



TECHNICAL DATA SHEET

Isothane 510

Isothane 510 is a high solid, two-component aliphatic polyurethane floor topcoat. This seamless system exhibits extraordinary performance characteristics when applied over epoxy primed rigid substrates such as concrete, steel, plywood, and composites. It has excellent high gloss and color stability, even under harsh UV exposure. This topcoat creates an extremely tough, chemical and abrasive resistant finish.

APPLICATIONS

- Chemical Plants
- Clear Finish Coat for Various Decorative Concrete Applications
- Interior or Exterior Applications
- Manufacturing Facilities
- Residential, Commercial and Industrial Floors

PRODUCT ADVANTAGES

- Hi Gloss, Semi-Gloss & Matte Finishes
- Chemical and Abrasion Resistant
- Excellent Color Stability and Clean-ability
- Hot Tire Stain Resistance
- Superior Gloss Retention

CHEMICAL RESISTANCE

- A: *Not Recommended*
B: *2 Hour Term Splash Spill*
C: *8 Hour Term Splash Spill*
D: *72 Hour Immersion*
E: *Long Term Immersion*

10% HCl (aq)	E
10% Sulfuric Acid	E
20% Nitric acid	C
50% Sodium Hydroxide	D
DI Water	E
MEK	E
Methanol	D
Xylene	E

*Values given are not intended to be used in specific preparation

Component Properties

Color - POL	Clear, See Isotec Color Chart
Mixed Viscosity - ASTM D-2196 - (74°F)	200 - 400 cps
% Solids - by Volume	76 - 80 %

Reactivity Profile

Ratio by Volume - ISO:POL	2 : 1
Pot Life - 100g	60 Minutes
Tack Free Time	4 - 10 Hours
Full Cure	3 - 5 Days
Return to Service - Foot Traffic	20 - 24 Hours
Return to Service - Heavy Traffic	5 - 7 Days
Recoat Window	10 - 24 Hours

Typical Physical Properties

Hardness - ASTM D2240 - Shore D	60 D
Tear Strength - ASTM D624, Die C	255 pli
Tensile Strength - ASTM D412	4300 psi
Elongation - ASTM D412	15 - 20 %
VOC	180 - 220 g/L
Taber Abrasion Resistance - ASTM D4060 - 1000rev, CS 17	14 - 18 mg
Recommended Film Thickness	3 - 6 mils

RECOMMENDED APPLICATION AND HANDLING INSTRUCTIONS

• COVERAGE:

The approximate coverage is 1 gallon/200-400 square feet (3 mils).

• PACKAGING:

This product is available in 1.5 gallon kits, 3 gallon kits, 15 gallon kits, and 150 gallon kits.

• PRIMER:

This product requires a primer before application. A primer from the isopoxy product line is recommended.

• TOPCOAT:

None Required

• PRODUCT MIXING:

This product has a 2:1 mix ratio, or two part A (ISO) to one part B (POL) by volume. Packaging is in pre-measured kits and should be mixed as supplied in the kit. We recommend that the kits not be broken down unless suitable weighing equipment is available. After parts A & B are combined, mix well with slow speed mixing equipment such as a jiffy mixer to mix the material thoroughly for 3-5 minutes until it is well mixed and streak free. Do not over mix or lift mixer in an up and down motion while mixing. This can cause air entrapment resulting in bubbles in the

coating. The material is now ready to be applied on a properly prepared substrate. This product has a short pot life, so only mix that which can be used in the prescribed pot life. See the cure schedule section of this data sheet. Improper mixing may result in product failure.

- **COLORS:**

If a color pack is selected, premix the color pack into the POL container until the mixture is streak free.

- **PRODUCT APPLICATION:**

The mixed material can be applied by brush or roller. Maintain temperatures within the recommended ranges during the application and curing process. Properly prime the substrate. 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 solvent entrapment and product failure.

- **RECOAT:**

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. The information on the front side are reliable guidelines to follow. However, it is best to test the coating before recoating. 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, 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 hour passes. Also, it is advisable to degloss the previous coat to insure a trouble free bond.

- **CLEANUP:**

Use ketone solvents

- **FLOOR CLEANING:**

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.

- **RESTRICTIONS:**

Restrict the use of the floor to light traffic and non-harsh chemicals until the coating is fully cured (see technical data under full cure). 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.

- **LIMITATIONS:** Color or gloss may be affected by environmental conditions like humidity, temperatures, chemicals or lighting such as sodium vapor lights.

Because of the short pot life and dry time, attention should be given to the trim work and tie-in areas to keep a wet edge so as to avoid roller marks, differences in color or shading problems.

