

### TECHNICAL DATA

**DESCRIPTION:** **HP DOT Grade Repair Mortar** is a single component, high early strength repair mortar designed for use in repairing highways, bridge decks, runways, elevated concrete slabs and slabs on grade. **HP DOT Grade Repair Mortar** combines the latest concrete technologies and high quality raw materials, including an integral corrosion inhibitor, to yield a long lasting, high strength; durable concrete repair anywhere long down times cannot be tolerated.

**USE ON:** Highway bridge decks, tunnels, concrete slabs on grade, elevated concrete slabs, airport runways, and parking decks

- ADVANTAGES:**
- Rapid setting
  - Made with C 33 concrete sand
  - Fully cured in less than 2 hours
  - Shrinkage compensated
  - Excellent finishing characteristics
  - Strong bond to concrete
  - Can be extended

	2 HOURS	6 HOURS	1 DAY	7 DAYS	28 DAYS
<b>Compressive Strength</b> (ASTM C 109 Modified)	2800 psi (19.1 MPa)	3200 psi (22 MPa)	4300 psi (29.4 MPa)	6800 psi (46.57 MPa)	7800 psi (53.4 MPa)
<b>Compressive Strength</b> (ASTM C 39 Extended)	2750 psi (19 MPa)	3100 psi (21.2 MPa)	4500 psi (31 MPa)	7250 psi (50 MPa)	7800 psi (53.4 MPa)
<b>Flexural Strength</b> (ASTM C 293)	435 psi (3 MPa)	700 psi (9.8 MPa)	850 psi (5.8 MPa)	1000 psi (6.9 MPa)	1200 psi (8.3 MPa)
<b>Rapid Chloride Permeability</b> (ASTM 1202)	< 1000 Coulombs				
<b>Set Time</b> (ASTM C 266)	Initial Set 19 minutes (can be extended to 30 min)		Final Set 25 minutes (extended to 37 min)		
<b>Freeze Thaw Resistance</b> (ASTM C 666)	99.2% @ 300 cycles				
<b>Yield</b>	55 lb bag neat = .46 ft <sup>3</sup>		Extended with 50 lb of gravel = .78 ft <sup>3</sup>		
<b>Packaging</b>	55 lb bags & 2000-3000 lb bulk bags				
<b>Shelf Life</b>	12 months when stored properly				

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#### **SURFACE PREPARATION:**

Remove all loose debris, surface laitance, paint, oil, dust or any foreign materials that would inhibit a good bond. Chip deteriorated concrete to sound, tight surface with exposed aggregate using the best possible mechanical means. All embedded steel should be cleaned to an exposed white metal condition. For added protection to reinforcing steel from corrosion, coat all surfaces with US Bondit III (water based epoxy rebar coating/bonding agent with corrosion inhibitor). Immediately prior to application, wet the substrate to a surface saturated dry (SSD) condition.

#### **MIXING:**

**HP DOT Grade Repair Mortar** should be mixed in rotary drum or other suitable mechanical mixer. Introduce measured amount of water to mixer, no more than 4 quarts per bag. If adding aggregate, add  $\frac{3}{4}$  of the required water to the aggregate in an operating mixer. Add **HP DOT Grade Repair Mortar** to water and aggregate then add the remaining water, mixing for no more than three minutes to obtain desired consistency. Dump batch and immediately deliver **HP DOT Grade Repair Mortar** mix to properly prepared substrate. When mixing **HP DOT Grade Repair Mortar** neat, start with no more than 3 qts of water, then add remaining to desired consistency. For extended working time contact USCP.

#### **APPLICATION:**

**HP DOT Grade Repair Mortar** must be scrubbed into the substrate filling all pores and voids. Force the material against the edge of the repair and work toward the center. Fill the repair area entirely, consolidate and screed. Do not layer the material.

#### **CURING:**

ACI guidelines call for curing all fresh concrete in place. Cover with wet burlap and polyethylene (for 2 hours in the case of HP products) or apply US Cure & Seal. If applying a membrane such as urethane or epoxy consult with the membrane manufacturer prior to applying US Cure & Seal.

#### **LIMITATIONS:**

**HP DOT Grade Repair Mortar** should be used when ambient temperatures are 40°F (4°C) and rising. Lower temperatures produce a slower set; higher temperatures produce a faster set. For temperatures below 40°F (4°C) consult with the manufacturer for special cold weather placement provisions included but are not limited to conditioning of the materials, use of heated mix water and thermal protection. In hot weather use chilled water for mixing.

#### **PACKAGING:**

**HP DOT Grade Repair Mortar** is packaged in 55 lb (24.95 kilo) Kraft multi-wall, polyethylene lined bags. Yield when mixed with water is approximately .78 ft<sup>3</sup> fully extended.

**CAUTION:** **WARNING! CONTAINS FREE SILICA & PORTLAND CEMENT. DO NOT BREATHE DUST.** May cause delayed lung injury (silicosis). Follow OSHA safety and health standards for crystalline silica (quartz). Cement powder or freshly mixed concrete grout or mortar may cause skin injury. Avoid contact with skin and wash exposed skin areas promptly with water. If any cement powder or mixture gets into the eyes, rinse immediately and repeatedly with water and get prompt medical attention.