



# ChemMasters®

SPECIALTY CONSTRUCTION PRODUCTS

## Met-Ox™ Grout

Precision Non-Shrink  
Metallic Grout for  
Grouting Around  
Heavy Machinery

### 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
- Track Rails
- Boiler Plates
- Machinery Base Plates
- Sole Plates
- Pneumatic Presses
- Anywhere there is heavy vibration under load

#### ADVANTAGES

- Non-shrink for maximum load bearing
- Metallic aggregate improves impact resistance and tensile strength
- May be placed plastic, flowable, and fluid
- Can be subjected to dynamic repetitive loads
- Does not settle or bleed
- High strength - over 10,000 psi
- Easy to use, just add water, and mix
- Pumpable for rapid placement on large projects

#### Packaging/Part Number

50 lb (22.7kg)	56 bags/pallet	F2320.50
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#### TECHNICAL DATA

- ASTM C1107-91a, Grade B
- CRD C-621-92
- ASTM C 642-97 - Meets or exceeds air-dry unit weight of 2.24 t/m<sup>3</sup>

#### Yield per 50 lb (22.7 kg) bag

Condition	ft <sup>3</sup>	m <sup>3</sup>
Plastic	0.37	0.010
Flowable	0.38	0.011
Fluid	0.39	0.011

#### ASTM C230 Flow Table, 5 drops water /bag

Condition	Pints	Liters	Flow
Plastic	7 to 7.5	3.3	100 to 125 %
Flowable	8 to 8.5	3.8	< 30 sec ; > 125%
Fluid*	8.75 to 9.5	4.3	10 to 30 sec

\* fluid grout tested according to ASTM C939

#### ASTM C191 / Vicat Method Set Times

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

#### ASTM C109 Compressive Strength psi (MPa)

Condition	1 day	3 days	7 days	28 days
Plastic	4,000 (27)	7,500 (52)	9,000 (62)	10,500 (72)
Flowable	3,200 (22)	7,000 (48)	8,500 (59)	10,000 (69)
Fluid	2,800 (19)	5,500 (38)	7,800 (54)	8,700 (60)

#### CRD C621 Expansion %

Condition	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

**Volume Grouting:** For applications over 2 inch (5 cm) **Met-Ox Grout** may be extended with up to 25 lbs (11 kg) of clean SSD 3/8inch (0.95 cm) pea gravel per bag. Add 9 pints (4.3 L) of water. Yield will increase to approximately 0.55 ft<sup>3</sup> (0.015m<sup>3</sup>) flow will decrease.



ChemMasters®

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## DIRECTIONS

Grouting is best accomplished at temperatures between 40 to 90°F (5 to 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 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.

### FORM HEAVY DUTY BED PLATES FOR MACHINERY:

Forms will be required for most grouting applications. Top edges of forms must be higher than bottom of base plate to be grouted. Seal bottom edges of forms so that grout will not leak. Construct forms with a larger gap, at least 2 inch (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 inch (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:** Following this sequence should eliminate lumping and keep mixer clean and free of excess buildup. A paddle type mortar mixer, grout pump, or heavy duty 1/2 inch drill and mixing prop are required. Place about 80% of required water into clean but pre-wet mixer or container. Use only as much water as required to properly place the grout. Adding excess water decreases strength and expansion. If aggregate is used add to water. 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 to 4 minutes.

**PLACEMENT:** To ensure the maximum surface bearing of the plate or base always place grout from one side only at a steady continuous flow. This will push the air out in front of grout flow. 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 309** to all exposed grout surfaces. Wet burlap may be used following the guidelines of ACI 351, *Grouting for Support of Equipment and Machinery*.

## LIMITATIONS

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

### Precautions:

**DANGER:** Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure if inhaled.

**Precautionary Statements:** Obtain special instruction before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands and skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

## STORAGE

Optimum storage temperature is between 40°F and 90°F (4°C and 32°C). Store unopened bags on pallets in a dry area. Shelf life of properly stored material is two years.

### 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.