



# ChemMasters®

## Quality • Innovation • Service

# Polytops MMA Grout

Methyl Methacrylate Grout

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

### DESCRIPTION

**Polytops MMA Grout** is a three component, methyl methacrylate based grout. **Polytops MMA Grout** sets very rapidly even in freezing temperatures to minimize downtime. It develops very high strength rapidly. When mixed, **Polytops MMA Grout** forms a flowable, non-shrink, durable polymer grout that 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 trestles
- Rehabilitation of bridge decks, airport runways, and expansion joints
- Column grouting

### ADVANTAGES

- For full bearing of base plates
- Self leveling for ease of placement
- Wide range of temperature applications from 0 to 100 °F (-18 to 38°C)
- Cures rapidly for emergency grouting applications
- 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 alkalizes
- Exceptional ultraviolet light stability

### Packaging/Part Number

Each Kit Consists of:  
 1 gal (3.8L) MMA Resin Part A  
 14 ounces (0.414 ml) Catalyst Part B  
 70 lb (32kg) Aggregate Part C

F5370.78

### TECHNICAL DATA

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

### Test Data

AASHTO T237 Pot Life @70°F (21°C)	20 to 30 minutes
Elongation	3 to 5%
Yield Neat Extended with 25 lbs #8 pea gravel	0.58 ft <sup>3</sup> 0.75ft <sup>3</sup>
ASTM C 109 Compressive Strength Neat 1 hour @ 19°F 1 hours@ 70°F 3 hours@ 70°F 24 hours @ 70°F  Extended 1 hour @19°F 1 hour @100°F 24 hours @ 70°F	3,850 psi 5,500 psi 7,100 psi 7,700 psi  6,650 psi 3,520 psi 8,500 psi
ASTM C881 Bond Strength 7 days Neat Extended	3,790 psi 2,670 psi
AASHTO T97 Flexural Strength 7 days Neat Extended	3,440 psi 3,070 psi
AASHTO T198 Tensile Strength 7 days	2,330 psi

### DIRECTIONS

**Surface Preparation:** Concrete must be free of coatings, dirt, oil, or other contaminants. Concrete must be frost free and dry. Sandblast all exposed reinforcing steel to remove all rust. Prepare forms when needed.

**When priming the surface:** It is preferable, but not required, to prime surfaces. When priming the surface with **Polytops MMA Kit**, use accelerator or retarder as needed (see Chart 1 on page 3) and add to **Part A Resin** then mix for one minute. Add **Part B Catalyst** (see Chart 1 page 3) and mix additional 2 minutes. Distribute the blended resin over the surface and brush in. To increase the working time and reduce the reaction speed it is critical to reduce the mass of blended resin by dispersing quickly over the surface.

**Note:** Do not add **Part C Aggregate** to prepared primer.

June 2024



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### When mixing a full unit:

- Use a heavy duty 1/2" or larger drill equipped with a jiffler type mixing prop or mortar mixer.
- Pour **Part A Resin** into a clean container with a minimum capacity of 6 gallons (22.7 L).
- Consult **Chart 1 Polytops MMA Grout Dosing & Mixing Chart** to determine the necessary amount of **Part B Catalyst** and **Accelerator** or **Retarder** based upon ambient air temperature.
- Add measured **Accelerator** or **Retarder** to **Part A Resin** and mix 1 minute.
- Add measured amount of **Part B Catalyst** and mix 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 at least 2 to 3 minutes.

**Application:** Prepare a form for **Polytops MMA Grout** and pour the material into place.

**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 **Part A Resin** of the **Polytops MMA Grout kit**. If **Part A Resin** is used for cleaning, it can be saved and used for the next mix or saved for future cleaning. Adding coarse aggregate to the mixer while cleaning aids in removing the polymer grout.

### STORAGE

Store factory sealed containers of unmixed material at 50 to 75°F (10 to 21°C) temperatures away from direct sunlight and sources of heat. Temperatures in excess of 75°F (21°C) cause premature aging of the material. Shelf life of properly stored material is two years 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 to dissipate heat.
- When mixing a full unit, it is important to use all of **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 and forms must be ready as needed before material is mixed
- Good ventilation of the repair area is recommended to aid in the thorough cure of **Polytops MMA Grout**

### PRECAUTIONS

**Resin: Danger:** Highly Flammable Liquid and Vapor. Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.

**Catalyst: Danger.** Heating may cause a fire. May cause allergic skin reaction. Causes eye irritation. May cause respiratory irritation. Suspected of damaging fertility or the unborn child. Very toxic to aquatic life. May cause long lasting harmful effects to aquatic life.

**Aggregate: WARNING.** Suspected of causing cancer. May cause damage to lungs through prolonged or repeated exposure if inhaled.

### KEEP OUT OF REACH OF CHILDREN

Proper application is the responsibility of the user. ChemMasters can only make technical recommendations and cannot provide quality control on the jobsite.

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## Chart 1

# Polytops MMA Grout Dosing & Mixing Chart

<b>ALWAYS FOLLOW THE PROPER ORDER OF ADDITION</b>					
<b>Order of Addition</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Ambient Air Temperature</b>	<b>Polytops MMA Grout Resin Part A</b>	<b>Polytops MMA Grout Accelerator</b>	<b>Polytops MMA Grout Retarder</b>	<b>Polytops MMA Grout Catalyst Part B</b>	<b>Polytops MMA Grout Aggregate Part C</b>
100°F (37.8°C)	1.00 gal.	0.00 fluid oz.	1.50 fluid oz.	7 fluid oz.	70 lbs.
90°F (32.2°C)	1.00 gal.	0.00 fluid oz.	0.75 fluid oz.	7 fluid oz.	70 lbs.
80°F (26.7°C)	1.00 gal.	0.00 fluid oz.	0.25 fluid oz.	7 fluid oz.	70 lbs.
70°F (21.1°C)	1.00 gal.	0.00 fluid oz.	0.00 fluid oz.	7 fluid oz.	70 lbs.
60°F (15.6°C)	1.00 gal.	0.00 fluid oz.	0.00 fluid oz.	9 fluid oz.	70 lbs.
50°F (10°C)	1.00 gal.	0.00 fluid oz.	0.00 fluid oz.	12 fluid oz.	70 lbs.
40°F (4.4°C)	1.00 gal.	0.00 fluid oz.	0.00 fluid oz.	14 fluid oz.	70 lbs.
30°F (-1.1°C)	1.00 gal.	0.50 fluid oz.	0.00 fluid oz.	14 fluid oz.	70 lbs.
20°F (-6.7°C)	1.00 gal.	1.00 fluid oz.	0.00 fluid oz.	14 fluid oz.	70 lbs.
10°F (-12.2°C)	1.00 gal.	1.50 fluid oz.	0.00 fluid oz.	14 fluid oz.	70 lbs.
0°F (-17.8°C)	1.00 gal.	2.00 fluid oz.	0.00 fluid oz.	14 fluid oz.	70 lbs.

**Never mix the MMA Accelerator or MMA Retarder directly with the Part C Catalyst.**

**Always add the Polytops MMA Accelerator to the Polytops MMA Grout Resin and mix before adding Part B Catalyst.**

**The Part B Catalyst must be dissolved in the Part A Resin before adding Part C Aggregate.**

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