

Eko-Seal® HPPCO

Technical and Application Bulletin

Description

The Eko-Seal® High Performance Polymeric Composite Overlay (HPPCO) 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 Eko-Seal® HPPCO industrial system comes ready to mix in the following prepackaged quantities:

High Production Kit

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

Low Production Kit

- 1 gal of liquid Eko-Seal®
- 60 lbs Eko-Seal® 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	3950 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 Eko-Seal® when preparing compressive strength specimens.

2) Composite beam prepared by overlaying 1/2" (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

Theoretical Coverage

A one layer industrial kit covers approximately 5,000 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 Eko-Seal® system is designed to be applied by the Eko-Yol Placer application device, Eko-Yol Mortar Blade, Eko-Yol 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 1 hour per single layer. The hotter the temperature and the drier the day, the faster the cure time.

Shelf Life

- Liquid Eko-Seal® – 12 months in unopened containers
- Eko-Seal® 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
- Eko-Seal® 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, Eko-Yol recommends using the Placer batch-mixing machine. The machine must mix the Eko-Seal® 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 Eko-Seal® and water first to the mixing container or mixer, followed by the addition of the Eko-Seal® 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 Eko-Yol'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 Eko-Seal® 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 Eko-Seal® 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).