



## Water / Vapor / Oil Barrier Coating

- ☑ Reduces moisture vapor emission rates of up to 25 lbs to 3 lbs or less
- ☑ 1-coat application up to 25 lbs MVER
- ☑ Flooring system installed next day
- ☑ Covers even 5 day old concrete
- ☑ Eliminates "out-gassing" of concrete
- ☑ Applied to moist or dry concrete
- ☑ High alkalinity barrier (pH 13 - 14)

### Product Description

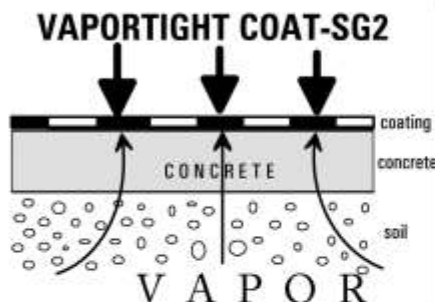
AQUAFIN® VAPORTIGHT COAT®-SG2 (in short "SG2") is a unique 2-component, moisture tolerant, extremely high density, chemically enhanced epoxy based product which prevents the passage of water vapor and moisture through slabs or walls on or below grade, thus eliminating delamination of adhesives, floor coverings and coatings. It also prevents capillary infiltration of oil or other chemicals from the ground and can be used to treat oil-contaminated slabs.

"SG2" reduces water vapor transmission levels of up to 25 lbs/24 hrs • 1000 ft<sup>2</sup> to 3 lbs or less for the installation of most floor covering systems including VCT, sheet vinyl, carpets, wood, laminates, epoxy, terrazzo & synthetic. "SG2" can also be used as a stand-alone coating (consult our technical dept.).

### Typical Applications

#### Water-Vapor Transmission:

Concrete slabs and cementitious underlayments (other than gypsum) with missing or damaged vapor barriers.



- **Barrier for oil + other chemicals:**  
Used for secondary containment or to prevent infiltration of oil and other chemicals.
- **Fresh concrete slabs and underlayments:**  
5 day old concrete slabs and underlayments.

#### Areas of application: slabs & walls

- Industrial/retail facilities • Office buildings
- Hospitals and schools • Residential slabs
- Food processing plants

### Features/Benefits

- Low VOC
- Vapor & water barrier

- Barrier against radon and other gases
- Excellent adhesion to steel
- Compatible with most flooring systems
- High chemical resistance (see chemical resistance guide 5.1.1-2)
- Meets USDA/FSIS guidelines
- Easy to install • Minimal downtime

### Water-Vapor Emission Testing

AQUAFIN strongly recommends "Anhydrous Calcium Chloride" testing as per ASTM F 1869-98 or testing as per ASTM F 2170 on slabs to be treated, to determine the MVER = moisture vapor emission rate in lb/24 hr • 1000 ft<sup>2</sup> (grams/hr • m<sup>2</sup>). This testing must be carried out before application of "SG2" to obtain AQUAFIN warranty.

For concrete slabs with emission rates from 20 to 25 lb/24 hr • 1000 ft<sup>2</sup> (4 to 5 grams/hr/m<sup>2</sup>), it is required that a test application be conducted with "SG2" to verify acceptable MVER levels and structural soundness of the concrete slab.

Consult our technical dept. before applying "SG2" to concrete slabs with compressive strength of less than 3,500 psi (27 MPa).

### Preparation of Substrate

All concrete surfaces to be treated with "SG2" must be clean, sound and have an "open"/absorptive surface ("tooth and suction").

⇒ Do not apply "SG2" to surfaces which have been previously treated with any kind of sealer.

#### A. Water-Vapor Transmission Treatment:

1. Remove existing floor coverings, coatings, adhesives, curing compounds, efflorescence, dust, grease, laitance, etc. down to bare concrete with steel shot blasting, abrasive (sand) blasting, scarifying or grinding using a diamond cup blade. Acid etching is not recommended.
2. Shot blast or abrasive blast concrete slabs to surface profile ICR CSP 2 - 5 (ICRI, Des Plaines, IL, Guideline No. 03732.).
3. Repair cracks with a suitable patching mortar.
4. Install cementitious underlayments, leveling mortars, flash patching, on top of SG2.
5. Treat saw cut and expansion joints as per application Guideline 5.1.1-1.
6. Carefully rinse all the surfaces to be treated with clean water, leave no standing water.

#### B. Oil contaminated slabs:

1. After steel shot blasting, treat surface with a de-greasing cleaning agent by the detergent scrubbing method as outlined in ICR Guideline No. 03732.
  2. Clean treated surface with high pressure water blasting of minimum 2,500 psi.
  3. The surface shall be damp/moist without standing water, when applying "SG2". If the substrate dries before applying "SG2", oil can rise again and prevent "SG2" from bonding.
- ⇒ In weather exposed areas protect the application for 4 - 6 hours (at 70°F (21°C)) from rain and moisture.
- ⇒ Protect from UV exposure.

