INNOTECH™
DECORATIVE CONCRETE PRODUCTS

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Technical Bulletin
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Micro-Topping

Revive old concrete or create striking new surfaces with INNOTECH MICRO-TOPPING, an architectural concrete overlay. INNOTECH MICRO-TOPPING transforms structurally sound surfaces into colorful areas with architectural impact, while delivering exceptional abrasion resistance. Available in 42 standard colors this product produces areas of solid color, subtle variegation, marbleized hues and various textures.

INNOTECH MICRO-TOPPING bonds to virtually any substrate, including concrete, wood, metal, plastic and sheet rock. This product is a combination of liquid polymer, color tint packs and specially formulated powder mixtures. The product can also be provided pre-colored for larger jobs. INNOTECH MICRO-TOPPING is applied in layers using trowels, brushes and squeegees, each producing a different finish texture—at a recommended thickness of only 20-mils, approximately the thickness of a credit card.

INNOTECH MICRO-TOPPING is designed as a three-part system (with an optional tint pack):

- INNOTECH MICRO-TOPPING Base Coat Powder
- INNOTECH MICRO-TOPPING Finish Coat Powder
- INNOTECH MICRO-TOPPING Liquid Polymer

INNOTECH MICRO-TOPPING Liquid is added to both the Base and Finish Coats to achieve the desired material consistency. INNOTECH recommends two base coat applications and one finish coat application as a minimum coverage guideline. **IMPORTANT:** Please reference the "Available Packaging and Coverage Information" section in this document for details.

Product Features and Benefits

- INNOTECH MICRO-TOPPING is an extremely versatile product which can be feathered to a zero edge, used in interior or exterior applications and applied to vertical or horizontal surfaces. It is an ideal product for creating long lasting, colorfast and vibrant surfaces.
- This product features exceptional bond strength. This product adheres to most stable substrates, well bonded adhesives and coatings on stable substrates.
- INNOTECH MICRO-TOPPING features excellent abrasion resistance and will achieve a compressive strength of 6,000 PSI.
- This is a non-toxic design product and dries completely in 24 hours (@ 70 °F/21 °C).
- INNOTECH MICRO-TOPPING is available in an unpigmented white or gray powder.
- The durable, high-strength INNOTECH MICRO-TOPPING colors can be chosen from the INNOTECH COLOR HARDENER color chart.
- Finish effects can include, but are not limited to, broom finished solid colors to knock down with subtle variegation to smooth marbleized hues.
- INNOTECH MICRO-TOPPING can significantly reduce construction costs when elaborate graphics or extensive color changes are needed, which would otherwise require multiple forming and pouring phases.
- One of the advantages of INNOTECH MICRO-TOPPING is that it can be used to color and/or recolor old concrete surfaces. This ultra-thin concrete topping can be installed over damaged but stable existing concrete (or other materials) to transform surfaces into a cementitious palette, without affecting surrounding materials or substantially increasing the elevation of the finished surface.
- Some concrete surfaces possess flaws that make staining unpredictable, undesirable and often incompatible. This product provides a fresh, durable palette, ideal for applying stains and dyes.
- INNOTECH MICRO-TOPPING may also be the ideal design alternative to the following projects that would otherwise require costly repairs or removal and replacement:
    1. Slabs that have been badly scarred by heavy equipment or machinery.
    2. Where the removal of mastic and glues may not be economically feasible.
    3. Surfaces where carpet, laminate or tile has been removed.
- INNOTECH MICRO-TOPPING provides architects, designers and owners an expanded range of cementitious color selection that, in the past, was only available in less wear-resistant paint-type materials or multiple costly and time intensive colored concrete pours. The uses of INNOTECH MICRO-TOPPING include, but are not limited to, large-scale commercial flooring, graphic artwork, stencilling, monograms, logos, accenting or antiquing imprinted concrete, traversing vertical surfaces, countertops, residential flooring and artistic pallets for INNOTECH CHEMICAL STAIN† and INNOTECH LIQUID DYE CONCENTRATE†.

