

# SILPRO

## SilproGrout™ 424

**Structural  
Non-Shrink  
Non-Metallic  
High-Strength  
Cement-Based  
Non-Corrosive  
High Performance**

SILPRO, LLC / 2 NEW ENGLAND WAY / AYER, MA 01432-1514 / 800-343-1501 / 978-772-4444 / FAX 978-772-7456 / WWW.SILPRO.COM

SILPROGROUT™ 424 is a high performance, high-strength, non-shrinking, non-metallic, cement-based, grout for use in plant maintenance and general construction. SILPROGROUT™ 424 contains a proprietary blend of special cements and high-strength aggregates to produce a fluid, workable mix. SILPROGROUT™ 424 provides controlled expansion which results in its ability to carry loads. SILPROGROUT™ 424 can also be mixed into a variety of consistencies ranging from fluid and flowable to dry-pack.

### USE SILPROGROUT™ 424 FOR

- Structural grouting of anchor rods, machine base plates, column base plates, bearing plates, etc.
- Patching cracks, holes, voids
- Foundation underpinnings, precast concrete, pre-stressed cables and post-tensioned cables

### ADVANTAGES

- High Strength
- Cement-based
- Non-Shrink
- Non-Metallic
- Non-Corrosive
- Structural
- Range of fluidity
- Pumpable
- Oil and Water resistant
- Non-Bleeding
- Non-Staining

### TECHNICAL DATA

ASTM C-1107: Pass at 73° and 90°F

Test data at 73°F with 4.5 quarts of water per 50lb bag

**Consistency (flow) ASTM C1437**

Flowable  
125% - 128%

**Set Time C-191:**

Initial Set = 5 hrs  
Final Set = 9.5 hrs

**Compressive Strength Air Cured ASTM C-109**

|        |           |
|--------|-----------|
| 24-hr  | 3,670 psi |
| 3-day  | 4,940 psi |
| 7-day  | 5,530 psi |
| 28-day | 6,430 psi |

**Density (lbs/ft³) ASTM C-185**

120.6

**Early Age Height Change % ASTM C-827**

.9%

**Height change of hardened grout % ASTM C-1090**

1 day - 28 days = .04%

**56 day shrinkage ASTM C-157**

0.00%

### MIXING

#### Mix Ratios

Fluid: 5 quarts of water per 50lb bag

Flowable: 4.5 quarts of water per 50lb bag

Plastic: 4 quarts of water per 50lb bag

Mix the amount of grout that can be placed in 15-20 minutes. Add 2/3 of the required water to the mixer, then slowly add the grout into the operating mixer (Note: do not mix by hand).

Mix the grout to a dough-like state and until all dry material is wet. Add the remaining water after the lumps have disappeared and continue to mix for 3-5 minutes. The grout will stiffen after a few minutes.

#### Grout with Aggregate

For grouting 3 inches or less, use neat. For depths of between 3 and 5 inches, 3/8" clean washed stone should be added 25% by weight. For depths of greater than 5 inches, add 3/8" clean, washed stone to 50% by weight. The aggregate should be added after adding the initial 2/3 required water and the grout has become dough like, all material is wet and the grout is free of lumps. After adding the stone, mix for 3-5 additional minutes, then add the remaining water to the desired consistency. (Note: the mix water ratios may need to be increased to allow for the aggregate addition).

For applications exceeding 10 inches, contact SILPRO.

#### Placement

If feasible, grout bolt holes first to prevent water from being trapped and creating voids under the supported point.

Grout placement should be continuous from start to finish. In addition, placement should be from only one side to eliminate potential air pockets and ensure proper compaction.

Before initial set occurs, work straps back and forth in slow strokes. Overworking grout may cause segregation, bleeding and breakdown of initial set.

Prevent any vibration from occurring in proximity until the grout takes final set. Do not re-temper or vibrate grout.

Minimum placement thickness is 1/2 inch.

**Note:** When pumping, use "Plastic" mix consistency. Do not use more than 1 gallon of water per bag. Cavity grout pumps like ChemGrout, Inc. CG 050 or larger work well for pumping SILPROGROUT™ 424.

**For Customer Service, Call Silpro at 1-800-343-1501**

## APPLICATION

### Preparation:

Prior to applying the grout, the base slab should be clean and saturated with clean water. Immediately before grouting, the water should be removed and the surface should be dried to a damp film.

Remove all grease, oil and other contaminants from surfaces that will come in contact with the grout.

Properly shim and align all base plates and sole plates prior to applying the grout.

Roughen the surface to be grouted to CSP 5-9 (ICRI Guideline 03732) to provide adequate bond.

Plates should have air relief holes placed to allow trapped air to escape.

### Forms:

The form built around the area to be grouted shall be water tight and free of grease, oil and other contaminants.

Do not butt form work directly against the base plate. Allow approximately 1 inch around the sides. The top of the form should be level with the top of the plate.

Forms should be anchored to prevent all movement during placement and curing.

To eliminate air pockets and help compact the grout, install banding straps inside the forms that extend from the sides prior to placing the grout.

To allow gravity to properly fill the formed area and create adequate flow, a funnel or flume should be mounted approximately 6-8" higher than the base plate.

### Temperature:

For best results maintain temperature of 60-75°F for grout, concrete, forms and steel that will come in contact with the grout for a minimum of 48 hours before placing. See below for specific instructions on cold and hot weather applications.

### Cold Weather Application

Store the grout in warm area for 24 for 48 hours prior to application.

Heat the mixing water to 80-95°F. Temperatures greater than 95°F could cause the grout to flash set and temperatures lower than 90°F will have little effect on raising the grout temperature. The grout temperature should be above 50°F and no higher than 90°F at the time of placement.

If possible, warm mixing equipment and base plates areas prior to application.

Accelerators are highly recommended.

## APPLICATION, (CONT.)

### Hot Weather Application

Store the grout in a cool, shaded area (preferably inside).

For best results chill the mixing water as close to 33°F as possible. The grout temperature should be approximately 80°F or below. (Note: when saturating the surface with water as in step 1 of Preparation, use cool water). Place mixer in cool, shaded area and cool mixer with cool water prior to using. As soon as possible, apply soaked burlap or polyethylene to prevent excessive evaporation of moisture. Delay application of curing compounds to 24 hours after final set.

## CURING

Keep the temperature of the grout above 40°F for a minimum of 48 hours. Exposed edges do not need to be cut. **SILPROGROUT™ 424** should either be wet cured for 72 hours or wet cured for 24 hours followed by an application of a curing compound that meets ASTM C-309.

## COVERAGE:

Yield per bag ASTM C-185: 0.50 ft<sup>3</sup>

## PACKAGING

50lb bag

## STORAGE

Store all products in a cool dry place. Temperature should range between 50 – 80°F. Keep out of direct sunlight. Precondition to 70° +/- 5°F prior to using.

## SHELF LIFE

1 Year

## CAUTION!

SILPRO offers products that may contain cement, latex, epoxy, and other chemicals. Please review the Safety Data Sheet before the use of this product.

## GUARANTEE

Please call Silpro LLC for copy of guarantee.

# SILPRO



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