

Sections

09 09 96 00
High Performance Coatings

URETHANE 645™

HIGH PERFORMANCE, TWO COMPONENT SOLVENT BASED ALIPHATIC URETHANE COATING DESIGNED TO REPEL CHEMICALS AND RESIST ABRASION. AVAILABLE IN A CLEAR OR COLORED HIGH-GLOSS FINISH.

Description

The Urethane 645 is a solvent-based, two-component polyester/aliphatic polyurethane coating designed to coat concrete floors combining the highest quality of aliphatic urethane components. The Urethane 645 provides incredible abrasion resistance and chemical resistance.

Recommended for indoor areas with high risks of exposure to chemical spills, fuel, heavy equipment, extreme temperatures and any other potentially damaging situation

the substrate may encounter. The Urethane 645 is also available in a California compliant version offering <100 g/L VOC.

Solids

73%

Appearance/color

Available in clear and variety of standard and custom colors

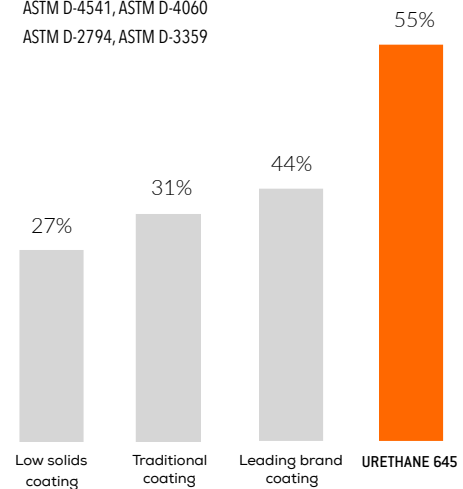
Coverage

350 ft²/gallon

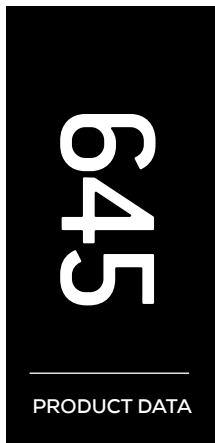
IMPACT RESISTANCE ABRASION RESISTANCE, CHEMICAL RESISTANCE

Meets the requirements of:

ASTM D-1308, ASTM D-3363,
ASTM D-4541, ASTM D-4060
ASTM D-2794, ASTM D-3359



Percentage Improvement vs. Control



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TECHNOLOGY // ADVANTAGES

- **Composition** - 73% solids nanotechnology driven high-performance solvent based aliphatic urethane coating
- **Excellent hardness** - provides a long service life without loss of flexibility
- **Excellent durability** - provides a long service life
- **May be used as a top coat** or a stand alone product
- **High strength**, tenacious adhesion
- **Maintains a cleanable, attractive**, hygienic surface, easily scrubbed and cleaned
- **Stops dusting** and allows for easy cleaning
- **Protects substrates from chemical spills** and corrosion, withstands heavy use
- **UV stable** - long term color retention, fade resistant
- **Abrasion resistant** and scratch resistant
- **Provides a tough color-fast finish** on warehouse floors and auto repair shops

For interior use only

TYPICAL PROPERTIES

Appearance - Available in clear and variety of standard and custom colors

Packaging - 1.5 gallon kit, 3 gallon kit, 15 gallon kit

VOC's - 335 g/L maximum

Recommended Thickness - 3-5 mils (2-3 mils dry (DFT))

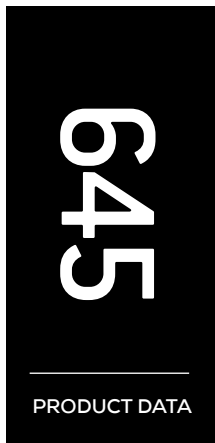
Shelf Life - 1 year (unopened) from date of manufacture