Prior to Application

- Review the "Product Limitations" portion of this document.
- Sweep or vacuum loose dirt from the surface. Use a floor scraper or grinder to remove bumps and surface build-up. For best results, surface should be as flat and level as possible. Tools and equipment requirements are largely dependent on the project. Common to most projects are: mixing motor, mixing paddle, eye goggles, polyethylene sheeting (and/or rosin paper), duct or reinforced tape, graduated measuring containers, empty containers for mixing and cleanup, gloves and rags. Application tools depend on the project and include squeegees, trowels, drywall knives, brushes and rollers. Suggested prep, cleanup and trimming tools include: scrapers, drywall knives, hammers, chisels, brooms, dustpan and vacuum. Additional specialty tools may be necessary, depending on the type and extent of preparation required.
- INNOTECH utilizes the International Concrete Repair Institute (ICRI) Concrete Surface Profile (CSP) standards for specifying finished surface roughness prior to applying INNOTECH MICRO-TOPPING. For proper adhesion, the concrete must be a minimum #2 according to the ICRI CSP chart. Contact the ICRI at www.ICRI.org or INNOTECH for detailed information on surface profiles.
- If there are foreign materials (such as adhesives, paints or high-performance coatings) on the substrate, INNOTECH MICRO-TOPPING will bond tenaciously to those foreign materials. However, the ultimate test of the stability of the substrate depends on the integrity of the bond between the foreign material and the substrate (not between the foreign material and INNOTECH MICRO-TOPPING). If stable glossy coatings are to be covered, abrade with an 80-100 grit sanding screen.
- Standing oil and grease should be wiped clean, scrubbed with an appropriate industrial detergent such as INNOTECH CONCRETE DEGREASER-NEUTRALIZER†, rinsed with clean water and completely dried before application of INNOTECH MICRO-TOPPING. Any remaining oil or grease stains should not affect adhesion, but over time can produce shadowing or ghosting of the original stain.
- Holes and large chips should be filled and trowelled flat using an appropriate structural-grade repair product prior to the base coat application.
- Control joints and moving/working cracks in the existing concrete are expected to transfer through the surface of the topping and create potential cracking problems. To isolate moving cracks, use a crack repair kit. Install according to kit instructions. In the case of existing joints or saw cuts, new joints or saw cuts must be placed directly over the existing joints or saw cuts. Any new joint or saw cut must penetrate entirely through the new layers of INNOTECH MICRO-TOPPING.
- Mask off perimeter and vertical surfaces for protection. Remove masking as soon as possible after application.
- If the concrete surface exhibits moisture issues, dusting or flaking, INNOTECH MVT REDUCTION† should be used to reduce vapor transmission and harden problem areas prior to application.

Product Application

- INNOTECH MICRO-TOPPING should be applied at a minimum of three coats: two base coats, followed by one finish coat. (Additional coats of either base coat or finish coat may be applied depending on project specifications).
- For best results, use a mechanical mixer with a multibladed mixing paddle.
  Do not mix by hand.
- **Suggested Mixing Ratios:** Mixing ratio may vary slightly without affecting bond strength. However, it is critical to maintain material consistency for the entire area being treated. Change in mix ratio could result in a color variation.
    1. ***Horizontal Surface***: Approximately 2-gallons of liquid to one 56-lb. bag of powder (base coat) and 2-gallons to one 40-lb. bag (finish coat).
    2. ***Vertical Surface:*** Approximately 1-gallon of liquid to one 56-lb. bag of powder (base coat) and 1-gallon to one 40-lb. bag (finish coat).

Mixing Preparation: Mixing should be done in a cool area in 5-gallon buckets (or 15-gallon drums for larger jobs). Because material dries quickly when exposed to air, buckets and small mixing drums work best. Do not allow INNOTECH MICRO-TOPPING to air dry on tools or equipment. Wash mixing equipment immediately or place in water for later cleaning.

Mixing Instructions: The following instructions are for both INNOTECH MICRO-TOPPING Base Coat and Finish Coat.

- Mix only enough material for the immediate area to be covered. Use INNOTECH MICRO-TOPPING as soon as possible after mixing.
- If there is any unused material, it should be kept in a cool and covered place – do not leave exposed to sunlight. Pot life is approximately 2 hours at 70 °F. Pot life may be shortened considerably in hotter weather or extended in cooler weather. If the unused mixture begins to thicken, return it to original fluid consistency by remixing. If the mixture does not return to its original state, then discard.
- In a clean container, combine the INNOTECH MICRO-TOPPING Liquid Tint Pack with the Liquid Polymer. Blend thoroughly.
- Place $\frac{3}{4}$ of the INNOTECH MICRO-TOPPING liquids mixture needed in another clean mixing container.
- While mixer is running, slowly add $\frac{1}{2}$ of the INNOTECH MICRO-TOPPING powder.
- Mix until lump free.
- Add remaining liquid and powder and mix until lump free.
- Add small quantities of liquid or powder to achieve the desired consistency depending on the type of area to be covered and application method.
- For horizontal surfaces, a more fluid mix is desired, while for vertical surfaces, a drier stickier mix is desired. Test areas are always recommended to ensure desired results.

