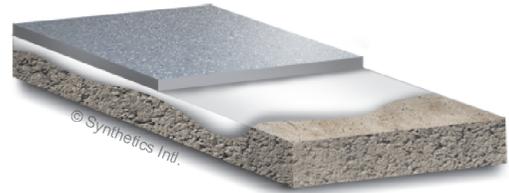




# Synthetic30™

White



## Synthetic30 optimizes vapor control with unique green attributes.

Synthetic30 is a two-component waterborne polymer designed to penetrate concrete slabs (including portland based terrazzo) and seal cracks, joints and slab imperfections. The special resins allow the polymers to saturate porous concrete and embed a dense, high compressive film strength within the concrete to restrict water vapor emission, alkalinity migration and 100% relative humidity transfer. The product may be covered with a moisture sensitive flooring system or used as a stand alone floor finish.

Synthetic30's is easy to mix and offers the applicator long working times of up to 10 times longer than traditional vapor control products. This allows the product to penetrate deep into the concrete without premature curing, less pin holing and no air entrapment within the product after curing.

Synthetic30's polymers improve the adhesion of flooring products by forming a surface that is unaffected by alkalinity and maintains moisture compliance. Flooring systems applied over the treated surface will exceed applications over concrete alone for compatibility.

### ADVANTAGES/ BENEFITS

- Compatible all epoxy coatings, flooring adhesives and urethane products
- One product for treating vapor emission, alkalinity and relative humidity
- Excellent mixed pot life, up to 8 times longer than competing products
- Sealing cracks, joints and concrete imperfections
- Restricts up to 100% RH readings per ASTM F2170
- Allows treatment of newly poured concrete within 48 hours
- Restricts up to 95% vapor emission per ASTM E96
- Allows direct adhesion of epoxy and urethane products for up to 3 days
- Un-affected by long term alkalinity exposure (14pH) per ASTM D1308
- Lowers vapor emission rate to approx. 1.0 pound per ASTM F1869

### GREEN ATTRIBUTES

Synthetic30's state of the art, waterborne chemistry compliments the green product movement. It is low-emitting, which reduces indoor air contaminants that are odorous and irritating and/or harmful to the comfort and well being of installers and occupants. Laboratory testing confirms the product is compliant for use in classroom, office spaces and remains formaldehyde free with no other CREL VOC components.

Synthetic30 offers applicators the opportunity to clean tools and equipment with water. Using a damp towel will remove the product from wood, metal, glass and adjacent surfaces. When the product cures, mechanical removal is required. Solvents and other chemicals are not effective in removing dried product after the product hardens.

## LABORATORY TESTING

### ASTM E96 Water Vapor Transmission Rate - WRT

	<b>Synthetic30</b>	<b>Control</b>
Grains/ ft <sup>2</sup> / hour	0.6	12.4
Pounds/1000 ft <sup>2</sup> / 24 hrs.	2.0	42.4
Grams/h·m <sup>2</sup>	0.4	8.6

### ASTM E96 Water Vapor Permeance - WVP

	<b>Synthetic30</b>	<b>Control</b>
Perm (inch-pound)	1.4	30.2
Grams/Pa·s·m <sup>2</sup> × 10 <sup>8</sup>	8.1	172.8
Nanograms/ Pa·s·m <sup>2</sup>	81.1	1728.2

### ASTM D4541 Pull-off Concrete Adhesion

- Core#1 - 275psi (100% concrete cohesive failure)
- Core#2 - 225psi (100% concrete cohesive failure)
- Core#3 - 375psi (100% concrete cohesive failure)
- Core#4 - 325psi (100% concrete cohesive failure)
- Core#5 - 350psi (100% concrete cohesive failure)

### ASTM D1308 Alkali Resistance-30 Day Exposure

- Alkali of 14pH - 100% Resistant to exposure
- 35% Potassium Hydroxide - 100% Resistant to exposure

### EPA Method 24 Volatile Organic Compound (VOC)

Density: 1.1766 g/ml      VOC: 62 g/liter (0.52 lbs/gal)

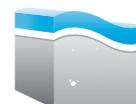
### California Department of Health Services Section 01350 Emission Testing Results

Standard Classroom & Office Space: Pass  
No Formaldehyde or other CREL VOCs detected

### Indoor Air Quality Contributions

- California High Performance Schools EQ Credit 2.2
- LEED New Construction & Major Renovations, Ver 2.2
- EQ Credit 4.2: Low-Emitting Materials: Coatings
- LEED Schools for New Construction and Major Ren.
- EQ Credit 4: Low-Emitting Materials

Laboratory testing results available upon request.



**Synthetics Intl.**  
Concrete Moisture Specialists

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## CONCRETE PREPARATION

The concrete must cure for 48 hours and be structurally sound, clean, free of dust, grease, oil, existing coatings, paint marks, carbonated layers and other potential contaminants. The concrete surface must be heavily profiled by shot-blasting to expose a CSP#3 - 5 (#390-#420 shot) profile. Profile concrete near wall base using a aggressive diamond cup wheel. Clean cracks and joints using a V-grooving bladed to expose clean concrete and remove any and all filler materials. Acid etching, sanding discs or grinding surfaces will not create an acceptable profile. Vacuum the entire surface clean. Do not use clean sweep agents. Surface must be completely clean.

