



# ChemMasters

## MET-Ox GROUT

PRECISION NON-SHRINK, METALLIC GROUT

SPECIALTY CONSTRUCTION PRODUCTS

### P R O D U C T D A T A

#### DESCRIPTION

Met-Ox Grout™ is a high strength, cementitious, non-shrink, metallic grout. Met-Ox Grout is ideal for use in precision grouting applications especially where the grout will be subjected to dynamic, repetitive loads or severe operating stress.

#### USES

- Crane Rails
- Bed Plates
- Bridge Beams
- Baseplates
- Anchor Bolts
- Dowels
- Building Columns
- Pipes and Sleeves
- Track Rails
- Machine Foundations
- Hand Rails
- Boiler Plates
- Machinery Baseplates
- Structural Columns
- Sole Plates
- Underpinnings

#### ADVANTAGES

- Metallic aggregate adds extra toughness and tensile strength
- Can be subjected to dynamic, repetitive loads
- Versatile; use from plastic to fluid
- High strength - over 10,000 psi
- Thixotropic, does not settle or bleed
- Easy to use, just add water
- Pumpable

#### PACKAGING

Met-Ox Grout is packaged in 50 pound/22.7 kilogram, poly-lined, moisture proof bags, shipped 60 bags per pallet, shrink wrapped.

#### TECHNICAL DATA

- ASTM C-1107-91a, Grade B
- CRD C-621-92
- Met-Ox Grout does not contain any gas forming agents

#### Flow (ASTM C-230 / Flow Table, 5 drops)

Water per 50 lb./22.7 Kg bag

Plastic	7 pints	3.3 liters	83%
Flowable	8 pints	3.8 liters	125%
Fluid*	9 pints	4.3 liters	30 seconds

\*Fluid grout tested according to CRD C 611

#### Set Times (ASTM C-191 / Vicat Method)

	Initial	Final
Plastic	1.25 hours	1.5 hours
Flowable	2 hours	2.5 hours
Fluid	3.5 hours	4 hours

#### Compressive Strength (ASTM C-109) psi-MPa

	1 day	3 days	7 days	28 days
Plastic	4000-27	7500-52	9000-62	10500-72
Flowable	3200-22	7000-48	8500-59	10000-69
Fluid	2800-19	5500-38	7800-54	8700-60

#### Expansion (CRD C-621)

In %	1 day	3 days	7 days	28 days
Plastic	+0.01	+0.02	+0.05	+0.07
Flowable	+0.03	+0.03	+0.04	+0.06
Fluid	+0.03	+0.04	+0.07	+0.08

#### Yield per 50 pound/22.7 Kg bag

Plastic	.37 Ft. <sup>3</sup>	.010 M <sup>3</sup>
Flowable	.38 Ft. <sup>3</sup>	.011 M <sup>3</sup>
Fluid	.39 Ft. <sup>3</sup>	.011 M <sup>3</sup>

**Volume Grouting:** For applications over 2"/5 cm, Met-Ox Grout may be extended with up to 25 lbs of clean, SSD 3/8"-.95 cm pea gravel per bag. With 9 pints/4.3 L of water, yield will increase to approximately .55 Ft.<sup>3</sup>/.015 M<sup>3</sup> - flow will decrease.



### ChemMasters

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## DIRECTIONS

Grouting is best accomplished at temperatures between 40°- 90°F/5°- 32°C. For extremely low or high temperatures, follow the guidelines established by ACI for cold or hot weather concreting or consult ChemMasters for additional recommendations.

**PREPARATION:** The concrete substrate upon which the grout will be placed must be clean and free of any curing or sealing compounds, dust, dirt, oil or grease. The base should be textured where possible using a small chipping hammer. Presoak the substrate with water for 24 hours to prevent premature drying of the grout. Cover with wet burlap or polyethylene sheeting to retain moisture.

**FORMING:** Forms will be required for most grouting applications. Top edges of forms must be higher than bottom of baseplate to be grouted. Seal bottom edges of forms so that grout will not leak. Construct forms with a larger gap, at least 2"/5 cm, between form and base being grouted. Use a slant board or construct a head box to direct flow of grout from front to back. Allow at least 1"/ 2.5 cm gap at backside of form to facilitate flow and allow air to escape in front of grout flow. All forms in contact with the grout must be coated with a release agent such as Release™ or Safe-Slip™ from ChemMasters.

**MIXING:** A paddle type mortar mixer, grout pump or heavy duty 1/2" drill and mixing prop are required. Place about 80% of required water into clean but prewet mixer or container. Use only as much water as will be required to properly place the grout. Adding excess water only decreases strength and expansion. If aggregate is used, add now. Do not add sand or cement to Met-Ox Grout. With mixer blades operating, open bag(s) and gradually empty into mixer, mix for about 1 minute, then add remaining water and mix for 3-4 minutes. Following this sequence should eliminate lumping and keep mixer clean and free of excess buildup. Mix enough Met-Ox in each batch to fill void completely to eliminate cold joints or air pockets.

**PLACEMENT:** Always place grout from one side only at a steady, continuous flow to push air out in front of grout flow, ensuring maximum surface bearing of the plate or base. Do not vibrate grout.

**CURING: Proper curing is required!** As soon as grout placement is complete, apply a high solids curing compound, such as Polyseal or Safe Cure & Seal 0800 to all exposed grout surfaces. Alternately, wet burlap may be used following the guidelines in ACI 351, *Grouting for Support of Equipment and Machinery*.

## LIMITATIONS

- Do not apply to frost covered or frozen surfaces or at substrate or ambient temperatures below 40°F./4°C.
- ChemMasters recommends the use of ChemGrout Mixer/Pumps for placements under large baseplates or with difficult configurations.
- Before placing Met-Ox in constantly damp or wet or harsh chemical environments, contact ChemMasters for special recommendations on polymer coatings for exposed grout surfaces.

## CAUTIONS

May cause eye and respiratory tract irritation. Over exposure may cause skin irritation. Do not take internally. Keep out of reach of children.

***This Product is Formulated and Labeled for Industrial and Commercial Use Only***

*FOR BEST RESULTS AND SAFEST USAGE, USER IS SPECIFICALLY DIRECTED TO CONSULT THE CURRENT MATERIAL SAFETY DATA SHEET AND PACKAGE LABEL FOR THIS PRODUCT*

*We warrant our products to meet our published specifications and to be free from defects in materials and workmanship to the acceptable quality levels defined in these specifications. If acceptable quality levels are not specified, the acceptable quality levels will be those normally supplied by us for the product. We make no guarantee of the results to be obtained from the use of our products. The determination as to the adaptability of any of our products to the specific needs of the Buyer is solely Buyer's prerogative and responsibility. We are glad to offer suggestions on the use of our products. Nevertheless, there are no warranties given except such expresses warranties offered in connection with the sale of a particular product. Our liability shall be limited to replacement of, or refund of an amount not to exceed the purchase price attributed to, the goods as to which such claim is made. Our selection of one of these alternatives shall be Buyer's exclusive remedy. IN NO CASE SHALL WE BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES, EVEN IF WE HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, CO-CONDITIONS AND REPRESENTATIONS, EITHER EXPRESSED OR IMPLIED, WHETHER ARISING UNDER ANY STATUTE, COMMON LAW, USAGE OR TRADE, COURSE OF DEALING OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.*