Rapid Set® Concrete Mix — DATASHEET

Rapid - Setting Concrete

PRODUCT DESCRIPTION:

When mixed with water CTS Rapid Set CONCRETE MIX produces a workable, high quality concrete material that is ideal where rapid strength gain, high durability and low shrinkage are desired. Apply CTS Rapid Set CONCRETE MIX in thicknesses from 50mm to 600mm. Durable in wet environments. ***SETS IN 15 MINUTES & IS READY FOR TRAFFIC IN 1-HOUR.***
One 27.2kg bag of CTS Rapid Set CONCRETE MIX will yield approximately 0.015m³ of Concrete.

USES:

CTS Rapid Set CONCRETE MIX is a multipurpose, Rapid - Setting product that can be used for repair and construction of pavements, formed work, footings, setting posts, industrial floors, machine bases, and concrete repair.

COMPOSITION:

CTS Rapid Set CONCRETE MIX is a high performance blend of CTS Rapid Set hydraulic cement and quality aggregates. CTS Rapid Set CONCRETE MIX is non-metallic and no chlorides are added. CTS Rapid Set CONCRETE MIX is similar in appearance to Portland cement concrete and may be applied using similar methods.

COLOR: [Light Grey]

The final colour of CTS Rapid Set CONCRETE MIX may vary due to application techniques and environmental conditions.

LIMITATIONS:

Not intended for applications thinner than 50mm. For thin sections use CTS Rapid Set CEMENT ALL or CTS Rapid Set MORTAR MIX. For applications where bonding is important, at least one test section should be prepared to evaluate the suitability of the materials and procedures.

TECHNICAL DATA:

Set Time

ASTM C-191(Mod.) at 21ºC
Initial Set 15-minutes
Final Set 35-minutes

Compressive Strength

ASTM C-109 Mod.
Age: Compressive Strength:
1-hour* 20 MPa
3-hour 25 MPa
7-day 35 MPa
28-day 42MPa

Flexural Strength

ASTM C-78 Mod.
2-hour* 3.0MPa
1-day 4.5MPa
28-day 5.2MPa
* After Final Set.

Using CONCRETE MIX

SURFACE PREPARATION:

Where bonding is important, the adjacent surfaces shall be clean, sound and free from any materials that may inhibit bond such as oil, asphalt, curing compounds, acids, dirt and loose debris. Roughen surfaces and remove all unsound concrete. Immediately prior to placement the repair surface shall be thoroughly saturated with no free 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. CTS Rapid Set CONCRETE MIX may be mixed using 3 to 5 litres of water per 27.2kg bag. Use less water to achieve higher strengths. Do NOT exceed 5 litres of water per bag. For increased fluidity and workability use CTS Rapid Set FLOW CONTROL plasticizing admixture from the CTS Concrete Pharmacy. Place the desired quantity of mix water into the mixing container. While the mixer is running add CTS Rapid Set CONCRETE MIX. Mix for the minimum amount of time required to achieve a lump-free, uniform consistency (usually 1 to 3 minutes). Do NOT re-temper.

PLACEMENT:

CTS Rapid Set CONCRETE MIX may be placed using traditional methods. Organize work so that all personnel and equipment are ready before placement. Place, consolidate and screed quickly to allow for maximum finishing time. Do NOT wait for bleed water; apply final finish as soon as possible. CTS Rapid Set CONCRETE MIX may be troweled, floated or broom finished. On flat work Do NOT install in layers, install full depth sections and progress horizontally. Do NOT install on frozen surfaces. Use a method of consolidation that eliminates air voids. To extend working time use CTS Rapid Set, SET CONTROL set retarding admixture.

CURING:

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

TEMPERATURE:

Warm environmental and materials temperatures will reduce the working time of CTS CONCRETE MIX. To compensate for warm temperatures, keep material cool and use chilled mix water. Temperatures below 21ºC will decrease the rate of strength gain and CTS Rapid Set CONCRETE MIX should not be applied if surface or ambient temperature is below 7.2ºC.

LIMITED WARRANTY:

CTS Rapid Set Cement Manufacturing Corporation warrants its material to be of good quality, and, at its sole option, within one year from date of sale, will replace defective materials or refund the purchase price thereof and such replacement or refund shall be the limit of CTS's responsibility. Except for the foregoing, all warranties, express 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 material.

CAUTION:

CONCRETE MIX contains cementitious materials and may cause irritation to lungs, eyes and skin. Avoid contact. Use only in adequate ventilation. Do NOT breathe dust. Wet mixture may cause burns.
Wear suitable gloves, eye protection and protective clothing. In case of skin contact, wash thoroughly with soap and water. In case of eye contact, flush immediately and repeatedly with large quantities of water and get prompt medical attention. In case of difficulty breathing, remove person to fresh air. If difficulty in breathing persists, seek medical attention.