

### DESCRIPTION:

**FlakeShield<sup>™</sup> Epoxy Primer** is a 100% solids, two-component moisture vapor barrier epoxy coating designed to be used as a moisture vapor retarder for maximum adhesion with high build epoxy systems, as well as a binder resin for full broadcast epoxy flake floor systems. **FlakeShield<sup>™</sup> Epoxy Primer** will control moisture vapor transmission rates up to 25 lb. / 24 hr. / 1000 sq. ft. when applied at 16 mils without any broadcast media, and will provide excellent physical and chemical resistance. If used as a hybrid primer and broadcast coat in one for flake floor systems, reduced moisture protection is expected. (See Coverage Rate for details).

### USES:

Residential Garages and Basements  
 Commercial Restaurants, Food Prep, Bars, Distilleries, Wineries, Breweries  
 Classrooms, Laboratories, Mechanical Rooms • Areas of light manufacturing, storage, or production  
 Retail Showrooms, Sales Floors, Waiting Rooms

### ADVANTAGES:

Resistant to bacteria and moisture, Easy to Clean • Solvent-Free • May apply several layers on itself  
 Low VOC, Low Odor, allowing for interior application without harmful odors  
 Excellent adhesive properties, allowing application on other firm and hard coating, as well as a good bond to the substrate.  
 Meets LEED standards • Resists up to 25 lbs of moisture

### TECHNICAL PROPERTIES:

#### FlakeShield<sup>™</sup> Fast Cure Properties: Based on 73-77°F @ 50% RH\*

Working time.....	15-20 Mins	Pot Life.....	12-18 Mins
Tack Free.....	8 Hours	Re-Coat Time.....	6 Hours
Light Traffic.....	3 Days	Full Cure.....	7 Days*

\*Note: Higher temperatures and humidity will shorten pot life and cure times. Colder temperatures and/or lower humidity will extend pot life and cure times.

### TECHNICAL DATA @ 73-77°F:

**PART A Resin 2.0 US Gal.**     **PART B Hardener 1.0 US Gal.**

<b>Color</b>	<b>PART A</b> Upon Request	<b>PART B</b> Clear to Amber	<b>Mix</b> Upon Request
<b>Recommended Thickness</b>	<b>Primer</b> 16-20 mils <b>Finish Coat</b> 10-16 mils		
<b>Mileage per gallon (16mils thick)</b>	100 ft <sup>2</sup>		
<b>Shelf Life</b>	12 months in original unopened factory sealed containers. Keep away from extreme cold, heat, or moisture. Keep out of direct sunlight and away from fire hazards.		
<b>Mix Ratio, by volume</b>	A:B - 2:1		
<b>Mix Ratio, by weight</b>	Clear Colors	A:B=100: 41-48 A:B=100: 39-45	
<b>Pot Life (454g)</b>	12-18 minutes @ 73-77°F		
<b>% Solids, by weight</b>	100%		
<b>% Solids, by volume</b>	100%		
<b>VOC (g/L)</b>	<b>PART A</b> 37.6	<b>PART B</b> 173.1	<b>Mix</b> 78.9
<b>Density (kg/L)</b>	<b>PART A</b> Clear Colors	<b>PART B</b> 0.9 - 1.0 0.9 - 1.0	<b>Mix</b> — —
<b>Thinner Recommended</b>	XYLENE		
<b>Waiting Time/Overcoat Ability</b>	6 hours Pedestrian Traffic 2-3 days Normal Traffic 3-7 days Heavy Equipment Traffic > 7 days		

*Times are approximate and will be affected by changing ambient conditions, especially changes in temperature and relative humidity.*

**TECHNICAL DATA @ 73-77°F (CONT.):**

<b>Bond Resistance (psi), ASTM D4541</b>	>300 (substrate ruptures)			
<b>Permeability (%), ASTM D570</b>	0.8 % VRM			
<b>Hardness (Shore D), ASTM D2240</b>	85-90			
<b>Abrasive Resistance, ASTM D4060 (CS17 / 1000 cycles / 1000g)</b>	0.10 g			
<b>Viscosity @ 77°F</b>		<b>PART A</b>	<b>PART B</b>	<b>Mix</b>
	Clear	1800 - 3000	1500-1800	1700-2500
	Colors	2500- 4000	1500-1800	2200 - 2500
<b>Tensile Resistance (psi), ASTM D638</b>	6500			
<b>Compressive Strength (psi MPa), ASTM D695</b>	12000-13000			
<b>Elongation %, ASTM D638</b>	6.7%			

