



# CONCRETE MIX

Very Rapid Hardening Concrete



## Highlights:

- **FAST**  
Sets in 20 minutes; ready for traffic in 1 hour
- **DURABLE**  
Formulated for long life in critical applications
- **STRUCTURAL**  
For repair and new construction
- **MULTI-PURPOSE**  
Use for concrete repair, formed work, setting posts, footings, floors, machine bases, and more

## Conforms To:

ASTM C928 and ASTM C387

## MANUFACTURER:

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## PRODUCT NAME:

Rapid Set® CONCRETE MIX

**DESCRIPTION:** Rapid Set CONCRETE MIX is a high-performance, fast-setting, multi-purpose concrete repair material. Durable in wet environments, CONCRETE MIX is a blend of Rapid Set hydraulic cement and quality aggregates. CONCRETE MIX is non-metallic and no chlorides are added. Mix CONCRETE MIX with water to produce a workable, quality concrete material that is ideal where fast strength gain, high durability and low shrinkage are desired. CONCRETE MIX sets in 20 minutes and is ready for traffic in 1 hour.

**USES:** Use CONCRETE MIX for general and structure concrete repair, construction of pavements, formed work, footings, setting posts, industrial floors and machine bases. For freeze thaw durability, in some geographical areas, CONCRETE MIX contains an air-entraining admixture.

**ENVIRONMENTAL ADVANTAGES:** Use CONCRETE MIX to reduce your carbon footprint and lower your environmental impact. Production of Rapid Set cement emits far less CO<sub>2</sub> than portland cement. Contact your representative for LEED values and environmental information.

**APPLICATION:** Apply CONCRETE MIX in thicknesses from 2" to 24" (5 cm to 61 cm). For thinner sections, use Rapid Set® Cement All® or Rapid Set® Mortar Mix. Not intended for high heat applications above 300°F (149°C). For overlay applications, a minimum of one test section should be prepared to evaluate the suitability of the materials and procedures.

**SURFACE PREPARATION:** For repairs, application surface shall be clean, sound and free from any materials that may inhibit bond, such as oil, asphalt, curing compound, acid, dirt and loose debris. Mechanically abrade surface and remove all unsound material. Apply CONCRETE MIX to a thoroughly saturated surface with no standing water.

**MIXING:** The use of a power-driven mechanical mixer, such as a mortar mixer or a drill-mounted mixer, is recommended. Organize work so that all personnel and equipment are in place before mixing. Use clean potable water. **CONCRETE MIX may be mixed using 3.5 to 4.5 quarts (3.3 L to 4.2 L) of water per 60-lb (27-kg) bag. Use less water to achieve higher strengths. Do not exceed 4.5 quarts (4.2 L) of water per bag.** For increased fluidity and workability, use Rapid Set® FLOW Control® plasticizing admixture from the Rapid Set® Concrete Pharmacy®. Place the desired quantity of mix water into the mixing container. While the mixer is running, add CONCRETE MIX. Mix for the minimum amount of time required to achieve a lump-free, uniform consistency (usually 1 to 3 minutes). Do not retemper.



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**PLACEMENT:** Rapid Set® CONCRETE MIX may be placed using traditional construction methods. Organize work so that all personnel and equipment are ready before placement. Place, consolidate and screed quickly to allow for maximum finishing time. Use a method of consolidation that eliminates air voids. Do not wait for bleed water; apply final finish as soon as possible. CONCRETE MIX may be troweled, floated or broom finished. On flatwork, do not install in layers. Install full-depth sections and progress horizontally. To extend working time, use Rapid Set® SET Control® retarding admixture or cold mix water. Do not install on frozen surfaces. CONCRETE MIX may be applied in temperatures ranging from 45°F to 90°F (7°C to 32°C).

**CURING:** Water cure all CONCRETE MIX installations by keeping exposed surfaces wet for a minimum of 1 hour. Begin curing as soon as the surface starts to lose its moist sheen. When experiencing extended setting time due to cold temperature or the use of retarder, longer curing times may be required. The objective of water curing shall be to maintain a continuously wet surface until the product has achieved sufficient strength.

**COLD WEATHER:** Environmental and material temperatures below 70°F (21°C) may delay setting time and reduce the rate of strength gain. Lower temperatures will have a more pronounced effect. Thinner sections will be more significantly affected. To compensate for cold temperatures, keep material warm, use heated mix water and follow ACI 306 Procedures for Cold Weather Concreting.

