The World’s Most Amazing Cementitious Patch and Overlay Product!

- Fiber reinforced: Superior flexural and tensile strength as thin as 1/4”
- High ductility, allowing the overlay or patch to ‘FLEX’ without failure
- Superior tensile strain capacity of other cement-based products
- 10 times the bond strength of other fiber based mortars for superior crack resistance
- Prevents the propagation of existing cracks through the surface
- Resists de-icing salts, freeze/thaw
- Highly impermeable, high abrasion resistance

Available in 3 Formulations

Just Add Water

775 829 2626  www.gstinternational.com
Choose the best Elephant Armor™ formulation for your project:

• **Ultra High Performance Mortar**
  is a single-component, cementitious, high-fiber-based, medium to fast-setting patch and overlay repair mortar.

• **DOT Industrial Grade Mortar**
  is an ultra-high-performance mortar with its high early and superior bond strength (4000 psi in 4 hours) offers unlimited possibilities for repair work, maintenance, or new construction.

• **Ultra High Performance Asphalt Patch**
  is designed for easy and permanent asphalt patching repairs. A non-petroleum-based product means an odor-free, environmentally-friendly solution to asphalt patching and repair.

Ideal for patch and repair use on concrete or asphalt walkways and driveways, curbs, ramps, slabs, spalls, cracks, bridges, parking structures, tunnels, dams, industrial plants, anywhere a high strength concrete repair mortar is called for.

Can Your Concrete Do This?

Choose the best Elephant Armor™ formulation for your project:

• **Ultra High Performance Mortar**
  is a single-component, cementitious, high-fiber-based, medium to fast-setting patch and overlay repair mortar.

• **DOT Industrial Grade Mortar**
  is an ultra-high-performance mortar with its high early and superior bond strength (4000 psi in 4 hours) offers unlimited possibilities for repair work, maintenance, or new construction.

• **Ultra High Performance Asphalt Patch**
  is designed for easy and permanent asphalt patching repairs. A non-petroleum-based product means an odor-free, environmentally-friendly solution to asphalt patching and repair.

**Designed for easy and permanent patches and overlays. Elephant Armor™ is so revolutionary it makes all other cement-based mortars obsolete.**

**Easy to Use, Just Add Water**
Specially engineered as a patch or overlay product that offers tremendous flexural and tensile performance as thin as 1/4".

**Elephant Armor™** is a single component, cementitious, high fiber based, medium to fast setting patch and overlay repair mortar, that can be placed with a trowel or textured roller. This ultra-high performance mortar can be used for repair work, maintenance, or new construction.

It offers high early strength and superior bond strength. It is shrinkage compensated, so only very minimal shrinkage may occur. This repair mortar is able to maintain a strong resistance to de-icing salts, freezing and thawing, and abrasion.

**Concrete basement floor was spalling.**

The area was resurfaced with Elephant Armor™ without deconstructing the failed surface.

**Elephant Armor™ being line-pumped into roadway micro-trench for fiber optic cable installation, using a volumetric mixer.**

**Truckee Meadows Water Authority Aqueduct Repair, Reno, NV.** Due to the abrasive nature of the snow melt runoff, both vertical and horizontal concrete flume surfaces have been restored with this product. Elephant Armor™ Ultra High Performance Mortar was utilized for both types of repairs, simply by controlling the added water.
Elephant Armor™ is the Permanent Solution

By using Elephant Armor™ on the Slide Mountain KTVN Tower Base Repair, located at 10,000 ft in the Sierra Nevada Mountains, there was a 75% reduction in costs vs the traditional repair method specified.

Spalled concrete with exposed rebar
Elephant Armor™ applied with rollers and trowels
Finished repair

Fort McCoy, Wisconsin

Elephant Armor™ has now been placed at four primary training sites used by multiple military agencies and is rapidly becoming part of their standard operating procedure. Elephant Armor™ readily accepts pigment both as an integral system or a topical stain. Any desired look or finish can be applied.

Failing century-old wall is given new life and structural integrity by encapsulating crumbling old brick with Elephant Armor™. Repairs costs were reduced by 80% compared to the typical deconstruction and reconstruction estimates.

A Wine Cave with Elephant Armor™

Elephant Armor™ was sprayed, troweled and rolled to the desired finish. A single step installation process that provides a structural and architectural finish, greatly reducing construction costs.

Spray on Elephant Armor™

With its superior flexural and tensile strength, Elephant Armor™ can be sprayed to encapsulate flexible foam, taking movement without cracking, displacing or failing. It can also be used as a spray coat on vertical surfaces that are failing or that are required to emulate a specific existing environment.
Ideal for patch and repair use on concrete or asphalt walkways and driveways, curbs, ramps, slabs, spalls, cracks, bridges, parking structures, tunnels, dams, industrial plants, anywhere a high strength concrete repair mortar is called for.