## MIXING

Read all mixing data prior to use. Do not mix partial units. Pre-mix the Synthetic30 Part B unit separately using a "Jiffy" paddle at a low speed for 2 minutes. Slowly add the entire contents of Part A to the Part B container. Mix using a "Jiffy" paddle and a low speed (50 to 400 rpm) drill for 5 minutes, scrap the sides of the container with the paddle blades at least once. Allow product to sit for 20 - 30 minutes. While slowly mixing product, add 1 gallon of clean room temperature water and mix for 2 minutes. Mixed viscosity is 1,500cps and the product is a creamy white mixture. Re-mix product that sits longer than 20 minutes during application.

- Pot Life: 2 hrs. @ 95 degrees      4.5 hrs. @ 75 degrees
- Adhesives containing latex and acrylic components will require longer tack times
- Product may be applied to a solid, clean gypsum substrate after 10 days of cure
- Thicker application rates or cold temperatures may require longer cure times

## PRODUCT APPLICATION

- When surface temperatures exceed 80 °F, pre-dampen concrete with clean water using an airless sprayer
- Allow the surface to completely (approx. 20 min), broom areas that puddle
- Pour product on concrete drag with a squeegee, roller and/or nylon broom
- Surface may be walked on during application wearing spike shoes
- Spread evenly over the entire surface following specified spread rates
- Use fans to increase air movement after application
- Cement patching-leveling products may be applied after Synthetic30
- Verify concrete temperature and interior humidity to allow proper drying
- Typical curing times at 75 °F - 30%RH with proper ventilation:
  - Latex/Acrylic Adhesives: 12 hrs.      Epoxy Products: 24 hours
  - Urethane Products: 24 hrs.      Non-Porous Primer: 12 - 24 hours

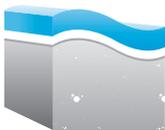
## SPREAD RATES / COVERAGE

0.0 to 10 pounds & RH 100%.....1 coat @ 200 ft<sup>2</sup>/ gallon/ coat  
10.1 to 15 pounds & RH 100%.....1 coat @ 160 ft<sup>2</sup>/ gallon/ coat  
15.1 to 30 pounds & RH 100%.....2 coats @ 250 ft<sup>2</sup>/ gallon/ coat

Approximate vapor emission rate after application: 1.0 to 2.5 lbs. per ASTM F1869. Coverage rates may vary based on concrete profile, cracks and porosity. Product is resistant to 14pH for all spread rates. Two-coat application is recommend for projects where excessive cracking or damaged under slab vapor barrier are unknown.

## CRACK & JOINT TREATMENT

Cracks and joints that are less than 1/8 inch wide may be sealed with Synthetic30 during application. Larger areas may be sealed with a 100% solids joint filler for greater crack bridging properties. On site field conditions may vary, please use products and methods required to achieve a moisture resistant seal.



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## CEMENT PATCHING/ LEVELING

Allow Synthetic30 product to fully cure to a tack free surface for a minimum of 12 hours (80°F- 30%RH) - 24 hours (65°F-50%RH) followed by a non-porous primer and desired moisture resistant portland cement-based product. A non-porous primer must be used to secure cement products. Do not use cement products with special additives as a replacement for a non-porous primer. Follow flooring manufacture recommendations for cement thickness and drying requirements when used over a non-porous moisture treatment. If no printed data is available, apply cement products at a minimum of 1/8" thickness and allow product to dry for 24 hours (75°F).

## LIMITATIONS

Do not apply to a concrete surface when temperatures are expected to fall below 45°F (7.2°C) during and 24 hours after application. Do not apply if rain, snow or dew point is expected prior to, during and after 24 hours of application. The concrete surface requires a shot-blasted profile and rough texture to allow maximum product penetration. Adhesion testing is recommended on previous sealed concrete.

## DISTRIBUTION

Synthetics International manufactures and remains the exclusive distributor of its products worldwide.

## CLEAN UP

In all cases, consult the Material Safety Data Sheet before use. Clean equipment, drips and over-sprays with water while still wet. Dried product requires mechanical abrasion for removal.

## PACKAGING/ SHELF LIFE

Product is packaged in 2 and 5 gallon Part A and Part B kits. Do not mix partial units. Factory sealed units have a shelf life of 24 months. Do not allow to freeze.

## VOLATILE ORGANIC COMPOUND - (VOC'S)

Complies with VOC restrictions in all regions and LEED compliance. Actual Mixed VOC = 62g/L (0.52 lbs/gal) by independent testing agency.

## LIMITED WARRANTY

Synthetics International warrants its products for the lifetime of the originally installed flooring system or fifteen (15) years for concrete moisture vapor emission, alkalinity and relative humidity reduction as shown in Synthetics Intl. printed literature. Installation instructions must be strictly followed. If product fails due to moisture vapor emission, alkalinity and relative humidity within said period, Synthetics International shall provide the labor and materials to replace the failed and/or defective Synthetics International product and/or damaged flooring system with the same or a comparable product(s) at manufactures discretion. The sole and exclusive remedy due to a breach of this warranty shall be expressly limited to the repair of the defective areas due to the failure of Synthetics International products, and shall expressly exclude consequential damages including, but not limited to damages to the structure or to the contents of the structure. See official warranty certificate for all details.

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