L&M™ CRYSTEX™

DS-176.7-1026

Globally Proven Construction Solutions



1. PRODUCT NAME
L&M™ CRYSTEX™

2. MANUFACTURER
LATICRETE International, Inc.
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3. PRODUCT DESCRIPTION
CRYSTEX is a ready-mixed, high strength, highly fluid, controlled expansion grout with superior dynamic load stability. CRYSTEX contains a balanced blend of washed and graded aggregates, portland cement, plasticizing agents, and a proprietary shrinkage compensating system, which controls positive expansion in all directions. CRYSTEX is dimensionally stable once fully cured and is scientifically proportioned and can be used at any consistency from plastic to fluid.

Specification Description: 036000: Precision Non-Shrink Grout: shall meet ASTM C 1107 at a fluid consistency. Grout shall remain workable for a minimum of one hour after mixing

Uses
- CRYSTEX is used where a precision, non-shrink, high-strength, structural grout is required, such as: heavy equipment machinery bases, crane rails, pump and equipment bases in power plants, steel and paper mills, sewage treatment plants, keyways, bed plates where heavy repetitive loading occurs, anchor bolts and dowels, structural steel columns, bearing plates, load bearing masonry walls, light poles and highway signs.

Advantages
- Long-work time, easy placement
- High strength
- Can be mixed at a varying range of consistencies
- Dynamic load stability

Suitable Substrates
- Existing Concrete

Packaging
55 lb (25 kg) bag
2,500 lb supersacs (1134 kg) (Special Order Only)

Approximate Coverage
One bag yields approximately 0.5 ft^3 (13.5 L)

Shelf Life
Bags are to be kept in dry storage to prevent water contamination. Shelf life is one year in unopened bags when properly stored. Supersacs are to be kept off the ground in a dry area. Shelf life is 1 month in sealed containers when properly stored.

Limitations
- Do not add plasticizer, accelerators or additional cement to CRYSTEX
- Do not mix more CRYSTEX than can be placed in 20 minutes.
- Minimum CRYSTEX placement temperature: above 45(F (7(C) for 24 hours.
- Avoid excessive vibration of foundation or base plate at time of placement
- Not recommended for dry pack applications
- For Professional Use only

Cautions
- Consult SDS for more safety information
- Protect finished work from traffic until fully cured
- Keep out of reach of children

- Contains portland cement and silica sand. May irritate eyes and skin.
- Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly with water.
- Do not take internally. Silica sand may cause cancer or serious lung problems. Avoid breathing dust. Wear a respirator in dusty areas.
- Mock-ups and field test areas are required in order to validate performance and appearance related characteristics (including but not limited to color, inherent surface variations, wear, anti-dusting, abrasion resistance, chemical resistance, stain resistance, coefficient of friction, etc.) to ensure system performance as specified for the intended use, and to determine approval of the decorative flooring system.

4. TECHNICAL DATA

Applicable Standard

- Meets all requirements of: ASTM C1107/CRD C621

Physical Properties

Approximate Water Requirements per 55 lb. bag				
Plastic	4.0 qts (3.8 L)	120-125% flow table		
Fluid	4.75 qts (4.5 L)	20-30 second flow		
Typical Vertical Expansion ASTM C1090 (ASTM C1107) 28 days				
Plastic	100% flow	+0.03%		
Fluid	25 second flow	+0.02%		
Split Tensile Strength				
ASTM C496 @ 28 days	680 psi (4.7 MPa)			
Typical Compressive Strength: psi (MPa)				
	1 Day	**3 Days**	**7 Days**	**28 Days**
Plastic	5300 (36.5)	7200 (49.7)	8760 (60.4)	10600 (73.1)
Flowable	4600 (31.7)	6460 (44.6)	8160 (56.3)	10150 (70)
Fluid	3800 (26.2)	5300 (36.5)	6800 (46.9)	9000 (62.1)

Initial Setting Time: Approximately 5 hours

Specifications subject to change without notification. Results shown are typical but reflect test procedures used. Actual field performance will depend on installation methods and site conditions.

