

Integral Color - EX

INNOTECH INTEGRAL COLOR - EX (Premium Grade) is an integral coloring product engineered to provide enhanced color through exceptional pigment dispersion. Superior concrete finishing performance is the result from blending dispersants, conditioners and water-reducing agents which offset the water demand caused by pigments.

Product Features and Benefits

- These high-strength pigments yield an expansive palette of beautiful colors. INNOTECH INTEGRAL COLOR - EX is available in 24 standard colors. Custom colors and color matching are also available.
- INNOTECH INTEGRAL COLOR - EX is ideal for ready mixed concrete and all horizontal and vertical applications. This coloring method can be utilized for concrete flatwork applications featuring salt, broom or rotary finishes, as well as a range of other architectural concrete installations.
- INNOTECH INTEGRAL COLOR - EX contains engineered colored admixtures that **do not require mix adjustments** at the ready mixed plant.
- INNOTECH INTEGRAL COLOR - EX is a high-performing color that is also easy to handle. Packaged for clean handling and fast batching, installation is easy with one disintegrating bag of INNOTECH INTEGRAL COLOR - EX is batched for one cubic yard of concrete.

Prior to Application

- INNOTECH INTEGRAL COLOR - EX is packaged in one-bag-per-cubic-yard increments for specific cement ratios. Be sure to specify the proper cement content when ordering.
- A jobsite sample, using the specified mix design and color, should be completed for customer approval. For an accurate color check on a jobsite sample, or on any job, the recommended size of the job should be a minimum order of three yards. In order to get an accurate color check, view the sample once it has finished curing.
- When using INNOTECH INTEGRAL COLOR - EX in vertical concrete applications or when special finishes are applied, a sample must be cast for color approval using the same material and construction techniques planned for the actual installation. To ensure uniformity on vertical surfaces, a light sandblasting is recommended after complete curing of the vertical surface.

Product Application

1. For Ready Mixed Application:

- The drum must be cleaned, and approximately two-thirds of the mix water and one-half of the aggregates needed should be added to the drum. Do not use slurry water or reclaimed aggregates. Add the correct number of INNOTECH INTEGRAL COLOR - EX bags to the drum and mix at full charging speed for three to five minutes or until all bags break apart and pigment is distributed evenly.
- Add the balance of the ingredients (water, aggregates, cement and admixtures) and mix at a full charging speed for 8-10 minutes (80-100 revolutions). It is the ready mixed suppliers responsibility to make sure bags have fully disintegrated. Failure to follow instructions can result in bags not fully disintegrating.

2. For Central or Premixed Batch Plants:

- Add one-half of the total batch into a clean ready mixed truck drum. Do not use slurry water or reclaimed aggregates. Add the correct number of INNOTECH INTEGRAL COLOR-EX disintegrating bags into the drum and mix at a full charging speed for at least three to five minutes.
- Add the remainder of the batch to the drum and agitate at full charging speed until the INNOTECH INTEGRAL COLOR - EX has completely dispersed throughout the mix—about 8-10 minutes (80-100 revolutions). It is the ready mixed supplier's responsibility to make sure bags have fully disintegrated. Failure to follow instructions can result in bags not fully disintegrating.

3. For Jobsite Loading of Integral Colors:

- When applying INNOTECH INTEGRAL COLOR - EX at the jobsite, it is highly recommended to open the bag and pour pigment directly into the drum, then discard the bag. Failure to do so may result in improper dispersion which leads to inconsistent color.
- Once pigment has been added, no additional water may be added.

4. Bag Disintegration:

- The type of aggregate, mix design and water content may affect disintegration of bags. Mixing times and procedures are based on best practices. Mixing times and procedures may vary by region depending on factors mentioned previously (aggregate type, etc.). Before discharging the mix, ready mixed supplier should monitor the mix inside the drum to determine that the bags have broken down completely.

5. For Vertical Applications:

- All forms should be cleaned thoroughly prior to use or reuse, and applied release agents should be nonstaining. For best results, forms should be free of cement latents from any prior concrete pour of a different color. Also, vertical wood forms should be made of medium-density overlay plywood. For color uniformity, methods and material used in preparing the forms should be consistent through the completion of the job.
- Sandblasting vertical surfaces is recommended to remove minor form marks and any colored residue resulting from water, cement and coloring agents bleeding toward the forms during concrete placement.

6. For sand-blasted horizontal surfaces, exposed aggregate (3/8-inch-size pea gravel) finishes, or typical 3/8-inch-size pea gravel mixes:

- Open the INNOTECH INTEGRAL COLOR - EX bag and pour in color to ensure proper dispersion.

7. Other product application notes:

- Concrete should be cured in accordance with ACI standards. INNOTECH offers a variety of curing agents that adhere to ASTM C 309 standards for curing architectural concrete. The use of CURE & SEAL SB† (ASTM C 309 and ASTM C 1315) is recommended for curing most new colored architectural concrete flatwork.
- Proper curing, along with maintaining a low slump and protecting the surface against water penetration, reduces the possibility of efflorescence. If efflorescence does occur, wait until concrete has fully cured and remove efflorescence using INNOTECH CON-CLEAN†. This is a concentrate and must be diluted before use. Dilute as follows:
 - a) Use one-part INNOTECH CON-CLEAN† with 20-parts water
 - b) OR use 6-ounces of INNOTECH CON-CLEAN† per gallon of water
 - c) OR use 1-quart INNOTECH CON-CLEAN† per 5-gallons waterFollow the chemical efflorescence removal with a light scrubbing or the use of a low r.p.m. rotary scrubbing machine.

