

**NON-SHRINK
NON-METALLIC
HIGH STRENGTH**

LYONS CONSTRUCTION GROUT

**MEETS CRD 621
MEETS ASTM 1107**

CAN BE MIXED FROM FLUID TO DRY PACK

PRODUCT DESCRIPTION

LYONS CONSTRUCTION GROUT is a non-shrink, non-metallic multipurpose cement-based grout. LYONS CONSTRUCTION GROUT is formulated for a wide variety of grouting applications, from damp pack to flowable through a controlled, positive expansion.

PRODUCT APPLICATIONS

Recommended applications include grouting of pump and equipment based column base plates, anchor bolts, pre-cast and tilt-up walls.

PRODUCT FEATURES

- Controlled positive expansion for maximum effective bearing
- Non-metallic / non-corrosive
- Pourable / pumpable versatility
- Excellent freeze / thaw resistance
- Extendable with 3/8" pea gravel for deep applications
- Natural concrete gray
- Can contribute to LEED credits
- Easy to use, simple add water
- Chloride and gypsum free
- USDA Accepted

PRODUCT TEST RESULTS

COMPRESSIVE STRENGTH (ASTM C-109)

| | 1 Day | 3 Days | 7 Days | 28 Days |
|----------|----------|----------|----------|-----------|
| Plastic | 4000 psi | 5500 psi | 8100 psi | 10200 psi |
| Flowable | 3100 psi | 5000 psi | 6900 psi | 8400 psi |
| Fluid | 1450 psi | 3700 psi | 6200 psi | 8100 psi |

EXPANSION PERCENTAGE (ASTM C-1090)

| | 1 Day | 3 Days | 7 Days | 28 Days |
|----------|-------|--------|--------|---------|
| Plastic | 0.07 | 0.07 | 0.07 | 0.07 |
| Flowable | 0.03 | 0.03 | 0.03 | 0.03 |
| Fluid | 0.02 | 0.02 | 0.02 | 0.02 |

TYPICAL PERFORMANCE DATA

| | Plastic | Flowable | Fluid |
|-----------------------|-----------------|-----------------|-----------------|
| Water / 50 lb. | 6.30-6.85 pints | 6.85-7.75 pints | 7.75-8.35 pints |

Flexural Strength (ASTM C-78) = 1415 psi @ 28 days

Tensile Strength (ASTM C-190) = 620 psi @ 28 days

Split Tensile Strength (ASTM C 469) = 735 psi @ 28 days

APPLICATIONS

Preparation: Remove all dirt, oil, and loose or foreign material. Any metal in contact with grout must be free of rust, oil, grease, and other foreign matter which would limit bond. Concrete surface must be sound and roughened to insure proper bonding. Prior to placing grout, surface must be saturated surface dry (SSD), if possible for a minimum of an hour. Remove all excess water before placement of grout. Bolts, base plates and equipment must be secure and rigid before placement of grout. All materials and surfaces in contact with the grout should be conditioned between 50°-80°F for proper performance. Provide heating or cooling, as necessary, to compensate for temperature extremes and changes in cure time.

Forms: Allow for the continuous placement of grout. Provisions for venting to avoid air entrapment must be made. Placing from one side, provide a 45° angle in the forms to a height suitable to provide a head of grout during placement. On all sides, provide a minimum 1" (2.54 cm) horizontal clearance between the base plate and forms. Forms should be at least 1" (2.54 cm) higher than the bottom of the base plate.

Mixing: Small quantities of grout may be hand mixed in a concrete mixing pan until lump free. For large quantities and continuous pours, mix using a mortar mixer with rubber tipped blades or appropriate grout pump for a minimum of 5 minutes. Start with minimum water requirements.

APPLICATIONS (cont.)

Always add water to mixer first, then slowly add powder. Use only the amount of water required for the desired placement consistency. Mix in two steps: Add 2/3 of the water, add grout, after partial mixing add the remaining 1/3 of the water for desired consistency. Thoroughly mix total quantity for an additional 2 to 3 minutes. Do not mix more than can be placed in 30 minutes.

Placing: Place continuously and quickly. Start from one side to avoid air entrapment. Be sure grout fills spaces and remains in contact with plate. DO NOT VIBRATE.

A minimum of 1" vertical clearance should be maintained for base plate grouting applications. Thinner vertical clearances may require the use of another type of grout.

Curing: Grouts must be cured. Immediately water cure or cover with clean, wet rags and keep moist until final set. After final set, remove water cure or wet rags and apply an ASTM-C-309 curing compound.

Special Conditions:

Deep application: Pre-washed and graded 3/8" pea gravel should be used in large applications (greater than 1' x 1') and thicker than 3" as follows:

3"-5" : Add 25% of 3/8" pea gravel per 50 lb bag of grout.

5" and over: Add 50% of 3/8" pea gravel per 50 lb bag of grout. Place in 6" lifts with proper reinforcement.

Hot weather conditions: Accelerates setting time and causes premature drying of the grout. Keep the grout cool. Provide shade for area to be grouted. Use cool or chilled mixing water. Protect grout from direct sun exposure for up to 24 hours after grouting. For additional information, refer to ACI 305 (Recommended Practices for Hot Weather Concreting).

Cold weather conditions: Retards strength gain and set time. Warm the grout material above 50°F. Raise the temperature of the area to be grouted with space heaters or steam. Warm the mixing water. Cover and insulate the grout to retain warmth. The minimum temperature (ambient, substrate, and grout) for grouting is 40°F. For additional information, refer to ACI 306 (Recommended Practices for Cold Weather Concreting)

PACKAGING AND YIELD

50 lb multiple plastic lined bag will yield approximately 0.45 cu. ft. in a fluid condition.

50% by weight extension (25 lbs) of 3/8" pea gravel will yield approximately 0.59 cu. ft

LIMITATIONS / PRECAUTIONS

DO NOT place at temperatures below 40°F (5°C) or if the temperature is expected to fall below 40°F (5°C) in the next twenty four hour period unless special provisions are followed. At low temperatures, water requirement should be field tested.

When nearby equipment causes vibration of the grout, such equipment should be shut down for a period of 24 hours (at 73°F (23°C)). DO NOT mix over 5 minutes. DO NOT over water; this can cause bleeding or separation. DO NOT retemper. DO NOT add cement, sand, or ad-mixtures.

Avoid hazards by following all precautions found in the Safety Data Sheets (SDS), product labels, and technical literature

DO NOT EXPOSE TO OR APPLY NEAR FIRE OR FLAMES. FOR WELL VENTILATED OR EXTERIOR USE ONLY!

SHELF LIFE / STORAGE

LYONS GROUT should be stored in a cool, dry interior area. At no time should material be exposed to high moisture, rain, or snow conditions. When stored in the original, tightly closed container, the shelf life is one year from the date of manufacture.

LIMITED WARRANTY

Lyons Manufacturing, Inc. warrants the high quality of its products. However, because of many factors beyond our control in their use, such as job conditions, workmanship, etc., the liability of all parties making and selling this product is expressly limited to the refund of the purchase price or replacement of the Lyons material used. Lyons Manufacturing, Inc. will replace any product proven to have a manufacturing defect, FOB Factory, provided Lyons Manufacturing, Inc. is notified of such defect within one (1) year from the date of shipment from the factory. This warranty is in lieu of all other warranties, expressed or implied. Lyons Manufacturing, Inc. makes no warranty of suitability of its products for any particular application and sells its products upon the condition that customer shall conduct their own test to determine the suitability of the product for their purposes. Under no circumstances will Lyons Manufacturing, Inc. be liable for economic, special, incidental or consequential damages or losses of any kind.

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