\*Please note, that the indicated mileage is calculated for flat surfaces. A porous or imperfect surface will require more material in order to cover the same surface area

**SURFACE PREPARATION:**

The concrete surface must be deemed mechanically and structurally sound, thoroughly clean of debris, oils, fats, waxes, sealers, curing agents, and other contamination. New concrete must be fully cured for a minimum of 28 days. Compressive strength of concrete should be at least 3,500 psi (24 Mpa) @ 28 days and at least 215 psi (1.5 Mpa) in tension at time of product application. Compression resistance of concrete must be at least 25 MPa (3625 lbs./inch<sup>2</sup>) after 28 days and traction resistance must be at least 1.5 MPa (218 lbs./inch<sup>2</sup>). Do not apply to wet concrete. Chloride, moisture, and pH levels should be checked prior to application. Mechanically prep the concrete surface by shot blasting or diamond grinding with 30 grit or coarser diamonds to achieve a dust free CSP-3 profile, which is required to remove the surface laitance that appears during the concrete finishing and curing process and obtain maximum mechanical bond. Substrate and material temperature should be 59°F - 86°F with a maximum relative humidity of 85%. If applied outside these limits the coating may have excessive air entrapment, bubbles, blisters, blushing, hazing, curing issues, or adhesion issues. All cracks and substrate imperfections should be filled and repaired with **ResinForce® EasyMend®** prior to application.

**COVERAGE RATE:**

**Option 1:** As a primer direct to concrete with Full Flake Broadcast, apply 100 - 125 sq ft per gallon (13-16 mils).

**Option 2:** As a moisture vapor barrier to resist up to 25 pounds of moisture vapor transmission per 1000 sq ft over 24 hours, apply 100 sq ft per gallon (16 mils) without a broadcast. Then within the recoat window, apply a second coat to broadcast flake into.

Only recommended for use as a primer coating direct to concrete, under another pigmented coating, or under a full broadcast, as epoxy will amber if exposed to UV light.

For best results, use **ResinForce® EasyPoly** or **ResinForce® Urethane** for your top coat.

**MIXING:**

Materials should be at least 59°F prior to use. Pre-mix Part A and Part B separately with a slow speed mixer, or vigorously shake containers for 1-2 minutes prior to combining components together to ensure uniform distribution of raw materials. When using a 3-Gallon Kit, the Part A container can be used as the mixing container. Pour entire contents from the Part B container into the Part A container using proper mix ratio 2A : 1B by volume, then mix with a helix or jiffy mixer for 3 minutes at 300-450 rpm at various angles, directions, scooping sides, bottom, and all around for a good uniform mix. Avoid unnecessary entrapment of air during mixing. Make sure to scrape the walls and bottom of container with straight edged trowel or mixing stick at least once to ensure homogeneous mix. Make sure to empty ALL contents of PART B into PART A to avoid system weakening or incomplete curing. Do not mix more material than can be applied within working time limits. For best results, pour contents into a separate clean container and mix again for 30 seconds to avoid any unmixed material clinging to walls of the container. Avoid creating a vortex in the material which could introduce air and/or moisture content to the mixture. Immediately pour contents out of the pail onto the floor to begin spreading. Discard the pail promptly, do not leave it tilted upside down on the floor.

**APPLICATION:**

**ResinForce**<sup>®</sup> **FlakeShield**<sup>™</sup> should be applied when material and slab temperatures are between 55-85°F and humidity below 85%. Apply mixed material by pouring onto the surface and spread with a 1/8" notch flexible squeegee. Then back roll with an 18" lint free shedless 3/8" nap roller. Use a brush or small roller for corners and areas hard to maneuver larger squeegees/rollers. If the material becomes thick while applying and sticking to the application tools, stop applying and discard the mixed material. At this point it has reached the end of the usable pot life.