Additional Considerations For Consistent Color

- Be sure INNOTECH INTEGRAL COLOR - EX is packaged for specific mix design.
- Maintain batch-to-batch uniformity.
- Do not batch less than three cubic yards per truckload of INNOTECH INTEGRAL COLOR - EX. Less than three cubic yards can affect the final color. This is true of small jobs, jobsite samples and/or clean-up loads.
- Do not batch fractional yard increments (for example, 4.5 cubic yards should be ordered and batched at 5 cubic yards).
- Keep all raw materials, including cement, sand and aggregates, as consistent as possible. Any change can affect color consistency.
- For consistent color, the use of pozzolans or fly ash mixes is **strongly discouraged**.
- Do not use reactive or expansive aggregates when using INNOTECH INTEGRAL COLOR - EX.
- Do not use calcium chloride-based admixtures when using INNOTECH INTEGRAL COLOR - EX. Non-chloride admixtures may be used, please consult with admixture manufacturer.
- For fiber-reinforced concrete, add fibers after the color load has been thoroughly mixed. This reduces the potential for fiber/color balling.
- Maintain the same water/cement ratio.
- Wash out all drums before loading to keep slumps consistent.
- Minimize driver-added water.
- Clean back fins with a minimum amount of water while paying careful attention not to substantially increase slump.
- Too much water or the addition of water at the job site can cause inconsistency of color and a "washed-out" appearance.
- Required higher slumps should be achieved by using water-reducing or plasticizing admixtures and NOT by adding water because this will adversely affect the color.
- Concrete should be batched, placed, cured and finished in accordance with ACI (American Concrete Institute) standards.

Additional Considerations For Installers Using INNOTECH INTEGRAL COLOR - EX

- Good basic concrete placement procedures are vital to the success of any job where integrally colored concrete is being used.
- Place concrete on damp yet well-drained substrate that has been thoroughly compacted.
- Being careful not to overwork the material, tamp and/or vibrate the concrete, screed, then wood-float to finished grade.
- Provide adequate and uniform texture for appearance and slip resistance.
- Finish edges first, and finish all surfaces within the same approximate time frame. Care should be taken not to trowel-burn edges.
- Do not place concrete over mud, ice, frost or freestanding water.
- Do not add water to partially discharged loads, and do not allow slump to vary from batch to batch. Slump should remain consistent and is not to exceed 5-inches.
- Additional water-reducing admixtures or plasticizers may be used.

To Cure and Seal Colored Concrete

Practice proper curing procedures. Lack of proper curing is a major reason for inconsistent concrete color.

- For curing concrete colored with INNOTECH INTEGRAL COLOR - EX, 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, choose from a variety of INNOTECH water-based and solvent-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

- Maintenance will vary depending on a number of factors, including volume and intensity of traffic, geographic location, ultraviolet light exposure and weather conditions.
- A routine maintenance schedule for all colored concrete is strongly recommended so that surfaces maintain a desired appearance. Colored concrete installations should be inspected, cleaned and resealed every 18-36 months, or as required by traffic volume and intensity.
- INNOTECH offers a complete range of sealers to enhance and finish INNOTECH INTEGRAL COLOR - EX, please reference the "INNOTECH SEALER AND MAINTENANCE PRODUCT GUIDE" to determine the correct sealer for the specific application.

Product Limitations

INNOTECH has found that certain iron oxide pigment colors can cause self-leveling overlays to cure improperly, or set prematurely. It is not perfectly clear why these issues occur, so INNOTECH cannot guarantee the results or performance of self-leveling overlays using this product. Contact the manufacturer of the self-leveling material for coloring and dosage rate information. **Always create mock up samples and perform strength tests prior to project application.**

- Inconsistencies in jobsite conditions, concrete mix design, slump, curing methods, finishing practices, and sealers may produce variations in the color of the finished product.
- Integrally colored concrete tends to be limited to earth tone colors rather than lighter, more pastel colors and is not as brilliant as color-hardened surfaces.

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 Buildings, Schools and Core & Shell.
- INNOTECH INTEGRAL COLOR - EX meets the following ASTM standards:
 - a) INNOTECH INTEGRAL COLOR - EX pigments meet or exceed ASTM C 979.
 - b) As formulated water-reducing admixtures, INNOTECH INTEGRAL COLOR - EX conforms to ASTM C 494, AASHTO M194, and CRD-C 874.
 - c) INNOTECH INTEGRAL COLOR - EX is also compatible with air-entrained admixtures conforming to ASTM C 260.
- INNOTECH INTEGRAL COLOR - EX may be used in conjunction with admixtures conforming to ASTM C 494, Types A, B, D and F.
- INNOTECH INTEGRAL COLOR - EX meets requirements of the Uniform Building Code and the Standard Building Code for use in reinforced and prestressed concrete.
- INNOTECH should be contacted about approvals in specific jurisdictions. Professional concreting standards and practices, including those published by the American Concrete Institute (ACI), the Portland Cement Association (PCA) and the National Ready Mixed Concrete Association (NRMCA), should be followed.

Available Packaging

INNOTECH INTEGRAL COLOR - EX is packaged for clean handling and fast batching and easy installation.

- One disintegrating bag of INNOTECH INTEGRAL COLOR - EX is batched for one cubic yard of concrete.

Product Shelf Life/Storage

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

Product Handling

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

Product Specifications

For specification assistance for INNOTECH INTEGRAL COLOR - EX and other INNOTECH products, please contact INNOTECH.

Product Warranty

INNOTECH INTEGRAL COLOR - EX 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 trademark of CHROMASYSTEMS LLC, an Ohio company.*

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

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