### Mixing

- ⇒ Use chemical resistant gloves and goggles when mixing or applying "SG2".
- ⇒ Material should be minimum 60°F (15°C) at time of mixing.
- ⇒ Do not alter mixing ratios. Do not thin.

Part A (A-Component) = resin and Part B (B-Component) = hardener are supplied in the appropriate mixing ratio.

1. Pierce a hole through the top (rubber membrane) and the bottom of Part B container. Assure that Part B completely drains into Part A. Always mix a complete kit in the proportions supplied.
2. Stir mixture for approximately 5 minutes to a homogenous, streak free consistency, using a slow speed drill (approx. 300 rpm) with a PS Jiffy blade. Avoid any action that may entrap air. Ensure that the material at the pail bottom and sides are agitated.

### Application

"SG2" can be applied to concrete and cementitious toppings that are at least 5 days old.

1. **After steel shot blasting or scarifying, check slab surface with the water drop method.** Pour a drop of water about the size of a dime in several places. If it beads, surface is not absorptive and requires more preparation. If it penetrates the concrete within approx. 30 seconds the surface is absorptive and ready to receive the "SG2" treatment. A test application is recommended on old slabs where a sealer may be present.
2. Pour mixed material from the mixing container into a clean container and carefully mix it once more (approx. 30 seconds).

### Sample Water Vapor Transmission Reduction

Test : ASTM E 96-95

Test	Test Results		
	BEFORE Untreated Control Wet Method	AFTER: VAPORTIGHT COAT®-SG2 1 coat at 0.8 kg/m <sup>2</sup>	REDUCTION %
<b>Water Vapor Transmission:</b> ♦ lbs / 24 hours • 1000 ft <sup>2</sup> ♦ grams / hour • m <sup>2</sup>	19.24 3.91	<b>1.03</b> 0.21	<b>95</b>
Permeance: ♦ perms ♦ grams / Pa • s • m <sup>2</sup>	15.54 8.89 x 10 <sup>-07</sup>	0.83 4.76 x 10 <sup>-08</sup>	95

Test carried out by independent laboratory

# VAPORTIGHT COAT®-SG2

## "SG2" Application Rates & Yield of 2.1 gal (8.1 L) kit

Moisture vapor emission rate lb/24 h • 1000 ft <sup>2</sup>	(g/h/m <sup>2</sup> )	No. of coats	Application rate ft <sup>2</sup> /gal	(kg/m <sup>2</sup> )	Yield per 2.1 gal kit ft <sup>2</sup>	(m <sup>2</sup> )	Appx. Thickness mils	(mm)
up to 15	0 - 3.0	1	115	0.67	240	22.4	14	0.35
15 - 20	3.0 - 4.0	1	95	0.8	200	18.7	16	0.4
20 - 25	4.0 - 5.0	1	75	1.0	160	15.0	21	0.5
New concrete (min. 5 days old)		1	100	0.77	210	19.5	16	0.4
Oil contaminated slabs		1	100	0.77	210	19.5	16	0.4

**Walls:** contact our technical dept. Note: all values theoretical. Application thicknesses are approximate. Some variations may apply due to porosity and absorption of substrate.

## Technical Data

Material	2-component epoxy	
Color	White	
Density	15.49 lbs/gal (1.86 kg/L)	
VOC Content, mixed	0.5 lbs/gal (55 g/L)	
Volume Solids	97 %	
Flash Point: Part A	>212°F (>100°C)	
Part B	170°F (77°C)	
Mixing Ratio	100:12 (by weight)	
Pot Life, approx.	60 Minutes at 75°F (24°C) 30 Minutes at 85°F (30°C)	
Open to Foot Traffic	after 12 hrs at 73°F (23°C)	
Curing Temperature	minimum 46°F (8°C)	
Full Strength	after 7 days	
Compressive Strength	>11,000 psi (>80 MPa)	
Flexural Strength	>4,300 psi (>30 MPa)	
Adhesion to:		
• new concrete (5 days)	110 psi	(0.8 MPa)
• moist concrete (28 d)	550 psi	(3.8 MPa)
• dry concrete (28 days)	580 psi	(4.0 MPa)
Temperature Resistance		
a.) Continuous:		
• dry heat	140°F	(60°C)
• humid	113°F	(45°C)
b.) Intermittent:		
• high pressure water	185°F	(85°C)
	248°F briefly	(120°C)
• dry heat	149 - 185°F	(65 - 85°C)

All data are average values obtained under laboratory conditions. In practical use temperature, humidity and absorbance of the substrate may influence the above given values.

