ATLAS E-PRO OVERLAY

100% Solids, High Strength, Low Modulus, Polymer Epoxy Binder for Heavy Traffic Bearing Concrete Overlays

Description
Atlas E-Pro Overlay is a two-component, 100% solids, high strength, low modulus epoxy binder for heavy-duty concrete overlay applications. E-Pro Overlay provides a protective, durable and skid resistant polymer concrete repair for concrete bridge decks, parking structures or other areas subjected to heavy traffic, abrasion, thermal movements, harsh weather and chemical attack. This innovative hybrid overlay cures rapidly for minimum downtime of traffic areas. E-Pro Overlay conforms to ASTM C-881, Type III specifications.

Uses
• Concrete bridge deck overlays, parking structures, or other concrete surfaces subject to heavy traffic, abrasion, thermal movements and chemical attack.
• Mix with aggregate for a high strength polymer concrete mortar.
• Expansion joint nosing repairs.
• Low-modulus bonding agent.
• Exterior, interior, day or night applications.

Features
• High-performance and easy to use binder for skid resistant broadcast overlays.
• Durable overlay that provides a new traffic bearing surface with excellent abrasion resistance.
• Low-modulus for excellent shock absorption and thermal movement.
• Impermeable to water, de-icing salts (chlorides) and other harmful chemicals. Protects steel reinforcement from corrosion.
• High early strength; cures rapidly for minimal downtime of repaired area.
• Moisture tolerant before and after cure; allows for application on both dry or damp surfaces.
• Minimizes future maintenance of treated surface.
• 1:1 component ratio is safe and easy to mix.
• Non-flammable.
• Low odor; may be used for interior or exterior applications.
• Provides an attractive finish to bridge decks, parking structures, etc. Multiple broadcast aggregate options are available.
• Proven field performance.

Technical Data & Specifications
ASTM C-881, Type III, Grade 1, Classes B & C.
AASHTO AGC-ARTBA (Taskforce 34)
Meets USDA specifications for use in food processing areas.
VOC Compliant
See Testing Data Chart for test results

Testing Data for E-Pro Overlay

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity (ASTM D-2393)</td>
<td>1,700 cps</td>
</tr>
<tr>
<td>Gel Time (ASTM C-881)</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Bond Strength (ASTM C-882)</td>
<td>14 Days</td>
</tr>
<tr>
<td>Adhesion Strength - Pull Test</td>
<td>385 psi</td>
</tr>
<tr>
<td>(ASTM C-1583/ACI 503R) 24 hours</td>
<td>(100% concrete failure)</td>
</tr>
<tr>
<td>Compressive Strength (ASTM C-579) 24 Hours</td>
<td>1,100 psi</td>
</tr>
<tr>
<td>Compressive Modulus (ASTM D-695)</td>
<td>80,000 psi</td>
</tr>
<tr>
<td>Tensile Strength (ASTM D-638)</td>
<td>3,500 psi</td>
</tr>
<tr>
<td>Tensile Elongation (ASTM D-638)</td>
<td>50%</td>
</tr>
<tr>
<td>Flexural Strength (ASTM D-790)</td>
<td>5,500 psi</td>
</tr>
<tr>
<td>Flexural Creep (Caltrans 419)</td>
<td>0.0050 in.</td>
</tr>
<tr>
<td>(24 Hours)</td>
<td>0.0100 in.</td>
</tr>
<tr>
<td>Shore D Hardness (ASTM D-2240)</td>
<td>70</td>
</tr>
<tr>
<td>Chloride Ion Permeability</td>
<td>0.9 coulombs</td>
</tr>
<tr>
<td>(AASHTO T-277)</td>
<td></td>
</tr>
<tr>
<td>Water Absorption (ASTM D-570)</td>
<td>0.20%</td>
</tr>
<tr>
<td>Thermal Compatibility (ASTM C-884)</td>
<td>Pass</td>
</tr>
<tr>
<td>Shrinkage (ASTM C-883)</td>
<td>Pass</td>
</tr>
</tbody>
</table>

1 - Epoxy mortar at 3.5 to 1 by volume, sand to epoxy

MINIMUM CURE TIMES OF E-PRO OVERLAY

<table>
<thead>
<tr>
<th>Average temps. of epoxy and substrate</th>
<th>Course 1</th>
<th>Course 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 - 64°F 16 - 18°C</td>
<td>4 hrs</td>
<td>5 hrs</td>
</tr>
<tr>
<td>65 - 69°F 19 - 21°C</td>
<td>3 hrs</td>
<td>5 hrs</td>
</tr>
<tr>
<td>70 - 74°F 22 - 23°C</td>
<td>2.5 hrs</td>
<td>4 hrs</td>
</tr>
<tr>
<td>75 - 79°F 24 - 26°C</td>
<td>2 hrs</td>
<td>3 hrs</td>
</tr>
<tr>
<td>80 - 84°F 27 - 29°C</td>
<td>1.5 hrs</td>
<td>3 hrs</td>
</tr>
<tr>
<td>85°F+ 29°C+</td>
<td>1 hr</td>
<td>3 hrs</td>
</tr>
</tbody>
</table>

Coverage
Binder for broadcast overlays:
Course 1 - 40 ft² per gallon (1.0 M² per L)
Course 2 - 20 ft² per gallon (0.5 M² per L)

Aggregate broadcast rate:
Course 1 - 1.0 lb. per ft² (4.9 kg per M²)
Course 2 - 1.5 lbs. per ft² (7.4 kg per M²)

E-Pro Overlay provides a 1/4” - 3/8” thick overlay on the surface, depending on aggregate used.

Adhesive: 231 in³ per gallon; approximately 80 ft² per gallon (2.0 M² per L) or 20 mils thickness.

Epoxy Mortar: Approximately 0.46 ft³ per mixture of 1.0 gal. of epoxy and 50 lbs. aggregate.
Atlas E-Pro Overlay

Application Procedures

Preparation
Repair any delaminated or spalled areas with E-Pro Patch or other Atlas approved patching material. Existing surfaces must be clean and sound. Remove all curing compounds, sealers, dirt, dust, laitance, grease, asphalt and any other foreign substances from the surface. Shotblasting is the recommended surface preparation method to provide a clean and bondable surface for E-Pro Overlay. The surface may be dry or damp at time of application, but should not have puddled water. Surface temperature must be a minimum of 55°F (12°C) at time of application. If surface temperature is 100°F (37°C) or above, please consult with Atlas prior to application. Do not apply when rain is forecasted during the curing period of the overlay.

Mixing
For best results, condition both components of E-Pro Overlay to 65 - 85°F (18 - 29°C) before mixing. Pre-mix each component thoroughly before blending together. In a clean mixing container, proportion equal parts by volume of Component A and Component B. Mix together for 2 - 3 minutes using a low-speed drill (300 rpm) and Jiffy type mixer. Mix thoroughly to achieve a uniform color. Mix only the quantity of epoxy that can be applied within its pot life.

To produce a polymer concrete mortar, mix 1 to 6 parts by volume of clean, dry, well-graded aggregate to 1 part by volume of mixed epoxy. The aggregate should be angular grained silica sand or basalt, having less than 0.2% moisture and free of dirt, clay, etc. The aggregate should have a minimum MOHS scale hardness of 7, unless otherwise approved. Mix aggregate into the epoxy binder until the aggregate is completely wet-out and evenly dispersed.

Application

Skid-Resistant Broadcast Overlays:
Apply the mixed E-Pro Overlay epoxy binder with a 3/16" (0.5cm) notched squeegee to the concrete surface at approximately 40 ft² per gallon (1.0 M² per L). Wait for epoxy to level, then broadcast oven-dried aggregate at approx. 1.0 lb. per ft² (4.9 kg per M²), allowing the aggregate to settle in the epoxy. After the epoxy has cured, remove excess aggregate by sweeping or vacuuming. Apply a second coarse of epoxy at 20 ft² per gallon (0.5 M² per L), then broadcast the aggregate at approx. 1.5 lbs. per ft² (7.4 kg per M²). After the epoxy has cured, remove excess aggregate by sweeping or vacuuming. Open to traffic.

Polymer concrete patching & joint repair:
Prime the surface with mixed E-Pro Overlay epoxy. While the primer remains tacky, place the mixed polymer concrete mortar with a trowel, screed or tamper.

Cleaning
After use, immediately clean uncured epoxy from tools and equipment with Atlas Citrus Cleaner or other approved solvent. Cured epoxy can be removed mechanically.

Packaging
2 gallon (7.6 L) units (2 - 1 gal. cans)
10 gallon (37.9 L) units (2 - 5 gal. pails)
110 gallon (416.4 L) units (2 - 55 gal. drums)

Storage
Store in a dry area, between 50 - 80°F (10°C - 27°C). If possible, keep epoxy stored at a consistent temperature. Protect from freezing.

Limitations
- Minimum substrate temperature at time of application is 55°F (12°C). If surface temperature is 100°F (37°C) or above, please consult with Atlas prior to application.
- Do not apply when rain is forecasted during the curing period of the overlay.
- Since cure time is dependent on temperatures and mass of epoxy, a test should be performed to determine exact cure time prior to application.
- Concrete substrate shall be a minimum of 28 days old prior to overlay application.
- Do not thin with solvents; solvents will prevent proper cure.
- Do not seal large exterior on-grade substrates that are subject to freeze/thaw conditions.
- Material becomes a vapor barrier after cure.

Caution
Close container after each use. Always wear protective goggles and gloves when using this product. Do not take internally. Wash all exposed skin with soap and water after use. Avoid overexposure to breathing vapors. Do not take internally. If swallowed, do not induce vomiting. Contact a physician immediately. If eye contact occurs, flush eyes with fresh water for 15 minutes and contact a physician. Keep out of the reach of children.

Additional precautions and safety information are contained in the Material Safety Data Sheet.

Technical Services
For assistance, contact an Atlas Tech representative at:
858-277-2100 or 1-877-588-2100
Fax: 858-277-0585
Email: info@atlastechproducts.com
Website: www.atlastechproducts.com

Made in USA.
For professional use only.
Consult Material Safety Data Sheet for more information.

Disclaimer of Warranties: Neither manufacturer nor seller have any knowledge or control concerning the purchaser’s use of the product. No expressed warranty is made by manufacturer or seller with respect to the results of any use of the product or container that the product comes in. No implied warranties, including, but not limited to, an implied warranty of fitness for a particular purpose are made with respect to the product. Neither manufacturer nor seller assume any liability for personal injury, loss or damage resulting from the use of the product. In the event that the product shall prove defective, buyer’s exclusive remedy shall be as follows: Seller or manufacturer shall, upon request of buyer, replace any quantity of the product which is proven to be defective or shall, at its option, refund the purchase price of the product upon return of the product. Manufacturer shall not be responsible for use of this product in a manner to infringe on any patent held by others.