

# E-Krete™ Technical and Application Bulletin

## Description

The E-Krete™ Polmer Composite Micro-Overlay (PCMO) is a durable wearing surface designed to be placed on new asphalt pavements as well as asphalt pavements with distressed due to oxidation, surface wear, or exposure to UV, chemicals, oils, fuel, etc. It is also recommended for re-surfacing concrete bridge decks, providing a light, durable, skid resistance surface.

## Recommended For

- Asphalt roads, shoulders, taxiways or runways
- Parking lots
- Highly oxidized asphalt pavements
- Concrete bridge decks
- Areas where a high coefficient of friction is needed

## Features/Benefits

- High coefficient of friction
- Aesthetically pleasing
- Resistant to chemicals, oils, fuels, etc.
- Rapid setting
- No grade transition issues
- No milling required
- Short downtime
- Adheres to asphalt and concrete
- Cost effective alternative to seal coats or asphalt overlays
- No odor or tracking issues
- 100% environmentally safe

## Packaging and Storage

The E-Krete™ industrial system comes ready to mix in the following prepackaged quantities:

### High Production Kit

- 55 gal of liquid E-Krete™
- 1 - 2,800 lb tote of E-Krete™ powder
- ± 20 gallons potable water added to Kit for desired workability and coverage

### Low Production Kit

- 1 gal of liquid E-Krete™
- 60 lbs E-Krete™ powder
- 1/2 gal. potable water added to Kit for desired workability and coverage

## Additional Options

- Water-Based Sealer for color variations
- Solvent-Based Sealer for additional chemical resistance
- Tinned Surface

## Precautions

- Keep from freezing
- Do not store in direct sunlight
- Keep containers sealed when not in use

## Performance Data

Compressive Strength	ASTM C-109	5670 PSI
Flexural Strength	ASTM C-238	1835 PSI
Tensile Strength	ASTM C-190	615 PSI
Shear Bond Adhesion	ASTM C-882	>650 PSI
Chemical Resistance	ASTM C-2299	Unaffected
Accelerated Weathering (4000 hrs)	ASTM G-23	Unaffected
Fuel Resistance Testing	ASTM D2939 see note 3	No Effect
Resistance to Deicing Chemicals	ASTM C672 see note 3	No Effect
Abrasion Testing	ASTM D 3910 see note 3	No Statistical Loss
Freeze Thaw	See Note 3	No Effect
Pavement Friction	ASTM E 274 see note 4	FN 51.8
Solar Reflectivity	ASTM E 1918 see note 5	SRI 42

1) The data shown is representative of laboratory tests two (2) days moist cured samples. Reasonable variations from results shown may be experienced as a result of atmospheric and job site conditions. Mix entire sample kit of E-Krete when preparing compressive strength specimens.

2) Composite beam prepared by overlaying 1/8" (6mm) of product on 1/2" concrete wonderboard

3) Test performed by United States Army Corps of Engineers – Vicksburg, MS

4) Test Performed by International Cybernetics Pavement Friction Tester

5) Test performed by NCAT (National Center for Asphalt Technology) – Auburn, AL



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### **Theoretical Coverage**

A one layer industrial kit covers approximately 4,000 square feet on a moderately porous pavement surface at 1/16" in (3mm) thickness. Coverage will vary depending on asphalt condition and porosity.

### **Application**

The E-Krete™ system is designed to be applied by the Polycon Placer application device, Polycon Mortar Blade, Polycon approved spray rig, or other manufacturer approved equipment. Material to be applied exclusively by a certified applicator.

### **Curing**

On a sunny day (75°F with 50% - 75% relative humidity) the drying time is approximately 2 hours per single layer. The hotter the temperature and the drier the day, the faster the cure time.

### **Shelf Life**

- Liquid E-Krete™ – 12 months in unopened containers
- E-Krete™ Powder – 6 months in dry indoor area
- Aggregate – Unlimited shelf life

### **Special Conditions**

- Application temperature shall be a minimum of 50°F and rising
- Do not apply when rain is imminent or forecast within 10 hours of completed application
- Application surface must be structurally sound

### **Associated White Papers**

- MSDS
- EPA Partnership Letter
- EB62
- USACE Unified Facilities Guide Specifications
- High Reflective Asphalt Pavement – NCAT at Transportation Research Board – Washington, DC
- E-Krete Friction and Durability – NCAT – Auburn, AL

### **Recommended Temperature Range**

Ambient and surface temperatures of 50° F and rising to 100° F is the standard range of successful application. However, when the temperature reaches or exceeds 95° F, additional polymer and a small amount of water is required to keep the batch workable. Add additional polymer at a ratio of 3 gallons of polymer to 1 gallon of water to increase rate of flow of material. To decrease flow, add additional powder to achieve workable mix.

### **Mixing**

Mechanical mixing is recommended. For roads & other large areas, Polycon recommends using the Placer batch-mixing machine. The machine must mix the E-Krete™ composite to a consistent, homogenous mix. For smaller areas, a 1/2" drill with mortar paddle mixer may be used. For each High Production Kit, 25 gallons of potable water is added for desired workability and coverage. It is important to add liquid E-Krete™ and water first to the mixing container or mixer, followed by the addition of the E-Krete™ powder. Mix slowly and consistently for best results. Keep unused portions covered and out of heat.

### **Directions for use (new and existing asphalt and concrete surfaces)**

- 1) Inspect surface for suitability of application. Extensive sub-base or substrate problems may require repairs outside the scope of Polycon's product line.
- 2) Repair any deteriorated areas such as spalling, cracks, pop-outs, bird baths, etc., with patching compound to restore profile. Minor cracks do not require patching prior to overlay application.
- 3) Ensure surface is free of all contaminants including oil, grease, dirt laitance, fungus, efflorescence, mildew or any other contaminant that may prevent adhesion. Effective means of preparation may include pressure washing.
- 4) New asphalt should be allowed to weather for 30 days prior to application of the E-Krete™ system. If timing is critical, then new asphalt surfaces should be thoroughly degreased and pressure washed. Two washings are recommended to remove excess oils.
- 5) Prior to application, surface must be dry and free from all loose particles.
- 6) Set up equipment and mix materials as previously described.
- 7) Apply the E-Krete™ with approved application equipment.

### **Warnings**

- All materials are formulated for industrial and professional use only. Keep out of reach of children
- When exposed to air, the liquid polymer emits a slight ammonia vapor. It is recommended that steps be taken not to breathe the vapor or the dust produced when mixing this product.
- Previously sealed surfaces may require additional prep work (i.e. scarifying).

### **Waste Disposal**

These products, when discarded or disposed of in their liquid and cured form are not listed as a hazardous waste in Federal Regulations. Dispose in landfill in accordance with local regulations.

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