

## PI.302 – PRODUCT INFORMATION: Using THIN-FINISH™

**THIN-FINISH™** is a high strength, cementitious topping material and bond coat designed for thin resurfacing, overlaying, reducing surface defects and texturing stable concrete surfaces.

### 1. DESCRIPTION and USES:

THIN-FINISH™ is formulated and engineered to provide a strong, durable interior or exterior finish to existing concrete surfaces.

THIN-FINISH™ is a pre-packaged, “just add water”, overlay material consisting of hybrid redispersible polymers, graded quartz aggregates and white cement to create a trowelable, polymer cement overlay material that cures to create a hard, abrasion resistant wear surface.

THIN-FINISH™ is designed to create durable finishes for concrete thin patching, resurfacing, overlaying, reducing surface defects and texturing stable concrete surfaces. Typical applications include interior or exterior commercial, industrial and residential concrete surfaces for renovation or new construction.

THIN-FINISH™ is used as the base/skim coat to all overlay applications including but not limited to; thin stamped overlays, textured trowel finishes, broom finishes, splatter textures, knockdowns and smooth floor finishes.

THIN-FINISH™ offers many advantages over most overlay materials including better abrasion resistance, higher levels of strength and durability, excellent weather resistance such as resistance to moisture, UV and freeze/thaw cycles and is available in a wide variety of colors and color combinations. It can effectively be applied from 1/32" to 3/16" (0.8mm to 4.8mm) thick with a cured compressive strength exceeding 4,500 psi (31 MPa) after 28 days, allowing heavy commercial traffic without wear or damage.

THIN-FINISH™ is designed to be extremely easy to mix and install while proving very economical and cost effective. Once the surface has been properly cleaned and prepared, simply add the material to the recommended water volume, mix well and apply. It is designed to give a longer workability time compared to most other materials to ensure proper finishing and attention to detail.

THIN-FINISH™ can be applied by trowel, squeegee or with an air supplied hopper gun and can effectively 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 resistance to moisture, for above or below grade applications.

### 2. 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™. Those surfaces which are not suitable include; concrete that has not cured for at least 28 days, concrete with severe vapor emission problems, surfaces which are gypsum based and lightweight concrete. THIN-FINISH™ surfaces are not intended for use in areas subject to metal wheels, track or rollers.

THIN-FINISH™ is not intended for use in areas subject to water immersion or water leaks. If installation is desired in areas of harsh chemicals and/or testing, a special protective coating may be required.

THIN-FINISH™ is not intended for use as a crack repair product. Existing cracks must be repaired and all existing expansion joints must be honored.

All concrete surfaces must be properly cleaned and prepared. Failure to remove contaminants or existing coating may result in loss of adhesion, delamination and product failure.

Recommended application temperature for THIN-FINISH™ is between 40°F and 90°F (4°C and 32°C). Ideal application temperature for THIN-FINISH™ is 70°F (21°C). If the temperature is forecast to drop below 40°F (4°C) within 24 hours after the application of THIN-FINISH™, do not proceed.

### 3. APPLICATION STANDARDS:

Professional standards and practices, including those published by the American Concrete Institute (ACI), the Portland Cement Association (PCA), and the International Concrete Repair Institute should be understood and followed.

### 4. PRODUCT COMPOSITION:

THIN-FINISH™ is a precisely formulated and engineered, hybrid polymer modified cementitious mixture designed and manufactured with highly proprietary techniques.

### 5. TECHNICAL DATA:

Compressive, flexural and tensile strengths as well as other performance test data concerning THIN-FINISH™ are listed in the table below. All properties are typical of those obtained when professionally tested by standard ASTM testing methods.

	PROPERTY	RESULT
1.	Compressive Strength 1 Day 7 Days 28 Days	1350 psi 3750 psi 4800 psi
2.	Flexural Strength 7 Days 28 Days	990 psi 1450 psi
3.	Tensile Strength 7 Days 28 Days	350 psi 750 psi
4.	Abrasion Loss 28 Days	.17%
5.	Density 7 Days 28 Days	1.17 g/cm <sup>3</sup> 1.89 g/cm <sup>3</sup>
6.	Shear Bond 7 Days 28 Days	335 psi 575 psi
7.	Cohesive 7 Days 28 Days	52 psi 98 psi
8.	Impact Resistance 7 Days 28 Days	16 inch/lbs. 28 inch lbs.

