



PRODUCT TECHNICAL DATA SHEET

EPOXY BUILD COAT

Advanced Coating Systems

HIGH PERFORMANCE TWO-COMPONENT EPOXY

GENERAL PRODUCT DESCRIPTION

Epoxy Build Coat is an advanced high performance, two-component epoxy flooring overlay and coating system. It is generally applied between 50 mils to 375 mils (3/8"). It is mixed in with silica sand to build coating thickness and durability. Silica sand is the most commonly used aggregate (20 grit to 40 grit). Aluminum oxide may be used to increase the lifespan of the wear surface by providing additional abrasion resistance. (Do not add more than 50% AO into the mix as it may result in a lumpy finish.) Build Coat is not recommended for consistently wet surfaces. (In such areas, use the ONYX Crete System). If there are aggressive chemicals / acids attacking the surface, refer to the Chemical Resistant Chart as Novolac Coat may be required system in such areas.

ADVANTAGES:

- Self-Priming (Only when used as a Resin Rich Broadcast)
- Resin Rich / Nonporous if used in Proper Ratio of Resin to Sand
- V.o.c. = 0 G/L
- 100% Solids
- Seamless Flooring System
- Essentially Odorless
- 4 Times Harder than Standard Concrete
- Withstands Heavy Forklift Traffic
- Chemical Resistant
- Does not Amine Blush
- Can be Applied Over 10 Day Old Concrete

PRODUCT DATA

Volumetric Ratio:	2 to 1
Solids:	100%
Application Temperature:	65-90°F
Thinning:	Not Required
Pot Life:	15-20 Minutes
Working Time On Floor:	20-30 Minutes
Cure Time:	8 Hours (Walking) 24 Hours (Traffic)
Critical Recoat Time:	24 Hours
Shelf Life:	12 Months
Usda Food And Beverage:	Meets Requirements

Cure time, pot life, and working time are based on a slab temperature of 70-75 F°, and will change accordingly as temperature change.

APPLICATIONS

- Manufacturing Floors
- Production Areas
- Berms and Curbs
- Secondary Containment
- Chemical Flooring
- Trench and Sumps
- Equipment Pads/ Curbs
- Aisle Ways
- Restrooms/Locker Rooms
- Slippery Areas
- Warehousing
- Stairs

PHYSICAL PROPERTIES

PROPERTY	VALUE	REFERENCE
Compressive Strength	13,000 psi	ASTM C 579
Flexural Strength	16,800 psi	ASTM D 790
Tensile Strength	9,500 psi	ASTM D 638
Bond to Concrete	350 psi	ASTM D 4541
Taber Abrasion	Loss/1000 Cycles = 65 mg	ASTM D 4060 CS 17 Wheels
Water Absorption	.10% maximum	ASTM D 413
Linear Sinkage	.01% maximum	ASTM C 531
Flammability	1.2 cm/min	ASTM D 635
Impact Resistance	16 ft. lb - no failure	Mil-D-3134H
Coefficient of Friction	6 minimum	ASTM D 2047
Hardness, Shore D	84	ASTM D 2240
Porosity on unglazed finish	00	NACE Stand TM-01-74

CHEMICAL RESISTANCE

Acetic Acid	NR	Hydrochloric Acid 37%	R
Alcohol, Ethyl	NR	Nitric Acid 30%	SS
Alcohol, Isopropyl	SS	Phosphoric Acid	SS
Aluminum Hydroxide	R	Skydrol R	R
Citric Acid	R	Sodium Bisulfate	R
Copper Chloride	R	Sodium Chloride	R
Diesel	R	Sodium Hydroxide 50%	R
Ferric Acid	R	Sulfuric Acid 50%	R

Note: The above guide is based on 7 days exposure of the listed chemical at 72 degrees F (22 degrees C)
Key: R = Recommended, SS = Splash and Spill, NR = Not Recommended. Above chart serves as a guideline only. Samples will be furnished upon request for testing.

BROADCAST AND TROWEL DOWN SYSTEMS

When used with the correct mix ratio of aggregate and properly installed through broadcasting, Epoxy Build Coat becomes a nonporous, resin rich coating/overlayment. Epoxy Build Coat can also be used as a conventional Trowel down mortar system, which is a porous system that uses less resin per Sq Ft. Trowel down mortar systems require a primer at 200 Sq Ft per gallon, a grout coat at 200 Sq Ft per gallon, and a seal coat. Because trowel down mortar systems are porous, they are not recommended in wet areas. Once the seal coat is breached, surface liquids and chemicals may penetrate, attacking the bondline and/or contaminating the concrete.

COVERAGE FOR RESIN RICH BROADCAST SYSTEM

Standard nominal floor thicknesses are: 45-50 mil, 1/8", 3/16", 1/4", and 3/8". Use chart below for determining required gallons for a resin rich, broadcasted coating.

Thickness:	Gallons in 1 Sq Ft	Sand in 1 Sq Ft	Gallons in 100 Sq Ft	Sand in 100 Sq Ft
45-50 Mills	.01	.5 lb.	1	50 lbs.
1/8"	.0286	1.25 lbs.	2.86	125 lbs.
3/16"	.0429	1.88 lbs.	4.29	188 lbs.
1/4"	.0572	2.5 lbs.	5.72	250 lbs.
3/8"	.0715	3.12	7.15	312 lbs.

