

# Color Hardener

INNOTECH COLOR HARDENER is a dry-shake, colored surface hardener used for coloring, hardening and conditioning concrete. This product provides a concentrated coloring method that hardens and densifies flatwork concrete surfaces.

## Product Features and Benefits

- INNOTECH COLOR HARDENER increases abrasion resistance and surface density and reduces porosity.
- Used in conjunction with INNOTECH RELEASE POWDER†, INNOTECH COLOR HARDENER is the preferred product for creating vibrant colors for imprinted/textured concrete.
- INNOTECH COLOR HARDENER is an excellent choice for the following types of projects:
  - Colored, imprinted concrete flatwork and a variety of architectural concrete treatments that would benefit from improved pattern transfer and increased abrasion resistance.
  - Surfaces which require increased abrasion and impact resistance, such as streets, residential or commercial driveways, walkways, pool decks, warehouses, theme parks, shipping/receiving areas and distribution centers.
  - Interior and exterior surfaces exposed to heavy daily wear and high-impact use.
  - When concrete has been properly air-entrained, surfaces in cold, harsh climates exposed to freeze-thaw cycles.

## INNOTECH COLOR HARDENER...

- Creates surfaces that are substantially harder and more wear-resistant than concrete not treated with color hardener due to its blend of select and gradated aggregates, architectural cements, and plasticizers.
- Is available in 42 standard colors and a wide range of custom colors.
- Is an excellent choice for coloring concrete in order to achieve lighter and/or more brilliant colors.
- Makes light-reflective surfaces possible through the use of white or light INNOTECH COLOR HARDENER colors.
- Uses synthetic iron oxide pigments that meet or exceed ASTM C 979 and produce brilliant, streak-free, non-fading surfaces.
- Can be used in conjunction with INNOTECH CHEMICAL STAIN†, REVITALIZE - SOLID CONCRETE STAIN†, and INNOTECH LIQUID DYE CONCENTRATE† to produce additional colors and subtle tones.
- Is designed to produce uniformity of color without color drifts, and does not risk day-to-day variances experienced in ready mixed integral coloring, due to extensive quality control measures in product manufacturing.

## Prior to Application

- Preparation of subgrade is essential to product application. The subgrade must be well-drained. To create uniform load-bearing characteristics and reduce cracking, subgrade should have uniform thickness. Subgrade should be moist, completely consolidated, and free of frost. The subgrade should be dampened with water in advance of concreting. Concrete should not be placed over freestanding water, or over soft, muddy, or frozen areas.
- Good concrete mix design is essential. Concrete should contain a minimum of 5 sacks of cement per cubic yard of concrete. All aggregate must be nonreactive. Water content should be at minimum, and the slump should not exceed four inches. A normal or retarded-set, water-reducing admixture may be used. An air-entraining admixture complying with ASTM C 260 is recommended in all concrete flatwork that will be subject to freeze-thaw cycles. The concrete mix must not contain any admixture or additive that contains calcium chloride. During cold weather, a nonchloride accelerator may be used. No high-range water-reducing admixtures (superplasticizers) should be added unless INNOTECH is consulted.
- Good concrete pouring practices are essential. Weather conditions should be considered during application. Follow ACI standards for installation, especially in extremely hot or cold weather conditions. Concrete mix should be controlled to provide good batch-to-batch uniformity. Concrete should be placed and spread so that it completely fills space inside the forms. Concrete should be consolidated by vibrating to create a suitable surface for finishing. If tamping is done, it should be kept to a minimum and concrete closest to the forms should be spaded. Before the appearance of bleed water, the surface should be screeded and wood-floated to the finished grade.
- Before applying INNOTECH COLOR HARDENER, a job site sample—using the specified mix design, tools and construction techniques—is recommended. If in doubt about application methods, consult INNOTECH (contact information can be found at the end of this document).
- It is recommended that a pre-site meeting take place to include the proper authorities and to ensure site conditions are met.
- For high-traffic surfaces as well as commercial and industrial surfaces, INNOTECH COLOR HARDENER HD† (Heavy-Duty) may be used. A Technical Bulletin for INNOTECH COLOR HARDENER HD† is available on our website.

## Product Application

- Once concrete reaches the point when no bleed water remains on the surface, INNOTECH COLOR HARDENER should be evenly hand-broad cast or mechanically applied on the surface for larger projects.
- INNOTECH COLOR HARDENER is usually provided in two shakes, with two-thirds of the product being applied in the first shake and one-third of the product being applied in the second shake (while also holding back a small amount for touch-up work).
- If using white or very light colors of INNOTECH COLOR HARDENER, a third application may be needed.
- After the first shake has been uniformly applied and has absorbed water from the slab, the surface is floated. The first application needs to be completely floated into the slab prior to adding the second application. Wood floats are recommended during this first application.
- Apply the second shake perpendicular to the first application in a uniform manner. Magnesium or fiberglass floats may be used after the second application, providing all bleed water has left the surface.
- Care should be taken to prevent hard-steel trowel burns, especially at tooled joints and edges.
- In dry, hot or windy conditions, the use of an evaporation retardant/finishing aid may be considered.

