RSLMC

Rapid Set Latex Modified Concrete

PRODUCT DATASHEET

DESCRIPTION: Rapid Set® LATEX-MODIFIED CONCRETE (RSLMC) is fast-setting, Rapid Set® Cement based concrete overlay mixture used in low-permeability, latex modified concrete applications. It fully complies with American Concrete Institute (ACI) 548 section 3.3 Very-Early-Strength Latex-Modified Concrete Overlays. RSLMC contains styrene-butadiene latex modifier, aggregates, water, and an adjustable set retarder to create a fast setting, high performance concrete that achieves structural strength in as little as 3 hours. It exhibits low shrinkage, exceptional resistance to chemicals and deicing salts, and superior freeze-thaw performance to achieve the highest durability and long-term performance.

APPLICATIONS: RSLMC is ideal for fast-track bridge deck overlays and repairs, pavement rehabilitation, and other projects where low chloride ion permeability, corrosion resistance, and fast strength gain are desired. Mix designs of RSLMC can be customized for specific applications. RSLMC is a high value alternative to traditional Latex Modified Concrete (LMC), polyester concrete, and microsilica / silica fume concrete.

ENVIRONMENTAL ADVANTAGES: Use RSLMC to reduce your carbon footprint and lower your environmental impact. Production of Rapid Set cement emits far less CO_2 than portland cement. Contact your CTS representative for EPD, LEED values and other sustainability information.

ADMIXTURES: Most commercially available concrete admixtures are compatible. However, verification of performance through laboratory testing is required.

MIXING: RSLMC concrete mixes may be batched using continuous volumetric mixer equipment.

COLD WEATHER: Environmental and material temperatures below 70ºF (21ºC) 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 70ºF (21ºC) 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.

CURING: For overlays, the surface should be covered promptly after final finishing with a single, clean layer of wet burlap. Immediately following the covering of wet burlap, a layer of clear polyethylene film should be placed over the wet burlap. Patches can be water cured by maintaining a moist sheen on the surface. The curing layers should remain until the concrete has reached the strength desired. Depending on temperature and specified strength, this will usually be within 3 to 4 hours after final finishing. During this period, apply more water as needed to ensure the concrete surface is continuously wet.

AVAILABILITY: Rapid Set® Cement used to create RSLMC is available in 50-lb and 88-lb (22.7-kg and 39.9-kg) bags, 2000-lb (907.2-kg) super sacks and bulk tankers. Consult latex manufacturer for latex unit sizes.

STORAGE & SHELF LIFE: Rapid Set® Cement used to create RSLMC 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. Consult latex manufacturer for storage and shelf life information.

OVERVIEW

Highlights:

- Low Permeability: Less than 1000 coulombs
- Fast: Minimizes downtime; ready for traffic in 3 to 4 hours
- Versatile: Concrete production by volumetric mixer
- Durable: Non-metallic, no added chlorides, sulfate resistant, ASR resistant, freeze-thaw resistant
- Corrosion Protection: Resistance to corrosion caused by chlorides and deicing salts

Conforms to:

ACI 548 Section 3.3 Very-Early-Strength Latex-Modified Concrete Overlays

Approved:

State (DOT) and local approvals

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03 01 30	Maintenance of Cast-in-Place Concrete
03 01 40	Maintenance of Precast Concrete
03 01 50	Maintenance of Cast Decks and Underlayment
03 01 70	Maintenance of Mass Concrete
03 31 00	Structural Concrete Cast in Place
03 37 19	Pneumatically Placed Concrete
03 47 00	Site-Cast Concrete
03 53 19	Concrete Overlayment

Manufacturer:

CTS Cement Manufacturing Corp.
12442 Knott St.
Garden Grove, CA 92841
Tel: 800-929-3030 | Fax: 714-379-8270
Web: www.CTScement.com
E-mail: info@CTScement.com

RSLMC Rapid Set Latex Modified Concrete

USER RESPONSIBILITY: Before using CTS products, read current technical data sheets, bulletins, product labels and safety data sheets at www.CTScement.com. 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 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

TYPICAL PHYSICAL DATA

Overlay Mix Design, ACI 548:

Material	Limit
Cement content, min	658 lbs/yd^3
Latex solids-cement ratio, min	0.15 lb/lb
Water-cement ratio (w/c), max	0.40 lb/lb
Air content, range	3 to 7%
Slump, range	4 to 6 in.
Coarse aggregate, max size	ASTM C33 No. 7
Fine aggregate, range by weight of total aggregate	55 to 70%

Compressive Strength, ASTM C39*
Dependent on Mix Design

3 hours	2,500 (17.2 MPa)
24 hours	3,500 (24.1 MPa)
28 days	4,000 (27.6 MPa)

*minimum strength results

Rapid Chloride Penetration, ASTM C1202

< 1000 Coulombs

All data produced at 70°F (21°C)
Performance will vary based on actual aggregate properties and project variables. Complete trial batches to verify performance.

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