Note: The above guidelines are an approximation for broadcasting a resin rich coating with 20-40 mesh silica. A standard top coat over a broadcasted surface is 100 Sq Ft per gallon (or .01 gallon per Sq Ft), but may vary depending on desired texture and aggregate size.

COVERAGE FOR TROWEL DOWN MORTAR SYSTEMS

Thickness:	Gallons in 1 Sq Ft	Sand in 1 Sq Ft
3/16"	.0225	2.25
1/4"	.03	3.0
3/8"	3.75	3.75

A primer at 200 Sq Ft p/g, along with a 200 Sq Ft grout coat are required for the Trowel Down / Clad System. An additional top coat should be used to seal the system.
Note: all coverage rates are approximations and are subject to change as every concrete substrate has high/low spots as well as different porosity.

SURFACE PREPARATION

Before the coating is applied, the concrete must be:

- Clean – Contaminants removed
- Profiled – Surface Mechanically prepared
- Sound – Cracks repaired

Mechanical methods are required for preparing concrete prior to the coating application. Shot-blasting, diamond grinding, scarifying, and scabbling are all acceptable methods. The concrete profile should be between a CSP 3 - CSP 7 depending on the desired thickness of the coating and condition of the substrate.

MIXING

The mix ratio of Epoxy Build Coat is 2 to 1. That is, 2 parts of A (resin), to 1 Part B (hardener). Mix the following with a drill and jiffy mixer.

1. Premix the Part A for 45-60 seconds until uniform, then pour 1 gallon of Part A into a clean mixing bucket.
2. Add Part B component and mix for another 2 minutes.
3. If installing a trowel down mortar system, mix in 20 grit silica until the product is ready to trowel down.

COLOR SELECTION

Refer to the ONYX Epoxy Solid Color Chart for standard color selection. Other colors are available at an additional charge.

APPLICATION PROCESS

The best method for controlling the thickness during the application is to map out the area into sections. Once determining the layout and Sq Ft per section, refer to the above coverage chart to calculate the number of gallons required per section to be applied by the time of reaching the predetermined points.

1. After mixing, immediately pour mixed Epoxy Build Coat onto concrete.
2. If installing a Trowel Down Mortar System, use a steel trowel, or screed rake, or gauge rake, and apply uniformly. Use a course aggregate such as 20 mesh silica. If a screed rake is used, trowel away pin marks left by the rake.
3. If applying a resin rich Broadcast System, after mixing, immediately pour the resin onto the concrete in the form of a ribbon. Using a squeegee, spread out the resin evenly to create a wet edge within proper coverage rates. Then use a 3/8" nap paint roller with phenolic core on an extended pole to lightly backroll the resin. Continue this process. After backrolling a section, wait 3-5 minutes to begin broadcasting sand. When broadcasting, disperse the sand evenly, covering as much square footage as possible. Do not directly throw silica sand at the resin as it will cause an uneven finish. Wait for the silica to settle into the resin. This generally requires the use of spiked shoes, allowing one to walk into the wet resin. As the silica sand settles, broadcast in additional passes until refusal to ensure better quality. Keep a minimum of a 1 foot wet edge. Do not broadcast until the next batch is applied to avoid a ridge on the final finish. Excess silica can be swept up after 6-8 hours. If sanding to knock down the texture, wait 18-24 hours. It is not recommended to install the coating more than 1/8" on a single pass. A double broadcast is recommended for a 3/16" thickness or more. A double broadcast will help cover imperfections in the slab.

PACKAGING

Epoxy Build Coat is available in 3 different kit sizes:

	Part A	Part B
3 Gallon Kit	2 gal.	1 gal.
15 Gallon Kit	10 gal.	5 gal.
150 Gallon Kit	100 gal.	50 gal.

CLEANUP

Epoxy Build Coat while in a liquid state may be cleaned up with water and degreaser. Otherwise a strong solvent may be required while Epoxy Build Coat is setting up.

WARRANTY

ONYX Concrete Coatings products are warranted for 1 year after date of manufacture. Please refer to the ONYX Limited Material Warranty for additional clarification. Refer to the ONYX General Product Limitation Guidelines.

SAFETY

Consult Epoxy Build Coat safety data sheet. Avoid contacting Epoxy Build Coat with eyes and skin. Some individuals may be allergic to epoxy. Always wear protective eyewear, clothing, and gloves. Safety always comes first.

MAINTENANCE

Refer to the ONYX Maintenance and Cleaning Guidelines.

PRODUCT LIMITATIONS

Always read the ONYX PRODUCT LIMITATION GUIDELINES prior to installation.

Information expressed in this data sheet is correct to the best of our knowledge. The technical data sheet does not constitute a warranty, expressed or implied as to the performance of this product. The use and application of this product is beyond our control. Warranty and liability therefore is limited to the replacement only for defective materials. Technical information is subjected to change without cause nor notice. Consult the ONYX website to confirm this is the most current issue date of the data sheet as information is subject to change.