



Chemical
Containment
Systems Inc.

Agri- Rok Concrete Overlay



Description AGRI -ROK Concrete Overlay is a 1-component, rapid hardening, early strength gaining, cementitious, overlay material for concrete.

Where to Use

- Use on grade, above, and below grade on concrete.
- Easy to use patching material for horizontal or vertical repairs of concrete that has previous chemical attack.
- Has proven to allow a quick cure repair mortar
- Can be used to re slope floors from 4" to feather edge

Advantages

- Epoxy coatings can be applied as early as 7 hours cure time at 70 F
- Chemical resistant compared to Portland Cement
- Freeze/thaw resistant.
- Easy to use, labor-saving material.
- Semi Self Leveling
- High early strength.
- Open to foot traffic in 2 hours; to vehicle traffic in 7 hours (at 70°F).
- Easily applied to clean, sound substrate.
- Not a vapor barrier.

Coverage Approximately 0.385 cubic foot per pail or 17 square feet at ¼"

Packaging 50 lb. five gallon pail with room for mix and pour

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Product Data

- Typical Data (Material and curing conditions @ 73 °F (23 °C) and 50% R.H.)
- Shelf Life 1 year in original, unopened pail.
- Storage Conditions Store dry at 40°-95°F (4°-35°C). For best results, condition material to 65°-75°F before using.
- Color White
- Mixing Ratio Approximately The pail has 50# of dry goods and you add 5# of water (3 Qts) into pail
- Application Life Approximately 20 minutes after adding powder to the water.
- Initial Set, 45 minutes
- Final Set, 12 Hours
- Compressive Strength, psi Mortar - ASTM C-109
 - 1 hour 3500 PSI
 - 48 hours 10,000 PSI

How to Use

Surface Preparation

- Surface must be clean and sound. Remove all deteriorated concrete, dirt, oil, grease, and other bond-inhibiting materials including old polymer topping from the area to be repaired.
- Preparation work should be done by appropriate means. Obtain an exposed aggregate surface with a minimum surface profile of $\pm 1/8$ in. (CSP-6) on clean, sound concrete. To ensure optimum repair results, the effectiveness of decontamination and preparation should be assessed by a pull-off test. Saw cutting of edges is preferred and a dovetail is recommended. Saturate surface to be repaired with clean water. Substrate should be saturated surface dry prior to application.

Priming

- For priming of reinforcing steel use Blome EC-2500 Penetrating Sealer which is a 100% solids two component epoxy polymeric amine which is designed to penetrate marginally prepared surfaces and to tie rust and discontinuities in existing coatings into a firm surface suitable for a variety of top coats.
- Concrete Substrate: If the concrete is marginal, prime the prepared substrate with a concrete bonding agent such as Trinic WB10. Apply bonding agent and when bonding is still wet or tacky apply Hard Rock Overlay directly to the primed surface. Do not allow the primer to dry.



Mixing

- Mechanically mix in an appropriately sized mortar mixer. Wet down all tools and mixer to be used.
- Mix slowly the 2.5-3.0 Quarts of clean tempered water into the pail
- For applications greater than 1 in. in depth, add 3/8 in. coarse aggregate. The aggregate must be non-reactive (reference ASTM C-1260, C-227 and C-289), clean, well graded, saturated surface dry, have low absorption and high density, and comply with ASTM C-33 size number 8. The addition rate is 5# per pail of AGRI -ROK Overlay aggregate

Application

- Pour the mixed material from the pail onto the prepared concrete, working from the edge and toward the center. After filling repair, float off excess. Mixing, placing, and finishing should not exceed 20 minutes maximum.
- To control setting times, cold water should be used in hot weather and hot water used in cold weather.
- If necessary, protect newly applied material from rain. To prevent from freezing, cover with insulating material.

Limitations

- Minimum ambient and surface temperatures 35°F.
- Minimum application thickness: feather edge as a mortar and 6 in. extended with aggregate.
- Use only potable water.
- Insulate potential areas of metal contact by coating aluminum bars, rails, posts etc. with Bloom EC 2500

Caution Skin/Eye/Respiratory Irritant:

- Avoid breathing dust. Dust may cause respiratory tract irritation.
- First Aid Eyes: Rinse thoroughly with water a minimum of 15 minutes. Consult a physician. Skin: Wash thoroughly with soap and water.
- Store in a cool, dry area. Keep pail tightly closed.

Typical Applications

In industrial areas a quick concrete repair material with high strength and good chemical resistance is necessary for critical down time scenarios. The conventional way of restoring the concrete is to use epoxy based products that can be used to repair concrete from deep repairs greater than 1" to feather edge. The epoxy polymer once applied, is temperature sensitive and can take up to 12-16 hours of cure before area can be returned to service. Mixing of 3 components using hazardous material is a shortfall. Other Cement based products can take



up to 28 days before the concrete can be coated with epoxy. Epoxy can cost up to \$5.00/ Square Foot for materials at 1/4" thick.

AGRI -ROK is designed for rapid repair of concrete or re sloping of concrete with a super dense and tough material that will take the abuse in industrial settings. The following are the benefits

- Concrete is power washed clean and visible water removed. Old polymer is removed. Concrete can be left damp and will not cause a stoppage of repair project.
- The product is easy to mix and pour using a heavy duty drill and plaster mixer. After placement, a simple float action with a trowel is all that is necessary. The material is semi self-leveling.
- The material is non-hazardous and will not affect the applicators negatively from fumes. Dust masks are advisable during mixing.
- Because of the super density and low porosity of the Hard Rock material it becomes very chemical resistant. Use of high grade admixtures in combination with premium aggregates and cement provide better resistance to low ph conditions than high early Portland cement.
- The cure time is very fast. The floor can be brought back to traffic in as little time as 7 hours set time. You can barely press a mark within 30 minutes cure time.
- Agri Rok at 1/4" is about 25% less than epoxy mortar
- We highly recommend the use of a dual-paddle mixer with selectable clockwise and counterclockwise paddle rotation. The blades rotate in opposite directions, eliminating counter torque and making the unit easy to handle – even while mixing the most demanding of materials. Each paddle is 4-3/4" dia. with 8-1/4" working width and will mix up to 200 pounds of Agri Rok at a time. In pails you can mix up to 1200 pounds per hour. (24 pails of Agri Rok per hour)





EXAMPLE OF USE

A chemical plant had problems with their epoxy 1/4" topping delaminating from the concrete, leaving divots in the floor. The floor once exposed to solvents and paints caused chemical attack and further floor problems.



The floor was prepared by total removal of the 1/4" epoxy topping using 20K water jetting. The floor was left with aggregate show and left damp.

The Agri-Rok was mixed and poured on the floor. Gauge rakes set at 1/4" thick were used to screed the material in place and promptly smoothed out using magic trowels. The 2200 square feet of floor was prepared, material installed and cured enough for forklift traffic in 16 hours. Given another 16 hours (over a weekend) that same floor could be polished and sealed for maximum stain resistance and durability.





We recently resloped a floor at a chemical plant to accept a Poly tank with a plastic base. The area was to be repitched so the tank would drain better. The area to be re pitched was as high as 2" to feather edge The forms were made, material mixed with water and the men floated the material in place using trowels (in a hurry). The forms were taken off in an hour, in 5 hours the material was top coated with epoxy and the tank was placed 12 hours later!

