

# MORTAR MIX

High-Strength Structural Repair Mortar



## PRODUCT DATASHEET

**DESCRIPTION:** Rapid Set® MORTAR MIX is a high-performance, fast-setting, multi-purpose repair material. Durable in wet environments, MORTAR MIX is a blend of Rapid Set hydraulic cement and quality aggregates. MORTAR MIX is non-metallic and no chlorides are added. Mix MORTAR MIX with water to produce a workable, high quality mortar material that is ideal where fast strength gain, high durability and low shrinkage are desired. MORTAR MIX sets in 15 minutes and achieves structural strength in 1 hour.\*

**USES:** Use MORTAR MIX for general and structural concrete repair, construction of pavements, stucco and plaster repair, one-coat exterior plaster, underlayments and formed work. MORTAR MIX is a versatile product that is suitable for vertical and overhead applications. In some geographical areas, Mortar Mix contains an air-entraining admixture for freeze-thaw durability.

**ENVIRONMENTAL ADVANTAGES:** Use MORTAR 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 CTS representative for EPD, LEED values and other sustainability information.

**APPLICATION:** Apply MORTAR MIX from 1/2" to 6" (1.2 cm to 15.2 cm) thick. For thicker applications, use Rapid Set® Concrete Mix. Not intended for extended exposure over 212°F (100°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 must be clean, sound and free from any materials that may inhibit bond, such as oil, asphalt, curing compound, acid, dirt and loose debris. Roughen surface and remove all unsound material. Apply MORTAR 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. **MORTAR MIX may be mixed using 3 to 3.75 quarts (2.8 L to 3.5 L) of water per 55-lb (25-kg) bag for Department of Transportation projects and other critical applications. For general purpose applications, a maximum of 5 quarts (4.7 L) may be used. Use less water to achieve higher strengths.** For increased fluidity and workability, use Rapid Set® FLOW Control plasticizing admixture. Place the desired quantity of mix water into the mixing container. While the mixer is running, add MORTAR MIX. Mix for the minimum amount of time required to achieve a lump-free, uniform consistency (usually 1 to 3 minutes). Do not retemper.

**PLACEMENT:** MORTAR 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. MORTAR MIX may be troweled, floated or broom finished. On flat work, do not install in layers. Install full-depth sections and progress horizontally. To extend working time, use Rapid Set® SET Control retarding admixture or use cold mix water. Do not install on frozen surfaces. MORTAR MIX may be applied in temperatures ranging from 45°F to 90°F (7°C to 32°C). Under dry ambient conditions, water based coatings such as

## OVERVIEW

### Highlights:

Fast: Sets in 15 minutes, structural strength in 1 hour\*

Durable: Formulated for long life in critical applications

Structural: For repair and new construction

Multi-purpose: Use for concrete repairs, wall repairs, stucco repairs, one-coat exterior plaster, underlayments, floors, formed work, and more

### Conforms to:

ASTM: C928 R3, C387

### Approved:

State (DOT) and local approvals

### MasterFormat® 2016

- 03 01 30 Maintenance of Cast-in-Place Concrete
- 03 01 40 Maintenance of Precast Concrete
- 03 01 50 Maintenance of Cast Decks & Underlayment
- 03 01 70 Maintenance of Mass Concrete
- 03 54 16 Hydraulic Cement Underlayment
- 04 01 00 Maintenance of Masonry
- 09 24 23 Cement Stucco

### Manufacturer:

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latex paint can be applied after 4 hours. Solvent based and impermeable coatings such as oil based paint and epoxy can be applied after 16 hours.

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

**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:** MORTAR MIX is available in 55-lb and 25-lb (25-kg and 11.3-kg) sizes. One 55-lb (25-kg) bag of MORTAR MIX will yield approximately 0.5 ft<sup>3</sup> (0.01 m<sup>3</sup>). One 25-lb (11.3-kg) box of MORTAR MIX will yield approximately 0.2 ft<sup>3</sup> (0.006 m<sup>3</sup>).

**SHELF LIFE:** MORTAR MIX has a shelf life of 12 months when stored properly in a dry location, protected from moisture, out of direct sunlight, and in an undamaged package.

**USER RESPONSIBILITY:** Before using CTS products, read current technical data sheets, bulletins, product labels and safety data sheets. It is the user's responsibility to review instructions and warnings for any CTS products 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 cement, wash exposed skin areas with cold running water as soon as possible. In case of eye contact with cement dust, flush immediately and repeatedly with clean water, and consult a physician. If wet cement splashes into eyes, rinse eyes with clean water for at least 15 minutes and go to the hospital for further treatment.

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' 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.

**⚠ WARNING**  
CANCER and REPRODUCTIVE HARM - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## TYPICAL PHYSICAL DATA

### Set Time, ASTM C266

Initial set	15 minutes
Final set	35 minutes

### Compressive Strength, ASTM C109 Mod.\*\*

1 hour*	2500 psi (17.2 MPa)
3 hours	4000 psi (27.6 MPa)
24 hours	5000 psi (34.5 MPa)
7 days	5500 psi (37.9 MPa)
28 days	6500 psi (44.8 MPa)

### Slant Shear Bond Strength, ASTM C882 Mod. per C928

24 hours	1200 psi (8.27 MPa)
28 days	2200 psi (15.2 MPa)

### Splitting Tensile, ASTM C496 Mod.\*\*

7 days	450 psi (3.10 MPa)
28 days	550 psi (3.79 MPa)

### Flexural Strength, ASTM C348 Mod\*\*

28 days	550 psi (3.79 MPa)
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### Freeze Thaw, C666

Durability factor	95%
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### Length Change, ASTM C157 Mod. per C928 (max)

28 days in air	-0.04
28 days in water	0.02

\*After final set  
\*\*Data obtained at flow consistency 100 by ASTM C1437 at 70°F (21°C)



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