



Epoxy.com Product #680

Polymer Concrete Methyl Methacrylate (MMA)

DESCRIPTION:

Epoxy.com Product #680 Polymer Concrete is a methyl methacrylate reactive resin concrete used for repair of concrete structures with a minimum of downtime. **Epoxy.com Product #680** develops strengths rapidly and can be put in service in as little as one hour even at temperatures below freezing. The **Epoxy.com Product #680** polymer concrete produces extremely high strengths and is chemical resistant. **Epoxy.com Product #680** is prepackaged for easy mixing and placing at the job site.

ADVANTAGES:

- Mixes easily. It is preproportioned, eliminating measuring the many components incorporated to produce polymer concrete.
- Can be used at temperatures as low as -15°F (-26°C)
- High compressive, flexural, and tensile splitting strengths.
- May be applied as thin as 1/4 inch (6.35mm). Thinner sections such as 1/2 inch (12.7mm) or 1/4 inch (6.35 mm) will take longer to set. For pothole patching or thicker overlays, 3/8 inch or 3/4 inch dry aggregate may be added for economy. (Depending on requirements 50% to 100% aggregate.)
- Impermeable not affected by freeze-thaw cycles, chemically resistant to sulfates, deicing chemicals, and acids.
- Cure time is 45 minutes to 2 hours depending on temperature.
- Patching and overlays can be accomplished even in winter months.
- Available as summer or winter grade. Winter grade should be used below 40°F.

WHERE TO USE:

- Bridge decks
- Parking Structures
- Runways
- Civil Engineering Applications
- Joint Nosing Repairs

LOCATIONS:

- Interior
- Exterior
- Horizontal
- Vertical

PHYSICAL PROPERTIES:

The following properties were achieved at 70°F (21°C)

Color	Dark Tan				
Consistency	Self-leveling				
Pot Life	10-15 minutes at 70°F (21°C)				
	1 Hr.	2 Hr.	8 Hrs.	4 Day	7 Day
Compressive Strength, psi ASTM C-109, Mod.	8,000	8,500	9,000	11,000	12,000
Tensile Strength, psi ASTM C-190	1,400	1,600	1,650	1,750	1,800
Flexural, psi ASTM C-348	3,400		3,470		

CHEMICAL RESISTANCE:

(Symbols: + = resistance, + = limited resistance, - = not resistant)

Soda Lye up to 50% +	Water +
Potash Lye 50%	Gasoline +
Ammonia Concentrate +	Benzene -
Hydrochloric Acid Conc. +	Toluene -
Nitric Acid Conc. +/-	Xylene -
Nitric Acid up to 30% +	Ethyl Acetate +/-
Sulphuric Acid Conc. -	Butyl Acetate +/-
Sulphuric Acid up to 40% +	Acetone +/-
Formic Acid 50% +	Butane +
Formic Acid up to 30% +	Methanol +
Acetic Acid 50% +	Ethane +
Acetic Acid up to 30% +	Glycol +
Lactic Acid up to 50% +	Glycerine +
Chloride of Ammonia + (saturated solution)	Trichlorethylene -
Potassium Chloride + (saturated solution)	Chloroform -
Sodium Chloride + (saturated solution)	Pyridene -
Calcium Chloride + (saturated solution)	Paraffin oil +
Ammonium Sulphate + (saturated solution)	Petroleum +
	Diesel Oil +
	Vegetable Oils +
	Fuel Oil +
	Sodium Sulphate + (saturated solution)

SURFACE PREPARATION:

All laitance, grease, curing compound residue, or any other contaminants must be removed by shotblasting, sandblasting, wire brushing, or any other suitable means. Areas to receive **Epoxy.com Product #680** must be dry.

PRIMING:

For best bonding use **Epoxy.com Product #681 Primer**. To prime surface, mix Component "A" (liquid monomer) and Component "B" (white initiator) and apply to the prepared surface by brush or roller for two minutes until well dissolved. Apply primer by brush or roller, at the rate of 50-100 SF (9.29 m²) per gallon, depending on porosity of surface.

MIXING:

Place **Epoxy.com Product #680 Powder** into pail, tub, wheelbarrow, or mortar mixer. Add **Epoxy.com Product #680 Liquid** and mix thoroughly to produce a flowable grout approximately two minutes. For thick sections add coarse aggregate if desired to produce polymer concrete. Place immediately!

APPLICATION:

Place material into area to be patched, screed and vibrate if necessary. Finish with wood float or steel trowel.

COVERAGE:

A 68 lb unit (30.91 kg) of **Epoxy.com Product #680 Polymer Concrete** will yield 1/2 cubic foot, which will cover 15.2 SF at 3/8 inch (9.53 mm) thick, neat.

LIMITATIONS:

Areas receiving **Epoxy.com Product #680** must be well ventilated. Surfaces to receive **Epoxy.com Product #680** must be DRY. Both liquid and powder must be stored below 80°F to prevent polymerization of the liquid and loss of activity of the powder. The material has a limited shelf life of 6 months.

PACKAGING:

Epoxy.com Product #681 Primer is packaged as follows: Component "A" (liquid MMA) in 1 gallon, and 5 gallon containers. The initiator is packed to be mixed with one gallon of **Epoxy.com Product #681 Primer**.

Epoxy.com Product #680 Polymer Concrete is packaged as follows: 68 lb unit consists of 1 gallon Component "A" (liquid mma) and a 60 lb multi walled lined bag of Component "B" (hardener filler)

CAUTION:

Contains Methyl Methacrylate. Flammable liquid. Do not use near open flame or while smoking. Avoid breathing vapors. Avoid contact with skin. Use under conditions of ventilation. Fumes can cause irritation. See MSDS for safety and handling instruction.

Notes:

FOR INDUSTRIAL USE ONLY KEEP AWAY FROM CHILDREN

For more information please contact:

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