Repair your concrete sidewalk and stairs with an Elephant Armor™ overlay without deconstruction

Worn-out sidewalk and stairs. Apply Elephant Armor™ overlay as thin as 1/4" over existing concrete. Elephant Armor™ can be stamped or textured with texture roller. Finished job stained and sealed.

Sea Wall Repair for National Park Service, San Francisco, CA

Unsound concrete removed and corrosion inhibitor applied to exposed rebar. Elephant Armor™ Primer applied to damaged surface. Ready for Elephant Armor™ placement. Elephant Armor™ was quickly and permanently applied without forming.

Marine Infrastructure Repair

Damaged concrete surface on dock. Repaired without costly deconstruction or forming. Create counter tops or decorative stonework for outdoor living areas.

Elephant Armor™ can be colored and textured

Ultra High Performance Mortar

Elephant Armor™ can be colored and textured to complement existing surfaces.
Active Runway or Busy Highway, Elephant Armor™ is the Permanent Solution

GST International’s Elephant Armor™ is designed to limit catastrophic failure no matter what material it is applied over. Due to its ability to micro-fracture and flex over moving surfaces, Elephant Armor™ reduces the potential for structural cracking. Surfaces include: concrete, asphalt, steel, wood and EPS structural foam. More importantly, it is the only product on the market that can be applied over existing cracks and limit the propagation of those cracks through the new Elephant Armor™ surface.

**Highway Repair**

- Pot hole in concrete highway.
- Moving/laying equipment can be used to lay Elephant Armor™.
- Place and finish Elephant Armor™ like any concrete.
- Repair should last a lifetime.

**CalTrans Bridge Repair**

- Ideal product for vertical and overhead patching.
- Repaired quickly without the need of costly forming.

**Curb Repair**

- Damaged curb was repaired without deconstruction or forming.
- Unprecedented performance after months of continuous traffic abuse.

**Significant cost savings without the need for deconstruction** – San Francisco, CA

- Failed concrete sidewalk surface
- Damaged area was primed and Elephant Armor™ rolled on
- Finished job will last a lifetime
For best results, use Elephant Armor™ Tools & Accessories

- Elephant Armor™ Cure provides an effective curing membrane that will dry to a clear (non-yellowing) membrane.
- Elephant Armor™ Primer a high solids, acrylic polymer latex bonding agent specifically designed to be used with Elephant Armor™ on any concrete or asphalt surface.
- Elephant Armor™ Delay to increase working time. (comes with measuring scoop)
- GST Sprayer Tips for GST 2 gallon pump-up sprayer
- GST Sprayer Tips for GST 2 gallon pump-up sprayer

Tools & Accessories

- 9” (230mm) and 18” (450mm) Smooth Roller
- 9” (230mm), 9.5” (240mm) and 18” (450mm) Textured Roller
- Expandable Aluminum Roller Frame (rollers not included)
- Showing Expandable Roller Frame at 9” to 18” with 1/4” and 1/2” depth gauges (sold separately)
- 1/4” and 1/2” Roller Depth Gauges for 9”, 9.5” and 18” rollers
- Aluminum Roller with 1/4”, 1/2” and 3/4” Depth Gauges (sold separately)
- GST 2 Gallon Pump-up Sprayer for application of Elephant Armor™ Cure and Primer
The World's Most Amazing Cementitious Patch and Overlay Product!

Read all application instructions on the product label before you begin applying Elephant Armor

The GST Elephant Armor™ family of Ultra High Performance Mortars is a single component, cementitious, fiber reinforced, medium to fast setting patch and overlay repair mortar that can be placed with a textured roller (preferred method) or traditional placement tools. These ultra-high performance mortars, with their high early and superior bond strength, can be used for repair work, maintenance, or new construction. Applications include: walkways, curbs, ramps, slabs, pavers, cracks, bridges, ICF walls, parking structures, tunnels, dams, industrial plants or anywhere a high strength concrete repair mortar is called for.

Elephant Armor™ is shrinkage compensated resulting in minimal shrinkage. Elephant Armor™ maintains a strong resistance to de-icing salts, freeze-thaw cycles and abrasion. These varying slump mortars can be placed to a minimum thickness of ¼”.

Elephant Armor™ Ultra High Performance Mortars can be used for structural monolithic overlays for interior and exterior applications. Elephant Armor™ can also be used as a structural underlayment for other materials such as self-levelers, trowel coats and epoxies. It has unparalleled structural flexibility and tensile strength and can be used to create seamless floors without control or expansion joints.

Elephant Armor™ Ultra High Performance Mortar, Asphalt Patch and DOT Industrial Grade Mortar are available in 50 lb (22.6 kg) bags.

