

E-KRETE Polymer Composite Micro-Overlay (PCMO)

Created, manufactured and distributed by *PolyCon® USA, LLC*, **E-Krete®** is a durable Polymer Composite Micro-Overlay (**PCMO®**) that bonds securely to asphalt pavement, chip seal, polished stone and other bituminous products, as well as concrete and primed metal.

E-Krete® is unaffected by water, U. V., ice, salt, deicers, oxidation, automotive fluids, aircraft fluids, oil, diesel and gasoline.

E-Krete® can be applied directly over old chip seal or other resurfacing products and will eliminate the loose rock problems that cause broken windshields and unsafe conditions for automobiles, motorcycles and bicyclists.

E-Krete® has no harmful ingredients to either humans or the environment, and it is the only pavement preservation material that carries the EPA's Design for the Environment designation.

Environmental Issues

Asphalt is an excellent paving product, but it has significant environmental weaknesses that give it a limited lifespan. There are serious environmental issues with the heat produced by asphalt that has a negative impact on the Urban Heat Index (UHI). Due to its black color, asphalt absorbs heat from the sun and retains it for long periods. This causes a significant increase in the UHI in surrounding metropolitan and urban areas, and contributes to global warming.

The Right Solution

In the interim leading up to the search for and development of a new solution for a product to extend the life of asphalt pavement, the pavements industry has been forced to use topical sealers that are temporary at best, and are mostly cosmetic. Some of these sealers are highly toxic and are on well their way to being banned.

The Asphalt Industry needed a durable wearing surface unaffected by U.V., water run-off, automotive fluids, oil, diesel, gasoline, and a product that protects and extends the life of asphalt pavement and which:

1. Is cost effective and significantly reduces maintenance costs
2. Eliminates the need for toxic and temporary sealing materials
3. Is environmentally safe with high solar reflectance that does not retain heat
4. Is not influenced by the price or availability of oil and petroleum products
5. Enhances the competitiveness of asphalt and concrete

An Historical Perspective

Founded in 1996 as the result of an extensive research and development project to address the limitations of asphalt and concrete pavements, *PolyCon® USA, LLC* is the leading producer of durable, environmentally safe pavement preservation products.

The Patent Award

A process patent was awarded in 1997, and in 1998 we entered into a cooperative research and development agreement with the U.S. Army Corp. of Engineers in Vicksburg, Mississippi to test and evaluate the use of **E-Krete®** as a fuel resistant pavement overlay.

Acceptance & Endorsement

A two year study was performed on eleven military bases across the country, and a comprehensive report of the study was published in 2000. This report is available from *PolyCon USA, LLC*. As a result of this study, **E-Krete®** was approved as the preferred material used on the parking ramps for the B-1 Bomber at McConnell AFB. In 1998 **E-Krete®** was **accepted by NASA** and has been installed on projects for them in Wallops Island, Virginia, and Houston, Texas. A two year study was performed on eleven military bases across the country, and a comprehensive report of the study was published in 2000. As a result of this study, **E-Krete®** was approved as the preferred material used on the parking ramps for the B-1 Bomber at McConnell AFB. This report is available from *PolyCon® USA, LLC*.

In the millennium year of 2000, **E-Krete**[®] was approved by the Federal Aviation Administration and since that time **E-Krete**[®] has been applied on millions of square feet at airports in Mississippi, Alabama, Texas, Florida, Kansas, Maryland, California, and Venezuela, and on roads, bridges and parking lots throughout the world. Then in April 2008, we supplied **E-Krete**[®] for a 1.3 million square foot NASA airport project in San Jose, California. Further extending **E-Krete**[®]'s range of applications it has also been used on interstate bridges to return the coefficient of friction to bridge decks. In February 2008 we were invited by the National Asphalt Pavement Association to apply our product on the test area at N.C.A.T. the highly respected testing facility for asphalt, in Auburn, Alabama. Their interest is to have a material that has good solar reflectivity that can reduce the heat absorbed and stored in asphalt. This problem contributes significantly to the UHI (urban heat index) which in turn contributes to global warming. The PCMO™ has a .38 SRI rating. N.C.A.T. has delivered a technical paper on the **E-Krete**[®] PCMO[®] at the TRB in Washington D.C. in January 2009.

Cost Effectiveness & Return on Investment

In the beginning **E-Krete**[®] was too expensive for the asphalt road industry, however due to the recent escalation of oil prices, asphalt has tripled in price. Now **E-Krete**[®] is less expensive than the 2 inch asphalt wearing surface, lasts four times longer, eliminates the milling process, and is environmentally friendly. The **E-Krete**[®] product can be applied directly over old, stable, chip seal and will eliminate the loose rock problem and add years of service to the road. **E-Krete**[®] is less expensive than chip seal or micro-surfacing and has an unprecedented warranty. Due to the lack of any V.O.C.'s in the formula, the **Environmental Protection Agency selected PolyCon**[®] **USA, LLC** as a partnered company. In northern climates, water from snowmelt and rainfall severely affects asphalt. Water, snow melt, rainfall, and automotive fuels, have no effect on **E-Krete**[®], and, for the first time, the life of an asphalt wearing surface will last in excess of 10 years. On new asphalt, **E-Krete**[®] can be placed directly over the base course as a durable wearing surface. On old oxidized asphalt, it can salvage the remaining asphalt and add many years to its useful lifespan.

Cracks in oxidized pavement are filled by the **PCMO**[®] material as the asphalt pavement is capped with a 1/16-inch lift of **E-Krete**[®]. Thin 1/16-inch thickness eliminates grade transitions and the required milling associated with utility adjustments and curb and gutter issues. **E-Krete**[®] extends the life of asphalt pavement in excess of 10 years and has an industry leading written warranty.



M60-Tank Performs 360 Turns on E-Krete[®] Surface
Demonstrating E-Krete[®] Durability

Text and images from:
PolyCon[®] **USA, LLC**
701 South Royal St., Ste. D
Mobile, AL 36603
webdesk@polyconusa.com
<http://polyconusa.com/>