

TD.432 – TECHNICAL DATA: THIN-FINISH™ Pre-Mixed Overlay

Revised: 11/7/2023 Version: 2.1

Product Class: Dry, redispersible, polymer modified, cement-based mortar/slurry**Description:** THIN-FINISH™ is an extremely versatile, high strength, cementitious resurfacing material engineered for overlaying, concrete surface restoration, and creating textured decorative finishes on stable concrete surfaces.

THIN-FINISH™ is a pre-packaged, “just add water”, overlay material consisting of a proprietary hybrid redispersible polymer blend, graded quartz aggregates, and white cement to create a polymer cement overlay material that cures to create a hard, abrasion resistant wear surface that will not re-emulsify when exposed to excessive amounts of water.

THIN-FINISH™ is designed to be easy to mix and install while being cost effective. It is designed to give a longer work time compared to most other materials to ensure proper finishing and attention to detail.

Typical applications include interior or exterior commercial, industrial, and residential concrete surfaces for renovation or new construction. THIN-FINISH™ can be troweled, squeegeed, or sprayed with an air supplied hopper gun and can be layered to create additional thickness when needed. Additional benefits as compared to concrete include increased flexural strength, which decreases the brittleness of the surface, and increased moisture resistance, for above or below grade applications.

Typical Uses:

- For resurfacing of concrete substrates and thin surface repairs less than ¼” / 6mm.
- Used as the base/skim and primer/bond coat for overlay applications.
- Used for creating sprayed textures, knockdown applications, broom finishes, seamless interior flooring, smooth floor finishes, thin stamped overlays, and textured trowel finishes.

Key Features:

- Better overall performance than most other polymers and modifiers including acrylic, polyvinyl acetate, VAE, styrene, and silicone.
- Provides a permanent bond with correct substrate preparation on stable concrete surfaces.
- High levels of moisture resistance and flexural/tensile strengths.
- Increased texturing capabilities with unlimited finish options.
- Exceptionally long pot life.
- Increased versatility and application range.
- Can be integrally colored with PORTION CONTROL COLORANT™ (PCC) or SYNTHETIC PRIMARY PIGMENT™ (SYPP).
- Can be stained/colored topically with ULTRA-STONE™ Antiquing Stain, CHEM-STONE™ Reactive Stain or HYDRA-STONE™ Dye Stain.
- Offers many advantages over most overlay materials including better abrasion resistance, higher levels of strength and durability, excellent resistance to moisture, UV, and freeze/thaw cycles.

Product Properties:

- Color: White portland type II
- Pot Life: Varies based on ambient conditions.

Standard Cure @ 70° F / 21° C

- Foot traffic: Varies on application and climate, minimum 24 hours
- Heavy traffic: Due to its versatility and wide range of application, this will vary, minimum 72 hours.
- Vehicular traffic: 7 days
- Consistency: Slurry/Mortar

Coverage:

- Under normal conditions THIN-FINISH™ will cover 175 to 300 sq. ft. per bag depending on application technique.
Note: Coverage will vary depending on depth of fill or variation, surface texture or profile, preparation procedures used, desired surface finish, and other conditions.

Physical Properties

@77° F / 24° C, 7-day ambient cure at 50% R.H.

Appearance		White fine powder
Weight (lbs.) per stock container		55 lbs.
Compressive strength	ASTM D695	
1-day		1350 psi
7 days		3750 psi
28 days		4800 psi
Tensile strength	ASTM D638	
7 days		350 psi
28 days		750 psi
Flexural strength	ASTM D790	
7 days		990 psi
28 days		1450 psi
Abrasion loss		
28 days		0.17%
Density		
7 days		1.17 g/cm3
28 days		1.89 g/cm3
Shear bond		
7 days		335 psi
28 days		575 psi
Impact Resistance		
7 days		16 in/lbs.
28 days		28 in/lbs.
Slant shear	ASTM C882	100% concrete failure
Reaction to fire	EN 13501-1:2018	B _{FL} – s1
Application temperature		> 40° F / 4° C

Limitations:

- The use of partial bags is not recommended. Some components may settle during shipping. Use the entire contents of the bag for consistency.
- One coat of THIN-FINISH™ is never sufficient for any application as a finished surface.
- THIN-FINISH™ is engineered and designed for structurally sound, stable concrete surfaces. Not all concrete surfaces are suitable for the installation of THIN-FINISH™.
- THIN-FINISH™ is not intended for use as a crack treatment product. Existing cracks must be treated and all existing expansion joints must be honored. All concrete surfaces must be properly cleaned and prepared. Failure to remove contaminants or existing coatings may result in loss of adhesion, delamination, and product failure.
- Recommended application temperature for THIN-FINISH™ is greater than 40°F / 4°C. If the temperature is forecast to drop below freezing within 24 hours after the application of THIN-FINISH™, do not proceed.