5. INSTALLATION

- **Surface preparation:** Clean surface of oil, grease, dirt, laitance and loose material, down to sound concrete. Metal surfaces are to be free of rust and foreign material. Clean bolt holes, bolts and the underside of bed plates. After roughening the concrete surface, saturate the surface and bolt holes with water for 24 hours prior to grouting.

Forming: Construct a rigid watertight form around the bearing plate or object to be grouted. Form elevation should be approximately one vertical inch (2.5 cm) higher than the highest point to be grouted. On large pours a form sloped at a 45° angle or "head box" should be employed to facilitate placement. Side and end forms should be positioned at least 1" (2.5 cm) from the bearing plate or equipment base. Placement side form should be at least 2" (5 cm) from the object to be grouted. Do not place grout in large, unsupported open areas.

Mixing instructions: Locate the mixing equipment (a paddle-type mortar mixer) as close to the area to be grouted as possible. Mix only the amount of grout that can be placed in 20 minutes. For **fluid consistency**, use 4.7 qts (4.5 L) of water (25-30 seconds flow using the ASTM C939 Flow Cone Method). Put into the mixer about 3/4 of the required water. Mix the grout to a doughy state, being careful not to overload the mixer to the point of stalling. After all lumps have disappeared, add remaining water. Continue to mix for a total of 3 to 5 minutes, to a uniform consistency. Remove any unmixed lumps after mixing and before placing. For **plastic consistency**, use 4 qts
(3.8 L) of water. Add the total amount of water at the beginning of the mixing cycle. Continue to mix for a total of 3 to 5 minutes or to a uniform consistency. Use the minimum amount of water required to achieve the necessary placement consistency.

Placing: Just before grouting remove all ponded water from the surface of the concrete substrate leaving only a damp surface. Whenever possible, grout bolt holes first. Place grout from only one direction in order to reduce the amount of voids under the plate. Place grout rapidly and continuously, without stopping, until the forms are overflowing and entrapped air can no longer be seen in the grout as it flows from under the plate and over the forms. CRYSTEX™, when mixed to a fluid or flowable consistency, can be placed by either pumping or gravity flowing. The grout should be poured into a head box or through the funnel, until the grout has completely filled the formed area and is overflowing the forms. When CRYSTEX is mixed at a plastic consistency, use rods, chains or tamping to compact the grout and to remove voids, if necessary.

Deep grouting instructions: For large grout placements of more than 4" (100 mm) depth, it is recommended that up to 30 lbs (13.6 kg) of 3/8" (9 mm) clean, well-graded pea gravel be added to the neat grout for every 55 lb (25 kg) bag of grout. Soak aggregate in clean water prior to mixing with the grout. Drain off excess water. Follow normal mixing procedures for neat grout. After all the water has been added and grout has reached a uniform consistency, add the aggregate. Continue to mix until the pea gravel is thoroughly dispersed throughout the grout.

Curing instructions: Protect and cure exposed CRYSTEX shoulders and edges. Cover with clear plastic, wet clean rags, or wet burlap for at least 72 hours. For continued protection apply an ASTM C309 compliant L&M™ curing compound (e.g. L&M™ CURE R™).

6. AVAILABILITY AND COST

Availability
LATICRETE materials are available worldwide.

For Distributor Information, Call:
Toll Free: 1.800.243.4788
Telephone: +1.203.393.0010
For on-line distributor information, visit LATICRETE at **laticrete.com**

Cost
Contact a LATICRETE Distributor in your area.

7. WARRANTY

See 10. FILING SYSTEM:

8. MAINTENANCE

Non-finish LATICRETE and LATAPOXY® installation materials require no maintenance but installation performance and durability may depend on properly maintaining products supplied by other manufacturers.

9. TECHNICAL SERVICES

Technical Assistance
Information is available by calling the LATICRETE Technical Service Hotline:
Toll Free: 1.800.243.4788, ext. 1235
Telephone: +1.203.393.0010, ext. 1235
Fax: +1.203.393.1948

Technical and Safety Literature
To acquire technical and safety literature, please visit our website at **laticrete.com**.

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10. FILING SYSTEM

Additional product information is available on our website at laticrete.com. The following is a list of related documents:

- DS 230.13: LATICRETE Product Warranty
- DS 172.1: L&M CURE R