Additional coats of this same product may be applied when surface is tack-free. Do not exceed specified hours for re-coat time. By exceeding this re-coat time limit, or if using slower cure products after this product, the entire surface must be lightly sanded to achieve desired profile for a proper mechanical bond. Clean up all dust and debris created by sanding prior to applying next coat. Clean-up tools and equipment with Xylene. Wash hands and skin carefully with warm soapy water. Once product has hardened, it may only be removed through mechanical means.

**PRECAUTIONS & LIMITATIONS:**

Prior to application, measure and confirm Substrate Moisture Content, Ambient and Surface temperatures and Dew Point. Moisture within substrate must be ≤ 4% by mass as measured by Tramex<sup>®</sup> type concrete moisture meter on mechanically prepared surface. AVOID CONDENSATION. The substrate must be at least 6°F above Dew Point to reduce risk of condensation. Condensation may lead to failure in adhesion. Avoid situations where substrate temperature is considerably lower than ambient temperature. Do not add thinners or solvents to mix. Do not add water. Dispose of waste materials in accordance with government regulations. The use of safety glasses and protective gloves is required. In case of contact, flush areas with abundance of water for 20 minutes and seek medical assistance. Wash skin with soap and water. Use only in well-ventilated areas.

**WARNING!**

In case of skin contact, wash with water and soap. In case of eye contact, immediately rinse with water for at least 15 minutes. Consult a physician. For respiratory irritations, move affected person outdoors to fresh air. Remove contaminated clothes and wash before reuse. Components A and B contain toxic ingredients. Prolonged contact of this product with the skin is susceptible to provoking irritation. Avoid eye contact. Contact with the product may cause severe burns. Avoid breathing vapors released from this product. This product is a strong sensitizer. Wear safety glasses and chemical resistant gloves. A breathing apparatus filtering organic vapors approved by the NIOSH/MSHA is recommended. Always work in a properly ventilated area. \*Consult the material safety data sheet for further information. \*

**WARRANTY**

All statements, recommendations and technical information contained in this document are accurate to the best knowledge of **ResinForce**<sup>®</sup> **Products, LLC**. The data relates only to the specific material designated herein. It may not be valid if used in combination with any other materials. It is the users' responsibility to verify the suitability of this information for their own particular use, and to test this product before use. **ResinForce**<sup>®</sup> **Products, LLC** assumes no legal responsibility for use upon this data. **ResinForce**<sup>®</sup> **Products, LLC** assumes no legal responsibility for any direct, indirect, consequential, economic, or any other damage except to replace the product or refund the purchase price as set out in the purchase agreement.

**PART A INGREDIENT DISCLOSURE:**

CAS: 25085-99-8 Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenylene oxymethylene)]bis-, homopolymer  
CAS: 17557-23-2 Oxirane, 2,2'-[(2,2-dimethyl-1,3-propanediyl) bis(oxymethylene)]bis  
CAS: 28064-14-4 Phenol, polymer with formaldehyde, glycidyl ether  
CAS: 100-51-6 Benzenemethanol  
CAS: 68609-97-2 Oxirane, 2-[(C12-14-alkyloxy)methyl] derivs

**PART B INGREDIENT DISCLOSURE:**

CAS: 9046-10-0 Poly[oxy(methyl-1,2-ethanediy)], .alpha.-(2-amino methylethyl)-.omega.-(2-aminomethylethoxy)  
CAS: Proprietary Epoxy adduct  
CAS: 2855-13-2 Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-  
CAS: 84852-15-3 Phenol, 4-nonyl-, branched  
CAS: 100-51-6 Benzenemethanol

**FOR MORE INGREDIENT INFORMATION VISIT [WWW.RESINFORCE.COM](http://WWW.RESINFORCE.COM)**

**FOR PROFESSIONAL USE ONLY!**

This data sheet provides typical properties for **ResinForce**<sup>®</sup> **Products, LLC**. Before using this product, the user is advised and cautioned to make their own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained herein as it may relate to any specific use or application. Please consult our SDS for further safety information.