- Protect the area to be treated from strong sun light and wind. Indoors, prevent noticeable drafts.
- Do not apply at air or slab temperature below 50°F (10°C).
- Insure that the material is applied within the coverage rate specifications by marking the area to be covered.
- Install "SG2" as per above chart "Application Rates":**
  - Step 1:** apply "SG2" by short nap roller or squeegee to the still moist substrate.
  - Step 2:** carefully scrub it into the pores with a long handled scrub brush.
  - Step 3:** follow with a roller to achieve a uniform coverage.

⇒ **Note:** "SG2" can not be sprayed.

### 7. Step 4: Sand

- Immediately broadcast clean, dry, fresh water washed and dried #20 silica sand (ASTM E11 No. 18 - 35 sieve size [0.5 - 1.0 mm dia.]) to "rejection" (full broadcast), or at a rate up to 30 lb per 100 SF (1.5 kg/m<sup>2</sup>) into the fresh (wet) "SG2".
- Carefully remove any loose sand after a curing period of 12 - 24 hrs, before applying 2<sup>nd</sup> coat or top coating.

### 8. Top coating:

- "SG2" surfaces receiving a subsequent top coating (epoxy, terrazzo, cement-based topping, underlayment, polyurea, synthetic or rubber, etc.) must be broadcast with sand as described in item 7, "Sand".
- If a smooth surface is desired (omitting sand), the "SG2" must be mechanically roughened (i.e. with a #80 grit sanding screen) and the entire area wiped clean with MEK.

### 9. Flooring:

Flooring systems including VCT, sheet vinyl, linoleum, carpet and wood can be applied approx. 12 - 16 hrs after the initial application (as soon as the coating opens to foot traffic). Please note that adhesives should not be used directly over "SG2" without approval of AQUAFIN. Many floor covering materials (i.e. VCT, sheet vinyl, linoleum, carpet) also require a more level or smooth surface. In such cases an application of a self-leveling underlayment (minimum 1/8" (3 mm) thickness) is required to provide a proper substrate for the floor covering and the adhesive.

### 10. Application equipment needed:

Soft-edge squeegee, short nap synthetic roller, long handled scrub brush.

### 11. Cleanup:

Immediately clean all equipment and tools with mineral spirits.

## Packaging & Shelf Life

2.1 gal kit = 33 lbs (8.1 L = 15 kg).

A kit consists of:

- 29.5 lb (13.39 kg) "A-Component" (resin)
- 3.5 lb (1.61 kg) "B-Component" (hardener).

Shelf life is 18 months in closed, original packaging, stored in a dry, cool place.

## Safety

**Refer to MSDS. For commercial use only.**

**Part A** - irritant; sensitizer - contains epoxy resins.

**Part B** - corrosive; sensitizer - contains amines.

Avoid contact with skin and eyes and prolonged inhalation. Wear chemical resistant gloves and safety goggles. After contact with skin, wash immediately with water and soap and rinse thoroughly. In case of eye contact, rinse opened eye for several minutes under running water and immediately seek medical advice. After inhalation supply fresh air and call doctor for safety reasons. Use NIOSH/ MSHA

approved vapor respirator in poorly ventilated areas. **KEEP OUT OF REACH OF CHILDREN.**

**Spills:** Ventilate area. Contain and collect spillage with noncombustible, absorbent materials (i.e. sand, vermiculite, universal binders, sawdust, etc.) and place in container for disposal. Emergency procedures are not required. Dispose of in accordance with current local, state and federal regulations.

**VOC limit:** This product is well below the allowable EPA limits as stated in 40 CFR Part 59.

### Limited Warranty:

This product is sold with the "standard" limited warranty described below. An extended 10 year material and labor limited warranty is available for emission rates up to 25 lbs/24 hrs • 1000 ft<sup>2</sup> (5 grams/hr/m<sup>2</sup>), when product is installed by an AQUAFIN trained and licensed applicator, or the installation is factory inspected and approved. To qualify for the extended limited warranty, application must be submitted and accepted prior to bidding project. The terms and conditions of that limited warranty are contained in the application.

**LIMITED WARRANTY:** AQUAFIN, INC. warrants to the owner of the premises at the time of installation that for a period of 10 years after installation its products are free of manufacturing defects. As the sole remedy, we will replace or, at our election, refund the purchase price of, any product which is proven to be defective, provided that the product was properly applied. Our product recommendations are based on Industry Standards and testing procedures. We assume no warranties either written, expressed or implied as to any specific methods of application or use of the product. AQUAFIN, INC. MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. AQUAFIN, INC. shall not be liable for damages of any sort including without limitation indirect or consequential damages, down time, or delay. This limited warranty is not transferable without AQUAFIN's prior express written consent.

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