Primer and Base Coat Application: 2 Base Coats Recommended

- Prime the surface. Spray a thin, even coat of INNOTECH MICRO-TOPPING Liquid to prime the surface. Agitate the primer into the substrate with a stiff bristle brush or low RPM rotary scrubber, making sure to eliminate any puddles.
- Apply the first base coat of INNOTECH MICRO-TOPPING while the primer is still wet or tacky. If the primer dries, reapply and agitate to achieve a wet or tacky surface. The primer is needed for the initial base coat application only. The initial application of INNOTECH MICRO-TOPPING Base Coat should be applied in a wet fluid state to ensure proper adhesion and surface penetration.

- Pour only enough material that can be laid down in a 15- to 30-minute time period.
- Maintain a wet edge.
- Hot surfaces can accelerate the hydration rate, while cool temperatures will tend to slow the hydration rate. Moderate surface temperatures of 60 °F to 80 °F are recommended for best results.
- When working large areas, the base coat can be easily applied with a squeegee, trowel or roller. When working smaller areas or corners, use a trowel or small squeegee to apply the base coat.
- Spread thin, even coats of base coat across the surface.
- At 70 °F, the base coat should dry in about 45-60 minutes. If high humidity exists, fans can be used to move across the surface to speed set time.
- Once the first base coat has dried, proceed with the second base coat application.
- On new concrete surfaces, typically two base coat applications are sufficient. On pitted, damaged or rough surfaces, additional coats may be required (the use of repair mortar is recommended to fill larger voids).
- Once each base coat application can be walked on without marring the surface, care should be taken to knock down any irregularities, lumps or squeegee marks with a trowel, scraper or drywall knife. If base coat material dries to a final hardness before the surface can be manually smoothed, a (80- to 120-grit) screen may be needed to smooth the surface.
- It is critical to achieve a uniform, smooth base coat prior to application of the finish coat. Any imperfections in the base coat will telegraph through the finish coat.

Finish Coat Application: Optional Number of Coats

- Finish Coats are required to achieve a very smooth surface, for a rougher/more sandy finish the Finish Coat can be skipped.
- Finish Coats can be applied using any number of methods including, but not limited to, squeegees, trowels, rollers, brushes, brooms, sponges and hopper guns, each achieve a special texture and finish.
- Different colors of finish coat material can be blended to create marbleized tones and effects.
- Pour only enough material that can be laid down in a 15- to 30-minute time frame and maintain a wet edge during application.
- Squeegee or trowel application is the best method for a smooth finish. Do not add water; this product does not float like concrete.
- As the finish material begins to set, a “second pass” with a trowel may be necessary to minimize application marks, and create a smooth surface.
- Once cured, a 150-grit sanding screen can be used on a rotary buffer to create an extra smooth surface.

When Using INNOTECH Chemical Stain† and Liquid Dye Concentrate†

- Once desired finish is achieved, material should be left to cure for 24 hours prior to staining.
- INNOTECH MICRO-TOPPING may not stain according to the stain or dye Color Charts. The combination of polymers and cement in INNOTECH MICRO-TOPPING may cause stains/dyes to react differently.
- Always test or sample stains/dyes in an inconspicuous area to ensure desired color effects are achieved.
- Sanding the top finish coat with a 100- to 150-grit sanding screen, or the use of INNOTECH CON-CLEAN† may allow better adhesion of the sealer.
- When using INNOTECH CHEMICAL STAIN†, it is highly recommended that a sample mock-up be done for desired results. Some chemical stains, due to their high intensity of color, may need to be diluted prior to staining INNOTECH MICRO-TOPPING.
- For best results, stain INNOTECH MICRO-TOPPING within 72 hours of application. Waiting longer than 72 hours can result in the stain not penetrating fully.