Different application thicknesses and uses were tested for specific applications, but are not represented in the Test Data due to variations in mix design or specific application techniques and uses which changes the test results considerably. Variables include; density, water ratio, polymer ratio, aggregate size, application thickness, aggregate ratio to cement, aggregate composition, application tool/technique, drying temperature, environment, curing temperature & humidity.

### 6. COLOR and COLORING:

THIN-FINISH™ is available as a white base and can be colored if desired with Portion Control Colorant™, available in 30 base colors designed for use with white base.

## 7. PACKAGING:

THIN-FINISH™ is available from stock in 55 Lb. (25 kg), bags.

## 8. SHELF LIFE:

Under dry conditions the average shelf life of THIN-FINISH™ is 12 months from date of purchase. Do not store directly on floors or open to weather. Rotate stock upon receipt and use.

## 9. COVERAGE:

Under normal conditions THIN-FINISH™ 55 Lb. (25 kg) bag will cover 190 to 250 sq. ft. at a depth of 1/32" (0.8 mm). Note: Coverage will vary depending on depth of fill or variation, surface texture or profile, preparation procedures used, desired surface finish and other conditions.

## 10. CAUTIONS:

**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. Dust mask (NIOSH/MSHA TC 21C approved), safety goggles and protective gloves are recommended.

**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.

## 11. JOBSITE SUITABILITY:

The application of THIN-FINISH™ requires skill and practice. Aspects such as preparation procedures, ambient and surface temperatures, mixing, installation, finishing and curing techniques, experience in the use of the material and other factors will effect the long terms performance of the overlay. Select a small section of the job and install a small test area of THIN-FINISH™ to ensure suitability of the substrate.

This test area should be of adequate size to be a true representative. This test area should be installed by the installers who will be installing the actual application and under the same conditions to ensure proper comparison. Once the test area has been installed, the surface should be tested for safety reasons to ensure the surface is of adequate wet and dry slip resistance.

## 12. SURFACE PREPARATION:

Before installation a test area must be produced as described in 11. JOBSITE SUITABILITY. 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, curing compounds, sealers, grease, oil, dirt, paint 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.

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Once the substrate is properly prepared, a mild muratic and water solution is needed to apply a slight "etch" of the surface, kill and bacteria and to adjust the pH of the surface. Carefully pour 1 part muratic 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, carefully pour 1 part ammonia into 8 parts water. Using a plastic watering container, flood the surface with the ammonia and water solution and rinse with water.

## 13. 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 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 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 water per 55 LB. bag of THIN-FINISH™.

Add water to the mixing container first, followed by the THIN-FINISH™ material. If the overlay material is added to the water, clumps may form in the mix and performance will be sacrificed. Mix the material for 2 full minutes for consistent blending, allow to "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™ to the water before adding the THIN-FINISH™ material to the mixing container.

## 14. INSTALLATION:

The surface area should be divided into smaller work sections using walls or joints lines 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 reproduced and cracks must be repaired as best possible during the application process. Any delay in the reproducing of the joints may result in a loss of adhesion along the joint, crack, expanse or edge.

See Product Information Quick Notes for application techniques for the many finishes that THIN-FINISH™ is used for.

## 15. 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 traffic when it reaches sufficient strength not to be damaged, a minimum of 12 hours for light traffic. A minimum of 5 to 7 days for normal traffic. A 7 to 10 day cure is required before opening to heavy foot traffic or vehicular traffic. Protect the curing surface from other construction trades.

**16. SEALING:**

THIN-FINISH™ must be sealed or coated for ease of maintenance and to protect the surface, using materials that have demonstrated compatibility. Additional information is available in the Elite Crete Systems Technical Data TD-414 SEALER 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.

**17. AVAILABILITY:**

THIN-FINISH™ is marketed nationwide and internationally, directly to training installers through authorized distributors.

**18. WARRANTY SUMMARY:**

For the complete warranty statement and important limitations, read the Material Safety Data Sheet and Warranty. Generally, Elite Crete Systems, Incorporated represents and warrants only that its products are of consistent quality. No other oral or written statement is authorized. Any liability is limited to refund or replacement of the defective product. The end user shall determine product's suitability and assume all risks and liability.