APPLICATIONS

- Interior
- Horizontal
- Garages
- Shop Floors
- Warehouses

SUBSTRATES

- Concrete



Technical Data Sheet

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TESTING DATA

TECHNICAL SPECS

Feature: Durable Coating

Chemistry: Aliphatic Urethane

Color: Clear, tile red, beige, medium gray, light gray, off white, white

Finish: High gloss

Carrier: Solvent

Availability: 2 component kit

Packaging: 1.5 Gallon Kit, 3 Gallon Kit

Coverage: 350 sq. ft. per gallon at 3-5 mils wet film thickness

Application Method: Roller/brush

Application Temperature: 55-90 degrees F with relative humidity below 75%

Number of Coats: 1

Clean up: Ketone solvents

VOC Content: 335 g/L

Hardness: Shore D 65

Impact Resistance: 160 in/lb

Abrasion Resistance: 20 mg

Adhesion: 350 psi

Viscosity: 400 cps

Primer: Epoxy 325

CHEMICAL RESISTANCE

10% Sodium Hydroxide: Long Term Immersion

10% Sulfuric: Short Term Immersion

10% Hydrochloric Acid: Long Term Splash Spill

20% Nitric Acid: Short Term Splash Spill

50% Sodium Hydroxide: Short Term Immersion

Acetic Acid 5%: Short Term Immersion

Ethylene Glycol: Short Term Immersion

Gasoline: Short Term Immersion

Mek: Not Recommended

Methyl Alcohol: Short Term Splash Spill

Xylene: Short Term Immersion

CURE TIMES (70°F)

Pot Life - 1.5 - gallon volume: 2-4 hours

Tack Free (dry to touch): 3-5 hours

Recoat or Topcoat: 5-9 hours

Light Foot Traffic: 14-24 hours

Full Cure (Heavy Traffic): 3-5 days

Test results are averages obtained in a controlled environment, material and curing conditions of 70°F and 50% relative humidity. Reasonable variations should be expected .



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APPLICATION

Surface Prep

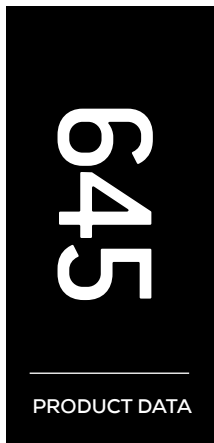
1. The concrete substrate to be coated must be clean, dry, and completely free of loose particles, grease, oil, or any substance that would interfere with proper bond.
2. Surface and air temperatures must be at least 55°F during application. Surface and air temperatures should not exceed 90°F. Keep material from freezing.
3. The surface-zone moisture content of the concrete should not exceed 4% wt. A test should be made to determine that the concrete has an appropriate vapor barrier. This can be done by placing a 4'X4' plastic sheet on the substrate and taping down the edges. If after 24 hours, the substrate is still dry below the plastic sheet, then the substrate does not show signs of eventual hydrostatic pressure problems that may later cause disbanding.
4. For a one or two coat thin build system (3-10 mils dry) we recommend either mechanical scarification or acid etching until a suitable profile is achieved. For a complete system build higher than 10 mils dry, we recommend a fine brush blast (shot blast). If acid is used to clean the concrete, neutralize the surface completely and rinse it with water prior to application. Then wait for the concrete to dry out for at least 24-48 hours.

Application

Mixing: This product comes pre-packaged by weight. Kits should be mixed in their entirety. This product has a two to one mix ratio by volume- merely mix two gallons of part A with 1 gallon part B. Urethane 645 A and Urethane 645 B should be thoroughly mixed before combining. Scrape the bottom and sides of each container. Urethane 645 A and Urethane 645 B can then be combined (Urethane 645 is sold as a pre-packaged kit and Urethane 645 Part A should be mixed in its entirety with Urethane 645 Part B). After the two parts are combined, mix well with slow speed mixing equipment such as a jiffy mixer until the material is thoroughly mixed and streak free. Avoid whipping air into the coating. Improper mixing may result in product failure.

Application - Test the sealer in an inconspicuous area to ensure the desired coverage and appearance is achieved. The mixed material can be applied by brush or roller. Workable time is about 3 hours. Maintain temperatures within the recommended ranges during the application and curing process. Properly prime the substrate with the Epoxy 325. It is best to maintain a wet edge to avoid roller marks. Direct sunlight or high temperatures may cause visible roller marking during application. Too thick of an application may result in product failure. Exposure to certain types of lighting such as sodium vapor lights may cause the product to discolor. Applications with relative humidity higher than 90% and/or poor air circulation may cause improper cure and surface tackiness. When the end of the pot life has been reached, you will find that the material becomes hard to apply and will actually tend to roll back up onto the roller. Do not try to continue application when the coating has reached this step. Applications made at different times with differing environmental conditions, may show slight variations in gloss. Coverage is approximately 350 sq. ft. per gallon. Make sure you test the surface for dryness prior to use and allow at least 14 hours before walking. A full cure will take up to 5 days to complete.