Cautions, Clean Up, and First Aid:

- **WARNING! IRRITATING TO EYES AND SKIN. DO NOT BREATHE DUST. MAY CAUSE DELAYED LUNG INJURY (SILICOSIS). CONTAINS CEMENT AND SILICA (QUARTZ).** Use with adequate ventilation. Wet cement may cause alkali burns. Use appropriate PPE.
- **FIRST AID:** Eyes – DO NOT RUB EYES. Immediately flush thoroughly with plenty of clean water. Skin – Wash thoroughly with soap and water. Inhalation – Move to fresh air. If symptoms persist or develop, or if ingested, seek immediate medical attention. DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN. Before using or handling, read the Material Safety Data Sheet, and Warranty.

Jobsite Suitability:

- THIN-FINISH™ is a professional grade product and requires training. Incorrect preparation and application can affect the long-term performance of the overlay.

Surface Preparation:

- Concrete must be cured a minimum of 28 days prior to the application of any overlay. Surrounding areas should be protected from tracking, spills, and equipment contact. The work area should be roped off and closed to traffic.
- The most common overlay failure is improper surface preparation. The concrete must be structurally sound and properly prepared depending on the condition of the substrate and the application being applied.

- Prior to installing THIN-FINISH™ all loose material, laitance, coatings, sealers, and other contaminants that interfere with adhesion must be completely removed. The cleaning method to be used depends on the condition of the surface. Failure to prepare the substrate may result in failure of THIN-FINISH™.
- The use of detergents, soaps, and sweeping compounds is not recommended as the residue might create a film that will interfere with adhesion.
- Once the substrate is properly prepared, a mild muriatic acid and water solution is needed to apply to the surface and to adjust the pH of water in the surface. Carefully pour 1-part muriatic acid into 8 parts clean water. Use protective eye and skin equipment. Use a plastic watering container to flood the surface with the acid and water solution and allow to react for 2 minutes. Do not allow the solution to dry. If the surface begins to dry, spray with water until the surface can be neutralized.
- To neutralize the acid and water solution and adjust the pH back to neutral, carefully pour 1 part ammonia into 8 parts water. Using a plastic watering container, rinse the surface with the ammonia and water solution.

Mixing:

- The volume of water added to the mix must be accurately measured. Over watering may cause a weakening of overlay surface and surface cracking. Under watering will decrease workability and adhesion.
- For applying a skim coat, base coat, bond coat, or broom finish coat add 7 to 8 quarts (6.6L to 7.6L) of clean, cool, potable water per 55 LB. bag of THIN-FINISH™. For applying a splatter texture or knockdown finish add 6 to 7 quarts (5.7L to 6.6L) of clean, cool, potable water per 55 LB. bag of THIN-FINISH™. For applying a textured trowel down finish add 5.5 to 6.5 quarts (5.2L to 6.2L) of clean, cool, potable water per 55 LB. bag of THIN-FINISH™.
- Add water to the mixing container first, then add the THIN-FINISH™ material. If the water is added to the overlay material, clumps may form in the mix and performance will be sacrificed. Mix the material for 2 full minutes for consistent blending, allow to rest / false set for 5 minutes and re-mix. It may become necessary to add a very small amount of water when re-mixing after the false set. Please note that this is a critical step to the mixing process. Failure to strictly comply with these mixing instructions may result in loss of abrasion and water resistance as well as a loss of adhesion.
- If integral color is desired, add the PORTION CONTROL COLORANT™ or SYPP™ to the water before adding the THIN-FINISH™ material to the mixing container.

Installation:

- The surface area should be divided into smaller work sections using walls or joints depending on the amount of overlay experience the installer has.
- As with most cementitious products, existing cracks or joints in the substrate will reflect through the overlay. Joints must be honored and cracks must be treated prior to the application process. Any delay in honoring of the joints may result in a loss of adhesion along the joint, crack, expanse, or edge.
- See Quick Notes for application techniques for the many finishes that THIN-FINISH™ is used for.

Detailing:

- Once the THIN-FINISH™ is just firm enough to take light foot traffic, the imperfections along the joints and edges should be detailed and touched up.
- THIN-FINISH™ gains strength similar to concrete. The surface can be opened to foot traffic once it reaches sufficient strength not to be damaged, a minimum of 24 hours. A 7 day cure is required before opening to vehicular traffic. Protect the curing surface from other construction trades.

Sealing:

- THIN-FINISH™ must be sealed or coated for ease of maintenance and to protect the surface. Additional information is available in the Technical Data document - TD.414 Protective Sealer and Coating Options.
- All sealed surfaces should be inspected to verify and approve installation and safety, including wet and dry slip resistance prior to opening the area to traffic.

Available Packaging:

- THIN-FINISH™ is available from stock in 55 Lb. / 25 kg bags

Suggested Storage:

- Must remain dry. Store in a temperature and weather-controlled area between 65° F / 18° C and 85° F / 29° C.
- Shelf Life: 1 year from date of manufacture.