To Seal INNOTECH Micro-Topping

- Allow INNOTECH MICRO-TOPPING to fully cure (minimum 24 hours) before sealing. Sanding the cured top finish coat with a 100- to 150-grit screen or the use of CONCRETE CLEANER† may allow better adhesion of the sealer.
- **IMPORTANT**: Use only premium INNOTECH water-based sealers to protect the finished surface.
- Use of solvent-based sealers will soften the INNOTECH MICRO-TOPPING immediately and it will never achieve its full strength of 6000 psi in 7 days.
- Prior to sealing, the newly completed surface should be barricaded or blocked off to protect against foot traffic or contamination.
- Do not allow water on the surface until INNOTECH MICRO-TOPPING has completely cured. Excessive water before sufficient cure will affect bond and durability.
- Choose from a variety of premium INNOTECH water-based sealers appropriate to project requirements: Please reference the “INNOTECH SEALER AND MAINTENANCE PRODUCT GUIDE” to determine the correct sealer for a specific application.

Maintenance

All installations should be maintained on a routine basis with the use of INNOTECH maintenance products to ensure the preservation of a high-quality, long-lasting surface. Maintenance schedules will vary depending on a number of factors, including volume and intensity of traffic, ultraviolet light exposure, geographical location and weather conditions. Resealing will be required periodically, depending on the amount of foot traffic. As with any other surface treatment, the lifetime of this product is dependent on the care it is given. The use of a qualified flooring maintenance contractor is recommended for resealing, especially in commercial applications.

Product Limitations

- INNOTECH MICRO-TOPPING will not properly bond to wet or damp concrete.
- INNOTECH MICRO-TOPPING will not adhere properly to salt-damaged concrete (i.e. salt-finished surfaces or de-icing salt-infested surfaces).
- INNOTECH MICRO-TOPPING will not adhere to standing oil or grease. Certain aggressive stains, such as hydraulic fluids, proteins and animal waste by-products, may appear through the topping as “shadowing” on the finished surface. Any of these materials found on the substrate should be cleaned with an appropriate cleaner and then sealed with a water-based epoxy.
- If heavy adhesive tapes (such as duct tape) are left on sealed INNOTECH MICRO-TOPPING over an extended period of time, a chemical “weld” will be created between the tape and the INNOTECH MICRO-TOPPING. If this happens, the product may be subject to delamination.

Available Packaging and Coverage Information

INNOTECH MICRO-TOPPING has a shelf life of approximately 18 months.
Important: Coverage rates given below may vary slightly depending on surface profile and application method. Coverage may be significantly different on damaged, spalled or textured surfaces.

- INNOTECH MICRO-TOPPING Base Coat is produced in 56-lb bags: Coverage rate is approximately 450 square feet. (For each bag used, 2-gallons of INNOTECH MICRO-TOPPING Liquid will be required.)
- INNOTECH MICRO-TOPPING Finish Coat is produced in 40-lb bags: Coverage rate is approximately 600-1000 square feet. (For each bag used, 2-gallons of INNOTECH MICRO-TOPPING Liquid will be required.)
- INNOTECH MICRO-TOPPING Liquid is available in 2- and 5-gallon pails.

Product Shelf Life/Storage

INNOTECH MICRO-TOPPING has a shelf life of approximately 18 months.
Important: Avoid storing bags and liquid in hot warehouses or storage trailers as it will dramatically decrease the pot life and working time.
Liquid: INNOTECH MICRO-TOPPING Liquid should be stored indoors and above freezing temperatures. If the Liquid freezes, discard.
Powders: INNOTECH MICRO-TOPPING Powders should be stored indoors and away from moisture.

Product Handling

Prior to using INNOTECH MICRO-TOPPING, please reference the corresponding Material Safety Data Sheet to ensure safe handling.

Product Warranty

INNOTECH MICRO-TOPPING is a proprietary product, warranted to be of uniform quality within our stringent manufacturing tolerances. As no control is exercised over the product use, no warranty is made as to the effects of such use (neither expressed or implied). Obligation of the seller and manufacturer under this warranty shall be limited to a refund of the purchase price of that portion of the material proven to be defective. The user assumes all other risk and liability resulting from uses of this product. Contact INNOTECH with any questions regarding this policy. *Innotech is a registered tradename of CHROMASYSTEMS LLC, an Ohio company.*

†PLEASE REFER TO THE CORRESPONDING TECHNICAL BULLETIN FOR PRODUCT AND APPLICATION DATA.

INNOTECH MICRO-TOPPING and other INNOTECH products are for professional use only.

INNOTECH products can be purchased at:

INNOTECH Decorative Concrete Products
2055 Enterprise Parkway • Twinsburg, OH 44087
Customer Service 877-829-7880 or 330-425-2506
Fax 330-425-2466
www.innotechdcp.com