Recoating/Topcoating: Multiple coats of this product are acceptable. If you opt to recoat this product, you must first be sure that all of the solvents have evaporated from the coating during the curing process. It is best to test the coating before recoating or topcoating. This can be done by pressing on the coating with your thumb to verify that no fingerprint impression is left. If no impression is created, then the recoat can be started. Always remember that colder temperatures will require more cure time for the product before recoating can commence. Before recoating or topcoating, check the coating to insure no contaminants exist. If a blush or contaminants are present on a previous coat, remove with a standard detergent cleaner. When recoating this product with subsequent coats of the urethane, it is advisable to apply the recoat before 24 hours passes. Also, it is advisable to degloss the previous coat to ensure a trouble free bond.



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APPLICATION

Application Notes:

- Restrict the use of the floor to light traffic and non-harsh chemicals until the coating is fully cured. It is best to let the floor remain dry for the full cure cycle. Dependent on actual complete system application, surface may be slippery, especially when wet or contaminated; keep surface clean and dry.
- Some cleaners may affect the color of the floor installed. Test each cleaner in a small area, utilizing your cleaning technique. If no ill effects are noted, you can continue to clean with the product and process tested.
- Colors or clarity for clear may be affected by high humidity, low temperatures, or chemical exposure.
- For best results use a high quality 3/8" nap roller.
- Slab on grade requires moisture barrier.
- Substrate temperature must be 5°F above dew point.
- Relative humidity must be below 75°F.
- All new concrete must be cured for at least 28 days.
- Colors may vary from batch to batch, therefore, use only product from the same batch for an entire job.
- Improper mixing or too thick of an application may result in product failure.
- Light or bright colors (white, etc.) may require multiple coats or a suitable color coordinated primer to achieve a satisfactory hide.
- Tire contact may cause discoloration or staining.

Clean Up

Clean equipment, tools and surfaces with ketone solvent. Unused or old material may be disposed of in a waste disposal site in accordance with local, state and federal laws.

Precautions/Safety

Use appropriate safety equipment during application and handling. Please refer to the safety data sheet (SDS) for additional precautionary instructions before use.



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APPLICATION

Best Performance

- Proper application is the responsibility of the user.
- Make sure the most current versions of technical data sheets and safety data sheets are being used.
- Keep out of reach of children and pets.
- Store in a cool, dry place away from direct sunlight. Avoid opened containers, as moisture will cure the material.

Coverage

350 square feet per gallon. Variations in texture and porosity of substrate will affect the coverage and performance of the product.

KreteTek Industries Inc.

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Customer Service and Technical Support

1-855-KreteTek (1-855-573-8383)

Warranty

KreteTek Industries Inc. warrants our products are manufactured to strict quality assurance specifications and that the information supplied by us is accurate to the best of our knowledge. Such information supplied about our products is not a representation or a warranty. It is supplied on the condition that you shall make your own tests to determine the suitability of our product for your particular purpose. Any use or application other than recommended herein is the sole responsibility of the user. Listed physical properties are typical and should not be construed as specifications. No warranty is made, expressed or implied, regarding such other information, the data on which it is based or the results you will obtain from its use. We shall have no liability for incidental or consequential damages, direct or indirect. No representative is authorized to make any representation or warranty or assume any other liability on our behalf with any sale of our products.

Acceptance of delivery of our product means that you have accepted the terms of this warranty whether or not purchase orders or other documents state terms that vary from this warranty. No representative is authorized to make any representation or warranty or assume any other liability on our behalf with any sales of our products. Our products contain chemicals that may cause serious physical injury. Before using, read the Safety Data Sheet and follow the precautions to prevent bodily harm.

Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advise are based on KreteTek Industries Inc. present knowledge and experience. However, KreteTek Industries Inc. assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. KreteTek Industries Inc. reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified experts.

For professional use only.

Last revised 4/18