## Product Application: Vertical Surfaces

- INNOTECH COLOR HARDENER may be used to finish vertical surfaces such as curbs or the faces of step risers, but the product is not designed for use on large areas of vertical surfaces.
- A “plaster mix” of INNOTECH COLOR HARDENER may be used when doing steps or other vertical surfaces. To create this mix during the final set stage of the concrete, add only enough water to INNOTECH COLOR HARDENER to achieve a workable consistency. Then apply the “plaster mix” to the vertical surface while the concrete is fresh and finish as normal.

## To Cure and Seal Color Hardened Concrete

- For curing concrete treated with INNOTECH COLOR HARDENER, choose an INNOTECH cure appropriate to the project requirements: INNOTECH CURE & SEAL SB† (gloss or matte) or INNOTECH COLORWAX†. INNOTECH CURE & SEAL SB† conforms to ASTM C 309 and ASTM C 1315.
- If further protection is needed or a curing compound cannot be used, the use of a non-wrinkled, non-staining kraft curing paper may be considered. Use according to manufacturer instructions.
- For sealing concrete treated with INNOTECH COLOR HARDENER, choose from a variety of INNOTECH sealers appropriate to project requirements: Please reference the "INNOTECH SEALER AND MAINTENANCE PRODUCT GUIDE" to determine the correct sealer for a specific application.

## Maintenance

INNOTECH highly recommends you develop and follow a schedule of routine maintenance for all colored concrete so it maintains a quality appearance. Colored concrete installations should be routinely inspected, cleaned and resealed as required by the local conditions. Cleaning and resealing schedules will depend on a number of factors including, but not limited to, volume and intensity of traffic, maintenance procedures and weather.

## Product Limitations

- Inconsistencies in job site conditions, finishing practices and curing methods may produce variations in the color of the finished product.
- All aggregates in the concrete substrate must be nonreactive.
- Air entrained concrete: INNOTECH COLOR HARDENER air content should not exceed 4% when used on air entrained concrete.

## Coverage Information

Actual coverage may vary depending on color choice, method of application, and other conditions. For high-traffic surfaces as well as commercial and industrial surfaces, INNOTECH HEAVY-DUTY COLOR HARDENER may be required. A Technical Bulletin for INNOTECH HEAVY-DUTY COLOR HARDENER† is available on our website.

- *Minimum Coverage for Dark and Medium Colors:* 60-80 pounds per 100 square feet.
- *Minimum Coverage for Medium and Light Colors:* 80-100 pounds per 100 square feet.
- *Minimum Coverage for Light Colors:* 90-120 pounds per 100 square feet minimum.
- *Minimum Coverage for White Color Hardener Colors:* 120-150 pounds per 100 square feet.

## Applicable Standards

- This product may contribute to earning LEED® points under the Sustainable Sites category: 7.1 Heat Island Effect, Non-Roof for New Construction, Existing Building, School and Core & Shell.
- The synthetic iron oxide pigments used in INNOTECH COLOR HARDENER meet or exceed ASTM C 979 and produce brilliant, streak-free, non-fading surfaces.

## Available Packaging

INNOTECH COLOR HARDENER is available in:

- 60-pound pails.
- 60-pound plastic-lined bags (special order only, available upon request).

## Product Shelf Life/Storage

INNOTECH COLOR HARDENER should be stored indoors and away from moisture. Shelf life: 24 months.

## Product Handling

Prior to using INNOTECH COLOR HARDENER, please reference the corresponding Material Safety Data Sheet to ensure safe handling.

## Product Warranty

INNOTECH COLOR HARDENER 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.*

## Architectural Specifications (Short Form)

All horizontal surfaces and adjacent vertical surfaces designated in plans or specifications as having a color hardened surface shall be colored with INNOTECH COLOR HARDENER, using \_\_\_\_\_ [name of color/colors] with a minimum of \_\_\_\_\_ pounds per 100 square feet. Apply \_\_\_\_\_ [the appropriate INNOTECH curing agent] as soon as possible, following final surface finishing. For all INNOTECH curing agents, please refer to the corresponding Technical Bulletin for product information and application instructions.

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

INNOTECH COLOR HARDENER and other INNOTECH products are for professional use only.

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INNOTECH products can be purchased at:



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