Substrate temperature must be a minimum of 35°F

Physical properties are typical values.

STORAGE

Store product in an area so as to bring the material to normal room temperature before using. Continuous storage should be between 60°F and 90° F degree.

SAFETY

Refer to the product SDS for all relevant safety information.

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Since Seller exercises no control over Buyers application or use of the product manufactured by Seller ("product") and since materials used with the product may vary, it is understood that:

- THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OR MERCHANTABILITY OR FOR ANY PARTICULAR PURPOSE. While all data presented in Seller's technical data sheet is based on the best information available to Seller and believed correct, such data is not to be construed as a warranty that the product will conform to such specifications. Such technical data sheets are subject to change without notice. Reported laboratory test results of fire redundancy in no way relates to the actual performance under fire conditions. Since all urethane systems are organic, they will burn.

- Reported laboratory test results of the color stability in no way relates to the actual performance upon exposure to light sources. Since all aromatic urethanes experience color degradation upon ultraviolet light exposure, Seller shall not be liable for any damages resulting from ultraviolet light color degradation of any aromatic urethane systems manufactured or sold by Seller.
- The liability of the Seller shall not exceed the purchase price and the Buyer shall not be entitled to nor the Seller be liable for any consequential, incidental, indirect or special damages resulting in any manner from the furnishing of the product.

1. SURFACE PREPERATION

Concrete surface preparation is especially important: Compared to other surfaces, it is rather variable in its composition and characteristics. Here are some of the questions that should be answered before applying coatings.

- What existing coatings, if any, are present on the surface?
- Is the surface contaminated with other chemicals or materials that would impact coating adhesion?
- Is the concrete strong and sound, or is it damaged?
- What defects, such as voids, cracks or laitance, are present on the surface?
- Are there areas of potential moisture related problems?

The concrete must be allowed to cure a minimum of 28 days prior to coating application. The concrete must have a light broom finish or a CSP 3 to 5 profile. Surface preparation will vary according to the type of complete system to be applied. For a complete system build higher than 10 mils dry, we recommend a fine brush blast (shot blast), or diamond grind. All dirt, oil, dust, foreign contaminants and laitance must be removed to assure a trouble-free bond to the substrate. All concrete floors without an effective moisture vapor barrier are subject to possible moisture vapor transmission that may cause blistering and failure of the coating system. It is the applicator's responsibility to conduct calcium chloride and relative humidity probe testing to determine vapor emissions prior to applying any coating. Sales agents cannot be responsible for coating failures due to undetected moisture vapor emissions.

INTERCOAT ADHESION:

Factors such as coating compatibility, temperature, humidity, surface prep and applications techniques, should be monitored to ensure proper intercoat adhesion between coats. Although we do not make it a requirement, sanding and cleaning between coats increases mechanical bonds.

CRACK REPAIR:

Voids, cracks and imperfections will be seen in finished coating if the concrete is not patched correctly. Isopoxy Crack Repair or other suitable materials can be used to fill cracks and imperfections. After the materials are cured, diamond grind patch prior to coating.

2. AMBIENT TEMPERATURE APPLICATION

LOW TEMPERATURES:

Low temperatures slow down the curing of coating products. This can be a benefit as the working life of the product is prolonged, but it also means that projects will take longer to complete. Re-coat times may be affected leading to delays in completing the project. Final curing time is also affected. A floor that under normal conditions could be handed over to the client after 3 days may require several more days.

Viscosity of the product is also affected. Coatings do not flow as nicely when the temperature drops. As a result, the coating that is meant to be self-leveling may not actually level.

When working in low temperatures, increased humidity in the atmosphere may also affect your floor. In cold temperatures, the dew point tends to be closer to the actual room temperature thus leading to increased relative humidity. As a result, you may get moisture settling on the uncured epoxy. This may lead to blushing, reduced gloss and surface defects on your floor. As a rule of thumb, you should only apply epoxies when the actual temperature is at least 3 degrees Celsius (5 F) above the dew point. High relative humidity can also affect urethane and polyaspartic top coatings causing bubbling. Make sure to follow the guidelines on the Technical Data Sheets for each product.

HIGH TEMPERATURES:

Decrease the curing and dry times of epoxy and other coating products. Pot life, working time and recoat windows are decreased as a result of application during higher temps. Gassing or bubbles may be the result of trapped air/solvent within the coating that is not released before the surface dries. Air entrainment during mixing may also cause bubbles. Please follow the manufactures proper mixing instructions. It is recommended to use a pin roller following the application of the coating to reduce the majority of these bubbles.