VANTEK
CONCRETE RESTORATION AND PROTECTION

V-KRETE REPAIR MORTAR

PRODUCTION DESCRIPTION

V-KRETE is a pure cement-based blend of specialty aggregates and admixtures providing a rapid setting, high strength, durable concrete repair. Unique non-slump formula. Excellent resistance to salts, mild chemicals and livestock traffic.

V-KRETE is pre-mixed, requiring only the addition of potable water. This unique mortar provides outstanding results and enables the project to be completed more rapidly than with conventional patching & repair materials. It can be used with Polymer V Epoxy Emulsion or Vantek Acrylic Resin for added bonding strength (primer) and resistance to absorption (admix).

INDUSTRY USES

V-KRETE is excellent for all types of concrete repair applications: bridge decks, concrete pavements, concrete joints, airport runways, livestock building floors and walls, industrial floors, loading docks, general concrete, dowel bar retrofit, pre-stressed and precast. V-KRETE is specifically designed for those applications requiring very rapid strength gain.

COVERAGE

Approx. 0.45ft^3/50 lb. (22.7 kg) bag
16 sf/1.49 m^2 at 1/4" (.64 cm)
0.60ft^3/50 lb. bag with 50 % extension of 3/8" (9.5 mm) pea gravel (grouting 1/2" (12.7 mm) deep or more)

BENEFITS & FEATURES

- Made in USA
- High early strength – open to traffic in 3 hours
- Extremely dense; Low permeability
- Non-corrosive
- Increased durability and freeze-thaw resistance; excellent adhesion; improves flexural strength
- Aggregate extension: Up to 50% on repairs greater than 1/2"(12.7 mm) (use clean dry pea gravel or small rock)
- Shrinkage compensation minimizes cracking from drying shrinkage
- Ready to use; easily mixed with water on the jobsite
- Use with Polymer V Epoxy Emulsion or Vantek Acrylic Resin for added bond strength (primer) and to minimize absorption (admix).
- Use a non-slump mix for edging and a more fluid mix for flat or curved surfaces.

TECHNICAL DATA

LABRATORY TESTS	RESULTS
Initial Set Time at 72°F	20-30 Minutes
Final Set Time at 72°F	30-50 Minutes
Working Time at 72°F	15-25 Minutes
Application Temperature Range	50° - 90°F (10° - 32°C)
Bond Strength	24 Hours: 1500 PSI (10 MPa)
Length Change - Dry Shrinkage	-0.12%
Compressive Strength: ASTM C 109	3 hours-------3,500 psi (24.1 MPa)
	1 day----------5,200 psi (35.0 MPa)
	28 days------8,500 psi (58.0 MPa)

PACKAGING

50 lb./22.7 kg bag, 56/pallet (#VTK1003)
50 lb./22.7 kg powder in pail, 24/pallet (#VTK1004) *See instructions below
PLUS KIT 50 lb./22.7 kg bag in pail with 1 qt./.95 L POLYMER V, pouch SLOW SET 24/pallet (#VTK1014) – this unit is conveniently packaged for general repairs.
AR PLUS KIT 50 lb./22.7 kg bag in pail with 1 qt./.95 L ACRYLIC RESIN CONCENTRATE, pouch SLOW SET 24/pallet (#VTK1005C) – this unit is conveniently packaged for general repairs.
SLOW SET (#VTK1009) Pouch - 50/Box
Shelf Life: 1 year in original unopened container
Storage Conditions: Store in unopened container in a dry and cool area
NOTE: Vantek works hard to produce mortar formulations that meet the design criteria set forth for them. Even so, raw materials can result in slight variations that can slightly affect the mix ratios. This data sheet provides guidance to achieve the desired mixes for infield applications.

*As transportation can cause aggregate separation and mortar compaction turn pails to remix prior to use.

LIMITATIONS/WARNINGS

Apply only when the surface and ambient temperature is 50°F (10°C) and rising. Applications made during temperatures greater than 85°F (29°C) should follow Hot Weather Application guidelines, per ACI.

Do no add more water than specified. Do not add additional powder from other units. Do not over mix or retemper. Do not apply to a dry substrate. Minimum thickness is 1/4". Optimal results are achieved at 1/2" or greater. Applying less than 1/2" reduces the ultimate strength of the mortar.

V-Krete Repair Mortar

Mixing

Use V-KRETE at a preconditioned temperature of 71 ± 5° F (22 ± 3° C). Use 7.0 - 7.5 (3.3L - 3.5L) pints of water or mixing liquids for 50 lbs. (27.2 kg). Start with smaller batches to verify the mix ratios. Small Batch: Mix 1 part liquids with 4 (more fluid) - 4.5 (non-slump) parts mortar. Adjust slightly with liquids or mortar for desired mix. Mixing must be achieved mechanically using a slow speed, 1/2 inch (12.7mm) drill and mixing paddle. Mix while slowly adding the powder to the water or mixing liquids. Mix smaller batches for small repairs or repairs in tight areas. Mix up to 4 minutes to a uniform lump-free consistency. Increase batch sizes proportional to the small batches once the desired consistency is achieved. For grouting and edging keep batches small as non-slump mixes set quickly. Use SLOW SET if conditions are warm.

