



# ChemMasters

## POLYTOPS MMA GROUT

METHYL METHACRYLATE  
GROUT & PATCHING MATERIAL

SPECIALTY CONSTRUCTION PRODUCTS

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

#### DESCRIPTION

Polytops MMA Grout is a three component, methyl methacrylate based grout and concrete patching material. Polytops MMA Grout sets very rapidly even in freezing temperatures to minimize downtime or traffic disruption. It develops very high strength rapidly. When mixed, Polytops MMA Grout forms a very fluid, durable polymer concrete which has very high bond, compressive and flexural strength, resists freeze thaw damage and has excellent chemical resistance.

#### USES

- Grouting of bearing plates on bridges and tressels
- Rehabilitation of bridge decks, airport runways and expansion joints
- Cold weather patching
- Industrial and commercial concrete repair applications where a highly fluid material and quick turn-around is important
- Chemical resistant patching applications such as in chemical / food processing or containment areas
- Areas where a pourable, high strength patching is required such as loading docks, high traffic aiseways, tipping floors or floors subjected to steel wheel traffic

#### ADVANTAGES

- High flow for full bearing of base plates
- Self leveling for ease of placement
- Wide range of temperature applications (from 10° to 110°F)
- Cures rapidly for emergency repairs in high traffic areas
- Develops high compressive, tensile and flexural strengths; withstands high levels of abrasion and impact loading
- Excellent bond to existing concrete
- Flexibility to withstand vigorous thermal cycling
- Freeze thaw resistant
- Excellent resistance to acids and alkalies

- Exceptional ultraviolet light stability
- A unit can be extended with up to 70 pounds of 3/8" washed pea gravel or used neat

#### TECHNICAL DATA

USDA approved for incidental contact in federally inspected meat, fish and poultry plants.

Pot Life @ 70°F AASHTO T237 20-30 min.

Compressive Strength (ASTM C 109)  
(All testing was conducted neat and with the product extended with 50 pounds of pea gravel)

1 hour @ 100°F	extended	3,520 psi
1 hour @ 19°F	neat	3,850 psi
	extended	6,650 psi
24 hour @ 70°F	neat	6,210 psi
	extended	8,480 psi

Bond Strength 7 days	ASTM C881	
	neat	3,790 psi
	extended	2,670 psi

Flexural Strength 7 days	AASHTO T97	
	neat	3,440 psi
	extended	3,070 psi

Tensile Strength - 7 days AASHTO T198 2,330 psi

Elongation 15-20%

Yield neat	0.58 cu ft
extended with 50 pounds of pea gravel	0.98 cu ft

#### PACKAGING

Each unit of Polytops MMA Grout contains 1 gallon of MMA monomer (Part A) packed in a 1 gallon round can, 14 ounces of catalyst (Part B) and 70 pounds of aggregate (Part C). All components may be shipped separately for large projects or all components for a unit may be packaged in a 6 gallon pail.

#### DIRECTIONS

**SURFACE PREPARATION:** Concrete must be free of coatings, dirt, oil or other contaminants. Concrete must be frost free and dry. The perimeter of the patch should be saw cut to a minimum depth of 1/2 inch. All loose and



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deteriorated concrete should be removed. Sandblast all exposed reinforcing steel to remove all rust.

**PRIMING:** It is recommended that areas to be grouted or patched are primer coated first. The primer material is made from one of the Polytops MMA Grout kits. The primer consists of the liquid MMA monomer (Part A) and powdered catalyst (Part B). Coverage rate for the primer is 100 square feet per gallon. Take enough Part A to prime the area. For a full gallon of Part A, use 5 fluid ounces of the Part B catalyst. Stir in the catalyst until completely dissolved and using a brush or roller. Quickly, apply the primer to the concrete. The pot life of a gallon of primer is only 15 minutes. Do not puddle the primer. Allow the primer to dry to the touch before installing a kit of Polytops MMA Grout. The primer will cure in approximately 30 to 40 minutes depending on surface and air temperature. It is recommended that the unit broken for priming be reserved for primer needs only.

**MIXING:** To mix one unit of neat material at a time, use a heavy duty 1/2" or larger drill equipped with a jiffler type mixing prop. Pour the Part A monomer into a clean container with a capacity of a minimum of 6 gallons. If the temperature is above 50°F, add 7 fluid ounces of Part B catalyst to the Part A monomer. At lower temperatures or where extremely fast set is desired, add up to 14 fluid ounces of catalyst. It is highly suggested that when beginning a project, a maximum of 7 fluid ounces of catalyst be used so that working time at that level can be measured before determining if additional catalyst can be used on subsequent units. Adding additional catalyst reduces the pot life and set time of the material. Add the catalyst and mix for 1 minute. Avoid incorporating excess air into the mix. Add all of the premeasured Part C aggregate slowly while continuing to mix the grout. Blend until all aggregate is coated and thoroughly wet out.

If the Polytops MMA Grout is to be extended with pea gravel or if more than one unit at a time is to be mixed, a mortar mixer is recommended. A wheel barrow or mortar box can also be used for mixing. Add Part A monomer to the mixing vessel first, Blend in the appropriate amount of Part B catalyst (see above) and mix until Part B is completely dissolved. Add the Part C while mixer continues to blend and add up to 70 pounds of clean dry pea gravel to the mix and blend the mix for 1-2 minutes. Adding pea gravel to Polytops MMA Grout will severely reduce the flowability and self leveling characteristics of the product.

**APPLICATION:** If using Polytops MMA Grout as a grout, form the area to be grouted and pour the material into place. If

mixed with pea gravel and used as a mortar, use a mason's trowel or steel finishing trowel to place and compact mortar into voids to be filled. Do not feather-edge the material. Caution must be taken due to the rapid setting time of material. Do not overwork the surface.

#### **CLEANUP**

When operations are completed or interrupted for more than 15 minutes, the mixing vessel and application tools must be cleaned. Clean tools and equipment before material dries and sets with xylene, xylol or the Part A monomer of the Polytops MMA Grout kit. If the monomer is used for cleaning, it can be saved and used for the next mix or saved for future cleanings. Adding coarse aggregate to the mixer while cleaning aids in removing the polymer concrete.

#### **STORAGE**

Store factory sealed containers of unmixed material at 50°-75°F temperatures away from direct sunlight and sources of heat. Temperatures in excess of 75°F cause premature aging of the material. Shelf life of properly stored material is one year from date of manufacture.

#### **LIMITATIONS**

- Polytops MMA Grout is exothermic, generating a large amount of heat when initially mixed. After mixing immediately pour all of the material into the area to be patched to dissipate the heat.
- It is important to use all of the Part A resin and Part C aggregate provided in each unit to obtain proper mix ratio and consistency
- Polytops MMA Grout is extremely fast setting. Substrate must be completely prepared and ready before material is mixed.
- Good ventilation of the repair area is recommended to aid in the thorough cure of Polytops MMA Grout.

#### **CAUTIONS**

**FLAMMABLE LIQUID:** Keep away from heat or open flames. Use with ventilation. May cause skin, eye and respiratory tract irritation. Do not take internally. Keep out of reach of children.

**ORGANIC PEROXIDE:** Keep away from all sources of heat including sunlight. Causes eye, skin, and respiratory tract irritation. May cause allergic skin reaction. Do not take internally. Keep out of reach of children.

All label precautions and the MSDS must be fully understood before using this product.

#### ***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.*