

### TECHNICAL DATA

**DESCRIPTION:** **HP Cement** is a single component, high early strength cement designed for use in repairing parking decks, highways, bridge decks, runways, elevated concrete slabs and slabs on grade. **HP Cement** combines the latest fast setting cement technologies for durability and freeze thaw resistance. It also contains high quality raw materials, including an integral corrosion inhibitor to yield a very fast setting cement with high early strengths, exceptional durability, very low permeability and low shrinkage characteristics. Extend **HP Cement** with sand and gravel to produce fast setting concrete wherever fast turnaround times are needed.

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

- ADVANTAGES:**
- High early compressive strength
  - Excellent workability
  - Easy mixing and placement
  - Fully cured in less than 2 hours
  - Shrinkage compensated
  - Excellent finishing characteristics
  - Bonds very well to concrete structures
  - Single component eliminates the need for storage liquid polymer

	2 hours	3 hours	1 day	7 days	14 days	28 days
<b>Compressive Strength</b> (ASTM C 39 Extended)	2800 psi (19.1 MPa)	3800 psi (25.92 MPa)	4800 psi (32.74 MPa)	5500 psi (37.51 MPa)	6000 psi (37.5 MPa)	6800 psi (46.9 MPa)
<b>Length Change</b> (ASTM C 157 Dry Cured)		-.000%	-.001%	-.001%	-.0055%	-.01%
<b>Flexural Strength</b> (ASTM C 293)	410 psi (2.1 MPa)	480 psi (3.3 MPa)	610 psi (4.2 MPa)	778 psi (5.3 MPa)	850 psi (5.8 MPa)	900 psi (6.1 MPa)
<b>Bond Strength</b> (ASTM C 882 Modified)	2600 psi (17.9 MPa)					
<b>Set Time</b> (ASTM C 266)	Initial 19 minutes		Final 25 minutes			
<b>Freeze Thaw Resistance</b> (ASTM C 666)	99.2% @ 300 cycles					
<b>Typical Mix Design</b>	ASTM C 33 sand ASTM C 33 gravel (3/8") High Performance Cement Water			1200 lbs 1764 lbs 720 lbs 244.5 lbs (29.3 gallons)		

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**SURFACE  
PREPARATION:**

Remove all deteriorated concrete, dirt, oil, grease and all bond inhibiting materials from the surface. Be sure repair is not less than 1/8 " in depth. Preparation work should be done by the most efficient mechanical means to obtain a CSP 6 as defined by the International Concrete Repair Institute (ICRI). Saturate surface with clean water, substrate should be saturated, surface dry (SSD) with no standing water. Embedded steel reinforcement should be thoroughly cleaned by mechanical means to remove all traces of rust, revealing a white metal. For priming reinforcing steel use HP Bondit III.

**MIXING:**

**HP Cement** should be mixed in a rotary drum, mobile concrete mixer or other suitable mechanical mixer. Introduce measured amount of water, 2.3 gallons per 50lb bag, to mixer, do not exceed 38% water, by weight, to **HP Cement**. Add 3/4 the required water to the aggregate in an operating mixer. Add **HP Cement** to water and aggregate, then add the remaining water as needed, mixing for no more than 3 minutes to obtain desired consistency. Dump batch and immediately deliver concrete made with **HP Cement** to properly prepared substrate.

**APPLICATION:**

**HP Cement** 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:**

Follow ACI Guidelines for curing Portland cement concrete. Water cure immediately after finishing. The use of a curing compound meeting ASTM C 309, such as US Cure and Seal, is also recommended where moist curing is not practical. (For thin patches) If material is applied in multiple lifts only apply curing compound on final surface. Applying curing compound on primary lifts may inhibit mechanical bond.

**LIMITATIONS:**

HP Cement 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 which include 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 Cement** is packaged in 50 lb. (22.7 Kilo) bags.

**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.