

Helix Repair Mortar Regular Set (RS)

Technical Data Sheet



Helix Color Systems is a premier line of specialty decorative concrete admixtures manufactured by ChemSystems Inc. Helix Color Systems is manufactured for the discriminating installer or designer who values service and quality. Specializing in custom colors, specialty products, and superior service, Helix Color Systems offers an innovative alternative in the decorative concrete industry.

Description

Helix Repair Mortar Regular Set is a two-component, polymer-modified, cementitious product intended for renovating qualified surfaces prior to the application of subsequent coatings or products. Helix Repair Mortar Regular Set is designed for applications requiring reduced substrate porosity, increased bond strength and reduced alkaline material transfer due to its high concentration of synthetic polymers and high-strength cements.

Helix Repair Mortar Regular Set is a tough, freeze-thaw and chloride-resistant topping that can be used under interior and exterior applications of other Helix Systems. Helix Repair Mortar Regular Set can be used as a high-strength repair underlay over concrete, high-strength gypsum flooring, terrazzo, steel or prepared tile as well as a multitude of other applications.

Helix Repair Mortar Regular Set can be installed from a single aggregate thickness to 1" thick if desired. Thicker applications over 3/8" are accomplished with the addition of washed 1/4" stone aggregate. Helix Repair Mortar Regular Set is a fluid product designed to be squeegee or trowel applied — contact a Helix sales representative for applications requiring a product designed for pitching or sloping.

Helix Repair Mortar Regular Set can be walked on in ideal conditions three to six hours after placement, with the application of a non-breathable system typically within 18 hours for every 1/4" of installed product. As with all Helix Systems, testing of the Moisture Vapor Transmission (MVT) and assessment of substrate qualities prior to the installation of Helix Repair Mortar Regular Set over concrete is a necessity.

Helix Repair Mortar Regular Set is a standard setting product. For comparable applications requiring a product with shorter work times and faster drying, consult the Helix Repair Mortar Fast Set (FS) Technical Data Sheet.

Product Benefits

- Longer work time for ease of application for larger projects
- Excellent adhesion to most properly prepared substrates
- Freeze-thaw resistant for exterior applications
- Application temperature range 50 °F to 90 °F
- Compatible with most adhesives. Always test prior to application if adhesives are present.
- VOC compliant. Contains no solvents
- Light gray color to reduce heat absorption
- High compressive strength and abrasion

Recommended Equipment

Heavy Duty 1/2" Drill and Mixing Blade,
Mixing Containers,
Muriatic acid (15% solution),
Power Washer (2,500 psi),
Crack Router or Grinder with Masonry Cutting Blade,
Caulking Guns and Polyurethane Sealant (sika flex 1-a or equal),
Spiked Shoes, Brooms, Air Blowers,
Duct Tape and Masking Paper Depending on desired finish,
Rectangular Steel Trowels, Pool Plaster Trowel, Walking Trowel
Acoustic Texture Rig or Hopper Gun
Mortex-type Dash Brush or Rice Brush brushes and rollers (1/2" and 3/16" nap).

Pre-Application

1. Remove all loose decking material, paint or other coatings. Remove all spalled concrete. In particular, be sure to remove all grease, oil, silicone coatings, or any other material on concrete that would prevent adhesion.
2. Concrete decks should have a control joint system worked out to meet all known deck-stress concentration points. For application to wood substrates, use a joint fabric and tape and mud all joints or seams.
3. Cracks and deep control joints may transfer through the surface of the topping and create potential cracking problems. To isolate moving cracks, use a semi rigid crack repair system according to the kit Instructions.

Mixing Instructions and Application

1. Mix the Helix Repair Mortar Regular Set Mix Liquid thoroughly with a wooden mixing stick prior to use.
2. Add one 40 lb of Helix Repair Mortar Regular Set powder with 1 gallon of Helix Repair Mortar Regular Set liquid.
3. Pour 1 gallon of Helix Repair Mortar Regular Set Liquid into a clean container. Gradually add one bag of Helix Repair Mortar Regular Set Powder into the mixing container. Never reverse the procedure and attempt to pour the liquid into the powder.
4. After the material has been mixed free of any obvious lumps, continue to mix for at least two more minutes with the "Jiffy" blade submerged in the mix and held at an angle. You will observe that the mix gradually loses its grainy look and develops a creamy appearance. These two minutes of final mixing is essential to eliminate dry pockets of unmixed material that could produce pinholes and white efflorescing in the finished work.
5. Apply Helix Repair Mortar Regular Set immediately upon completion of mixing. Working time of material at 70 °F (21 °C - 24 °C) is about 30 minutes. Mix no more material than can be applied in that time. Discard any material that starts to set up in the mixing container. Do not attempt to re-temper material.
6. Slightly dampen any concrete and masonry surfaces with water before applying the bond coat. Do not dampen to a point where surfaces are shiny wet—only damp. Nonporous surfaces such as metal, tile, etc. do not require dampening.
7. Trowel or squeegee the material over the substrate for best results. Be sure to work the material into porous concrete surfaces. Cure time is 2 to 4 hours depending on environment.

Limitations and Precautions

- Primarily for horizontal surfaces
- Hairline or haze cracks can occur from movement in the substrate
- Can not be applied over expansion joints or working cracks
- All construction joints, expansion joints and open joints must be honored
- Designed to receive a finish coating or sealer treatment for optimal durability

Shelf Life and Storage

Approximately one year for Helix Repair Mortar Regular Set Powder if stored in dry, cool conditions. Helix Repair Mortar Regular Set Liquid has good freeze thaw stability and if frozen during transport can be thawed slowly prior to use a maximum of two times. Protect from freezing during long term storage – store between 40 °F and 70 °F for optimal shelf life.

Coverage Rate, Mixing Ratio and Package Sizes

Note: 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.

- Helix Repair Mortar Regular Set is applied at a rate of approximately 200 square feet at scratch coat thickness or 18 square feet at 1/4" thickness per mixed 40-pound bag.
- One gallon of Helix Repair Mortar Regular Set Liquid to one 40-pound bag of Helix Repair Mortar Regular Set Powder.
- Helix Repair Mortar Regular Set dry powder is available in a 40-pound bag.

Technical Data

Please refer to the corresponding MSDS for hazard-related information.

Dry Weight at 1/8"1.3 pounds per sq. ft.

Adhesion.....Up to 1/8" thick (Shear from steel plate) 193 psi
Up to 1/4" thick (Shear from steel plate) 122 psi

Impact Resistance..... (2 lb. steel ball dropped from 8-foot height samples on steel plate) No cracking or loss of adhesion

Indentation at up to 1/8" .023"
Indentation at up to 1/4" .042"

Compressive Strength

ASTM C-109.....1 day – 1,200 psi
7 day – 3,500 psi
28 day – 4,800 psi

Tensile Strength

ASTM C-307.....873 psi

Flexural Strength

ASTM C-580.....1,240 psi

Bond Strength

(in Shear).....156 psi

Product Handling

For complete instructions on handling and use, consult the corresponding Safety Data Sheet before using product.

Warranty

Helix Repair Mortar Regular Set, a proprietary product, is warranted to be of uniform quality within manufacturing tolerances. Since control is not exercised over its use, no warranty, expressed or implied, is made as to the effects of such use. Seller's and manufacturer's obligation under this warranty shall be limited to refunding the purchase price of that portion of the material proven to be defective. The user assumes all other risks and liabilities resulting from use of this product. If you have any questions, please contact ChemSystems, Inc.



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