



Global Sealer  
Technologies

**Elephant  
Armor®**



***The World's Most Amazing  
Cementitious Repair and  
Overlay Product!***

***Flex Without Failure***



**DOT Industrial Grade Mortar**

- Fiber reinforced: Superior flexural and tensile strength as thin as 1/4".
- High ductility, allowing the overlay or repair to 'FLEX' without failure.
- Resists de-icing salts, freeze/thaw.
- Superior tensile strain capacity over other cement based products for improved crack resistance.
- Superior bond strength to that of other fiber and acrylic based mortars.
- Ideal as a structural underlayment.
- Prevents the propagation of existing cracks through the surface.
- Highly impermeable and abrasion resistant.
- Unparalleled as a stampable overlay.



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# Elephant Armor® DOT Industrial Grade Mortar

## Active Runway or Busy Highway, Elephant Armor® DOT is the Permanent Solution



Slide Mountain TV Tower Repair

**GST Elephant Armor® DOT Industrial Grade Mortar** is a single component, cementitious, fiber reinforced, ultra-fast setting concrete repair and overlay mortar that can be placed with a trowel, textured roller or other types of high volume application tools. This ultra-high performance mortar can be used for repair work, maintenance, or new construction. It offers high early strength (Over 4000 psi in 4 hours) and superior bond strength. It is shrinkage compensated, so only very minimal shrinkage may occur. This repair mortar will maintain a strong resistance to de-icing salts, freezing and thawing, and abrasion.

**GST Elephant Armor® DOT Industrial Grade Mortar** is ideal for repair and overlay use on: walkways, curbs, ramps, slabs, spalls, cracks, bridges, parking structures, tunnels, dams, industrial plants or anywhere an ultra-high strength concrete repair mortar is called for. This ultra-fast setting, low slump fiber-based mortar can be troweled, shaped or molded to a minimum thickness of ¼".

### Placer County Bridge Repair



*Ideal product for vertical and overhead repairs.*



*Repair should last a lifetime.*

### Curb Repair



*Damaged curb was repaired without deconstruction or forming.*



*Unprecedented performance after months of continuous traffic abuse.*

# Elephant Armor® DOT Industrial Grade Mortar

**GST International's Elephant Armor® DOT Industrial Grade Mortar** is designed never to crack, no matter what material it is applied over. That includes: concrete, asphalt, steel and wood with proper surface preparation. More importantly, it is the only product on the market that can be applied over existing cracks and not propagate those cracks through the new Elephant Armor® surface.

## State Highway – Salt Lake City, Utah



*Pot hole in concrete highway*



*Cut a hard edge around damaged area*



*Mixing/laying equipment can be used to lay Elephant Armor*



*Place and finish Elephant Armor like any concrete*



*The finished repair should last a lifetime*

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## Stamped Concrete Repair – Sacramento, California Municipal Repair



*Failed overlay product on a municipal utility access door*



*Old material is removed from panels*



*Elephant Armor's extreme versatility allows integral color and stamping to match existing surface*

Properly prepared concrete spalled areas were filled with Elephant Armor® DOT Industrial Grade Fast Setting Concrete Mortar. **4000 psi compressive strength in 4 hours allows FAST return to service of runway or road surface!**

***Specially engineered as a repair or overlay product that offers tremendous flexural and tensile performance as thin as 1/4".***



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# Elephant Armor® DOT Industrial Grade Mortar

## The World's Most Amazing Cementitious Repair and Overlay Product!

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

The GST Elephant Armor® patented family of Ultra High Performance Mortars are single component, cementitious, fiber reinforced, medium to fast setting concrete repair and overlay products 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, spalls, 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 should 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/Overlay, Asphalt Repair and DOT Industrial Grade Mortar are available in 50 lb (22.6 kg) bags.

Elephant Armor® Ultra High Performance Mortar/Overlay and Asphalt Repair 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/Overlay and Asphalt Repair initial set is 20 to 60 minutes and final set is 1½ to 2 hours, depending on ambient temperature, humidity and sun exposure.

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

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](http://www.gstinternational.com) for more details.

	Flexural Strength ASTM C 947	Splitting Tensile ASTM C 496	Compressive Strength ASTM C 109 Cube
EA Mortar/Overlay	6.7 mpa (950 psi) 28 days	4.2 mpa (602 psi) 28 days	34.7 mpa (4940 psi) 56 days
EA Asphalt Repair	8.8 mpa (1259 psi) 28 days	5.9 mpa (838 psi) 28 days	45.8 mpa (6510 psi) 28 days
EA DOT	10.5 mpa (1493 psi) 7 days	7.9 mpa (1126 psi) 28 days	55 mpa (7837 psi) 28 days

Manufactured Under Patent in the USA by Global Sealer Technologies International  
GST International, Sparks, NV (775) 829-2626



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**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 the proper bond, the appropriate Elephant Armor® Primer MUST be applied to the cleaned and prepared substrate. These primers meet ASTM C1059 Type 1 and 2.

When placing Elephant Armor® Ultra High Performance Mortars, all repairs 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.

It is the responsibility of the installer to verify compatibility of acid stains, topical stains, dyes, color additives, decorative accents, antiquing, top coats, sealers and primers.

The use of non-breathable films such as epoxies and urethanes are not recommended for exterior applications. (Visit [www.gstinternational.com](http://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](http://www.gstinternational.com) for detailed instructions.

In mixing Elephant Armor® Ultra High Performance Mortars, stir dry contents prior to adding approximately 1/¼-1½ 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: ColloMix 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.

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

### Elephant Armor® Ultra High Performance Mortars



Contains: Silica CAS#1317-95-9, Aluminosilicate Glass, Calcium Sulfoaluminate Cement CAS# 960375-09-1, Cement, Portland CAS# 65997-15-1, Quartz CAS# 14808-60-7

Causes skin and eye irritation. May cause cancer. May cause respiratory irritation. Avoid breathing dust/fumes/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**IF ON SKIN:** Wash with plenty of water. If exposed, concerned or if irritation occurs, get medical advice/attention.

Call a Poison Center if you feel unwell. Store locked up. Store in well ventilated place. Dispose of contents/container in accordance with local regulations.



**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](http://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®.

Authorized Dealer: