

ELEPHANT ARMOR®

DOT Concrete Repair Mortar



Elephant Armor® DOT Industrial Grade Mortar Technical Data Sheet

DESCRIPTION

Elephant Armor® is a single component, cementitious, fiber based, medium to fast setting, zero polymer, repair and overlay Engineered Ductal Mortar (EDM). In addition to a mechanical bond, our fiber creates a fully engaged molecular bond within our patented mortar matrix, providing extremely high tensile and flexural strength. It can be placed with a textured roller (preferred method) or traditional placement tools.

FEATURES / BENEFITS:

- Fiber reinforced: Superior flexural and tensile strength as thin as ¼".
- High ductility, allowing the overlay or repair to 'FLEX' without failure.
- Highly resistant to 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.

SHELF LIFE

2 years in original unopened package if stored in a humidity controlled environment. Cannot be exposed to moisture.

PACKAGING

- 10 lb (4.5 kg) plastic pails
- 50 lb (22.7 kg) plastic lined bags

COVERAGE/YIELD

A 50 lb (22.7kg) bag of Elephant Armor® Mortar will yield approximately 0.5 ft³ (0.014 m³) of material.

Applied at the following thicknesses, one 50 lb (22.7 kg) bag of Elephant Armor® Mortar will cover:

- ¼" (6.3 mm) – 22 ft² (2 m²)
- ½" (12.7 mm) – 11 ft² (1 m²)

Note: Coverage rates are approximate

PRIMARY APPLICATIONS

Walkways, curbs, ramps, slabs, spalls, cracks, airports-runways, taxiways and gates, bridges, ICF walls, parking structures, tunnels, dams, industrial plants or anywhere a high strength concrete repair mortar is called for. Structural monolithic underlayment or overlay for interior and exterior applications.

TECHNICAL INFORMATION – Material Properties @ 75°F (24°C)

All GST material testing properties meet or exceed our published data.

Test results are confirmed by third party Independent Laboratories.

Compressive Strength psi ASTM C109

4 hrs	—	4,000 (27.72 MPa)
1 day	—	5,500 (37.92 MPa)
7 days	—	6,500 (44.81 MPa)
28 days	—	7,000 (48.26 MPa)

Split Tensile Strength psi ASTM C 496

28 days	—	600 (4.14 MPa)
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Flexural Performance psi ASTM C 1609

28 days	—	1,600 (11.03 MPa)
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Modulus of Elasticity, ksi ASTM C469

(ASTM C39 for compressive strength)

7 days	—	1,800 psi (12.41 MPa)
28 days	—	2,700 psi (18.62 MPa)

Shrinkage ASTM C 928/ASTM C157

28 days stored in water %	—	0.019
28 days stored in air %	—	0.036

Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration ASTM C 1202

321.52 Charge Passed (coulombs)
Very Low Chloride Ion Penetrability

Set Times ASTM C 191

Initial set	—	approx. 50 min
Final set	—	approx. 70 min

Bond Strength psi ASTM C 882

28 days avg	—	2500 (17.24 MPa)
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Water-soluble Chloride (% by mass of concrete) ASTM C1218

50 days	—	0.01391
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Acid-soluble Chloride (% by mass of concrete) ASTM C1152

50 days	—	0.03087
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Coefficient of Thermal Expansion, in/in/°F AASHTO T-336

7 Days	—	775
28 Days	—	4.968 x10 ⁻⁶