Elephant Armor™ Ultra High Performance Mortar and Asphalt Patch are also available in 10 lb (4.5 kg) pails. It is pre-packaged and comes ready to use. Its ease of use is unparalleled - all you have to do is add water. These flexible repair mortars/overlays have an average yield of:

- 50 lb bags: 9.3 sq. ft. at ½” thickness; 18.75 sq. ft. at ¼” thickness, however yield in service will vary.
- 10 lb pails: 1.8 sq. ft. at ½” thickness; 3.7 sq. ft. at ¼” thickness, however yield in service will vary.

Elephant Armor™ Ultra High Performance Mortar and Asphalt Patch initial set is 20 to 60 minutes and final set is 1½ to 2 hours, depending on ambient temperature and humidity.

Elephant Armor™ DOT Industrial Grade initial set is 20 to 30 minutes and final set is 1 to 1½ hours, depending on ambient temperature and humidity.

Elephant Armor™ set time can be extended with retarders, such as GST Delay, or mixing with heated water for a faster set time.

Specifications

Elephant Armor™ Ultra High Performance Mortars bond to all suitable concrete, masonry, and cementitious substrates. For full depth repairs onto an aggregate base, a fixed bi-directional geogrid must be properly installed prior to application. Please refer to www.gstinternational.com for more details.

<table>
<thead>
<tr>
<th></th>
<th>Flexural Tensile Strength ASTM C 947</th>
<th>Splitting Tensile Strength ASTM C 496</th>
<th>Compressive Strength DOT Industrial Grade ASTM C 109 Cube</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA Mortar</td>
<td>6.7 mpa (950 psi) 28 days</td>
<td>4.2 mpa (602 psi) 28 days</td>
<td>34.7 mpa (4940 psi) 56 days</td>
</tr>
<tr>
<td>EA Asphalt Patch</td>
<td>8.8 mpa (1259 psi) 28 days</td>
<td>5.9 mpa (838 psi) 28 days</td>
<td>45.8 mpa (6510 psi) 28 days</td>
</tr>
<tr>
<td>EA DOT</td>
<td>10.5 mpa (1493 psi) 7 days</td>
<td>7.9 mpa (1126 psi) 28 days</td>
<td>55 mpa (7837 psi) 28 days</td>
</tr>
</tbody>
</table>

IMPORTANT: Repair surfaces must be clean, sound, and free from contaminants that can act as a bond breaker (such as oil, curing compounds, acids, dirt and loose debris. GST Pro-Grade Masonry Cleaner and power washing is strongly advised in order to properly prepare the bonding surface! To ensure a proper bond, Elephant Armor Primer MUST be applied to the cleaned and prepared substrate. This primer meets ASTM C1059 Type 1 and 2.

When placing Elephant Armor™ Ultra High Performance Mortars, all patches and overlays must have GST’s Elephant Armor Cure applied immediately after finishing. If a stain or sealer is going to be applied, do not use Elephant Armor Cure, water cure for a minimum of two hours.

(Visit www.gstinternational.com for additional information.)

Elephant Armor™ Ultra High Performance Mortars must be placed to a hard edge! Existing cracks, cold joints, saw cuts and free-standing formwork shall be finished flush at a depth of not less than ¼”. A feathered edge is not acceptable. Refer to www.gstinternational.com for detailed instructions.

In mixing Elephant Armor™ Ultra High Performance Mortars, stir dry contents prior to adding approximately 1½-1½ gal. of water and thoroughly mix with a ½” drill or larger, using an egg beater, mortar or Jiffy bit. (Do not use a dry wall paddle blade). For ideal mixing, a dual shaft power mixer is recommended (example: Colomix Xo 55 duo). Continue mixing until mixture is homogeneous, lump free and the desired consistency (slump) for your application. Actual mixing time will depend on mixer speed, shear capacity and desired consistency or flow.

WARNING: DO NOT BREATHE DUST, AVOID CONTACT WITH SKIN AND EYES!

Use material in well ventilated areas. Exposure to dust from this material may irritate eyes, nose, throat and lungs. Dust mask is recommended during the mixing process. Contact with dry materials or wet mixtures may cause chemical burns to skin and eyes. Protect eyes with safety glasses with side shields or goggles. Skin should be covered with protective clothing. Use chemical resistant gloves. In case of skin contact, immediately wash with soap and water. In case of eye contact, flush immediately and repeatedly with clean water.

Proposition 65: One or more of the components contained in this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

SDS (available at www.gstinternational.com) for additional safety information regarding this product.

KEEP THIS PRODUCT OUT OF THE REACH OF CHILDREN

This product is made from the finest raw materials available and manufactured to proven formulation under strict quality control for its intended use. However, results obtained with the use of this product under a variety of conditions may depend on circumstances beyond our control. GST International, Inc. and the seller therefore disclaim any responsibility for damage of any kind. The only warranty extended, expressed or implied, is for defective material.

GST International shall not be liable for any incidental, consequential or damages arising directly or indirectly from the use of Elephant Armor™

Manufactured in the USA by Global Sealer Technologies International

Authorized Dealer:

775 829 2626 www.gstinternational.com