**WARM WEATHER:** Environmental and material temperatures above 70°F (21°C) may speed setting time and increase the rate of strength gain. Higher temperatures will have a more pronounced effect. To compensate for warm temperatures, keep material cool, use chilled mix water and follow ACI 305 Procedures for Hot Weather Concreting. The use of SET Control retarding admixture will help offset the effects of high temperatures.

**YIELD & PACKAGING:** CONCRETE MIX is available in 60-lb (27.2-kg) bags. One 60-lb (27.2-kg) bag of CONCRETE MIX will yield approximately 0.5 ft³.

**SHELF LIFE:** When stored in a dry location, in an undamaged package, CONCRETE MIX has a shelf life of 12 months.

**USER RESPONSIBILITY:** Before using Rapid Set products, read current technical data sheet, bulletins, product label and safety data sheet at [www.ctscement.com](http://www.ctscement.com). It is the user's responsibility to review instructions and warnings for any Rapid Set product in current technical data sheet, bulletins, product label and safety data sheet prior to use.

**WARNING: DO NOT BREATHE DUST. AVOID CONTACT WITH SKIN AND EYES.** Use material in well-ventilated areas only. Exposure to cement dust may irritate eyes, nose, throat, and the upper respiratory system/lungs. Silica exposure by inhalation may result in the development of lung injuries and pulmonary diseases, including silicosis and lung cancer. Seek medical treatment if you experience difficulty breathing while using this product. The use of a NIOSH/MSHA-approved respirator (P-, N- or R-95) is recommended to minimize inhalation of cement dust. Eat and drink only in dust-free areas to avoid ingesting cement dust. Skin contact with dry material or wet mixtures may result in bodily injury ranging from moderate irritation and thickening/cracking of skin to severe skin damage from chemical burns. If irritation or burning occurs, seek medical treatment. Protect eyes with goggles or safety glasses with side shields. Cover skin with protective clothing. Use chemical resistant gloves and waterproof boots. In case of skin contact with cement dust, immediately wash off dust with soap and water to avoid skin damage. In case of skin contact with wet concrete, wash exposed skin areas with cold running water as soon as possible. In case of eye contact with cement dust,

PHYSICAL DATA	
<b>Set Time, ASTM C-191 Mod.**</b>	
Initial set	20 minutes
Final set	35 minutes
<b>Compressive Strength, ASTM C39 Mod.**</b>	
1 hour*	3000 psi (20.7 MPa)
3 hours	3600 psi (24.8 MPa)
1 day	4500 psi (31.0 MPa)
7 days	5500 psi (37.9 MPa)
28 days	6000 psi (41.4 MPa)
<b>Slant Shear Bond Strength, ASTM C882 Mod.**</b>	
1 day	1200 psi (8.27 MPa)
28 days	2200 psi (15.2 MPa)
<b>Splitting Tensile, ASTM C496 Mod.**</b>	
7 days	600 psi (4.14 MPa)
28 days	700 psi (4.83 MPa)
<b>Flexural Strength, ASTM C78 Mod.**</b>	
7 days	500 psi (3.45 MPa)
28 days	550 psi (3.79 MPa)
<b>Length Change, ASTM C157 Mod. (max)**</b>	
28 days in air	-0.04
28 days in water	0.02

\*After final set

\*\*Data obtained at 4" slump by ASTM C143 at 70°F (21°C)

flush immediately and repeatedly with clean water and consult a physician. If wet concrete splashes into eyes, rinse eyes with clean water for at least 15 minutes and go to the hospital for further treatment.

**PROPOSITION 65 WARNING:** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS and [www.ctscement.com](http://www.ctscement.com) for additional safety information regarding this material.

**LIMITED WARRANTY:** CTS CEMENT MANUFACTURING CORP. (CTS) warrants its materials to be of good quality and, at its option, will replace or refund the purchase price of any material proven to be defective within one (1) year from date of purchase. The above remedies shall be the limit of CTS's responsibility. Except for the foregoing, all warranties expressed or implied, including merchantability and fitness for a particular purpose, are excluded. CTS shall not be liable for any consequential, incidental, or special damages arising directly or indirectly from the use of the materials.