Note: In Hot Weather, add 1 pouch of SLOW SET Additive per gallon (3.8L) of mixing liquids to extend the working time 15-20 minutes. Just dissolve the SLOW SET into the mixing liquids.

WHEN USING WITH POLYMER V or ACRYLIC RESIN as ADMIX AND BONDING AGENT:

General Repairs: Mix 1 part POLYMER V or ACRYLIC RESIN with 3 parts water for ADMIX & PRIMING.
Thin and Performance Overlays: Increase the concentration of polymer or resin to enhance the properties.
Typically 1-gallon of POLYMER V or ACRYLIC RESIN is needed for 100 lbs of V-Krete for General Repairs (Admix and Primer).

Clean Up

Clean tools and equipment with clean water immediately after use. Cured material must be removed mechanically.

Caution

Safety Considerations
- Use adequate ventilation.
- Use of NIOSH/MSHA approved dust vapor respirator, safety goggles and protective gloves are recommended.

First Aid
- EYE CONTACT: Flush immediately with water for at least 15 minutes. Contact physician immediately.
- RESPIRATORY CONTACT: Remove person to fresh air. If the discomfort persists, breathing difficulty occurs, or if swallowed seek medical attention.
- SKIN CONTACT: Remove any contaminated clothing. Wash skin thoroughly with soap and water. If irritation persists, seek medical attention.

KEEP CONTAINER TIGHTLY CLOSED – KEEP OUT OF REACH OF CHILDREN – NOT FOR INTERNAL CONSUMPTION – FOR INDUSTRIAL USE ONLY

Application

Surface Preparation
1. Concrete must be sound and fully cured (28 days).
2. Saw cut the perimeter of the area being patched into a square with a minimum depth of 1/2" (12.7 mm) for a uniform repair zone over a floor.
3. Remove all unsound concrete and roughen the surface to min. 1/4" (6.35mm) profile for overlayments.
4. Remove all laitance, oil, grease, curing compounds, and other contaminants that could prevent adequate bond.
5. If acid etching, follow guidelines. A visual etch should be present.
6. The concrete substrate should be saturated surface dry (SSD), without standing water, before application. Prime the substrate with a wet solution of mortar and water or resin/water mix to enhance the bond.

Product Applications
1. Apply the mixed mortar onto a damp or surface-primed substrate by trowel or screed (DO NOT APPLY MORTAR TO A DRY SUBSTRATE). Minimal thickness of the repair layer is 1/4" (6.35mm). Optimal results are achieved by the repair layer being 1/2" (12.7mm) thick or greater as a thicker layer has higher durability. For repairs less than 1/2" thick, use straight mortar.
2. For repairs 1/2" thick or greater, extend the mortar 50% by weight with clean, SSD, 3/8" (9.5mm) pea gravel or rock conforming to ASTM C 33. (for example, 50 lbs of mortar can accept up to 25 lbs of clean rock).
3. Complete by applying a desired finish or texture within the working time of the mortar. Use a straight trowel for smooth finish or use a broom, brush or notched trowel for textured finish.
4. For enhanced bond and to minimize absorption, use POLYMER V or ACRYLIC RESIN mixed with water as a primer.
5. Top Coating with 440LV EPOXY or V-GARD: During initial set apply a light broom or textured finish to the V-KRETE surface. A light broadcast of 440LV Broadcast Aggregate can also be uniformly spread on the wet mortar surface. Apply the coating or overlay after full mortar cure. Do not use POLYMER V or ACRYLIC RESIN as admix if using epoxy over the top.

Reinforcing Steel
Remove all oxidation and scale from the exposed reinforcing steel. Prime the exposed steel with RUST STOPPER or VANTEK 803 Epoxy Gel for optimum seal.

Limited Warranty

Vantek warrants for a period of one (1) year that its products will be free of manufacturing defects and will be in conformity with published specifications when handled, stored, mixed, and applied in accordance with recommendations of **Vantek**. If any product fails to meet this warranty, the liability of **Vantek** will be limited to replacement of any non-conforming material if notice of such non-conformity is given to **Vantek** within (1) one year of delivery of materials. **Vantek** may in its discretion refund the price received by **Vantek** in lieu of replacing the material. No customer, distributor, or representative of **Vantek** is authorized to change or modify the published specifications of this warranty in any way. No one is authorized to make oral warranties on behalf of **Vantek**. In order to obtain replacement or refund the customer must provide written notice containing full details of the non-conformity. **Vantek** reserves the right to inspect the non-conforming material prior to replacement. EXCEPT FOR THE EXPRESSED WARRANTY STATED ABOVE, THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE. **VANTEK'S** OBLIGATION SHALL NOT EXTEND BEYOND THE OBLIGATIONS EXPRESSLY UNDERTAKEN ABOVE AND **VANTEK** SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO THE PURCHASER OR ANY THIRD PARTY FOR ANY LOSS, COST, EXPENSE, DAMAGE OR LIABILITY, WHETHER DIRECT OR INDIRECT, OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.