or contact CHEMTREC®:  
**800-424-9300**

Technical Assistance can be obtained by calling:  
**800-227-3434**

E-mail may be sent to: [dependable@floorprep.com](mailto:dependable@floorprep.com)



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