

Pourable Methyl Methacrylate Concrete Crack Repair for Horizontal Surfaces

Epoxy.com Product #684LV

DESCRIPTION

MMA CONCRETE CRACK HEALER and SEALER Product #684LV is a 100% reactive ultra-low viscosity methyl methacrylate resin used as a penetrating crack sealer or to fortify extremely porous concrete substrates. MMA CONCRETE CRACK HEALER and SEALER Product #684LV is typically used on bridge decks, parking structures, concrete floors or as a general penetrating sealer to prevent moisture intrusion.

MMA CONCRETE CRACK HEALER AND SEALER Product #684LV is a reactive methacrylate resin, which hardens rapidly with the addition of <u>Product #695 MMA HARDENER</u>, even at low temperatures.

ADVANTAGES

- Fast Cure (60 min.) for Rapid Recoat and Return to Service
- Ultra-Low Viscosity for Excellent Absorption Into Concrete
- Protects Against Water Penetration
- VOC Compliant (100% Solids)
- Full Strength in 1 Hour
- Use Over Wide Temperature Range ï¿1/2 Even Below Freezing Adjust for Temperature in the Field

CONSIDERATIONS

- Substrate must be dry and free of dirt, waxes, curing agents and other foreign materials.
- Should not be installed on fresh concrete until maximum shrinkage has occurred (at least 30 days after placement).

COMPOSITION

MMA CONCRETE CRACK HEALER and SEALER Product #684LV is a 100% reactive methyl methacrylate resin. Color is supplied is clear.

SURFACE PREPARATION

Cracks

Cracks must be clean and dry. Clean out cracks with oil-free compressed air.

Flat Surfaces to be Sealed

All surfaces flat surfaces to be sealed must be properly prepared as outlined in <u>Epoxy.com Surface Preparation Guide</u>. Surfaces to be sealed should be lightly (brush blast) shot blasted to remove laitance and expose surface cracks.

MIXING AND INSTALLATION

MMA CONCRETE CRACK HEALER and SEALER Product #684LV requires the addition of <u>MMA HARDENER Epoxy.com</u> <u>Product #695</u> to start the hardening process. The amount of hardener must be adjusted to the respective surface temperature (see table below). At temperatures below 40°F, **MMA COLD TEMPERATURE ACCELERATOR Product #696** must be used in addition to the amount of hardener used at the 40°F or 30°F level.

MMA CONCRETE CRACK HEALER and SEALER Product #684LV Resin MMA Mix Ratios, Pot Life and Hardening/Temperature

Temp. (°F) of Resin, Air & Floor Surface	Hardener by Volume (oz.) Per Gallon of #684LV Resin	Pot Life (min.)	Hardening Time (min.)
+30°F	9-10 vol. oz.	Approx. 10-12	Approx. 30
+40°F	7-9 vol. oz.	Approx. 10-12	Approx. 30
+50°F	5-7 vol. oz.	Approx. 8-10	Approx. 25
$+60^{\circ}F$	4-5 vol. oz.	Approx. 8-10	Approx. 25
+70°F	4 vol. oz.	Approx. 8-10	Approx. 20
+80°F - 90°F	4* vol. oz.	Approx. 6-8	Approx. 20

*Do not use less than 4 oz. Product #695 Hardener by volume unless confirmed with jobsite testing. Consult with Epoxy.com Technical Services if performing mix ratio by weight instead of by volume.

Product #6910 MMA MOISTURE ADHESIVE ADDITIVE

MMA Moisture Adhesive Additive Product #6910 is recommended for damp substrates. Add 5% by volume (or 6.5 ounces by volume per gallon) to **MMA CONCRETE CRACK HEALER and SEALER Product #684LV** during mixing.

Product #696 MMA COLD TEMPERATURE ACCELERATOR

At temperatures below 40°F, Product #696 MMA Cold Temperature Accelerator must be used in addition to the amount of hardener used at the 40°F or 30°F level. As a rule of thumb, add about $\ddot{i}_{\ell}\frac{1}{2}$ oz by volume per gallon of resin @ 39° to 32°F, up to 2.0 oz by volume per gallon @ -20°F, increasing the quantity gradually in a consistent linear progression as the temperature decreases.

VERY IMPORTANT: MMA COLD TEMPERATURE ACCELERATOR Product #696 MUST be added to the MMA resin and thoroughly blended **BEFORE** adding the **MMA HARDENER Epoxy.com Product #695**, or hazardous decomposition may occur (i.e., violent foaming). **MMA COLD TEMPERATURE ACCELERATOR Product #696** will cause yellowing, but this will have no effect with a penetrating sealer as long as a resin-rich surface film is not created. Inspect underside of elevated decks for evidence of full depth cracks that may require additional treatment to prevent draining of resin.

General Installation Instructions

Inspect the underside of elevated decks for evidence o full depth cracks that may require additional treatment to prevent draining of the resin. Cracks greater than 1/8� width should be repaired individually prior to application of flood coat. Fill 1/8� or larger cracks with loose sand and pour small quantity of mixed MMA CONCRETE CRACK HEALER and SEALER Product #684LV into the crack and spread with a paint brush, allow to cure before applying flood coat. MMA CONCRETE CRACK HEALER and SEALER Product #684LV is spread evenly on the surface as a flood coat with a squeegee or rollers and allowed to absorb completely into the concrete substrate. Do not allow to form puddles.

Coverage rate will vary depending on the porosity of the concrete and quantity of cracks. For estimating purposes evaluate the substrate with a test patch whenever possible, or use 80-100 ft2/gallon/coat as a general guide, assume two coats on very absorbent surfaces. Apply subsequent applications of resin only after the previous application is completely hardened. There should be very little resin film on the surface upon completion. Surface resin will wear over time, however the filled cracks and porosity will remain sealed.

PHYSICAL PROPERTIES

Percent Reactive 100% Zero(0) Voc Working Life 50°F - 70° F 8-10 minutes, will vary with temperature and amount of hardener Recoat time 45-60 minutes Viscosity 10 cps Weight per Gallon 8.3 Tensile Strength ASTM D638 7800-8000 psi Compressive Strength ASTM D-638 12,500-12,700 psi Flexural Strength, ASTM D638 11,100 - 11,500 0.75 - 0.8% / 24 hrs. Water Absorption, ASTM D570 Hardness, ASTM D-2240 >80 Shore D 4.5 - 5.0% **Elongation ASTM D-638**

CLEAN UP

Clean tools and equipment with lacquer thinner or MEK. Consult Material Safety Data Sheet for safety and health precautions.

COVERAGE

Will vary depending on porosity of substrate and quantity of cracks. 80-100 ft sq/gallon/coat is a suggested starting point. Two coats may be necessary on very porous substrates.

STORAGE

Store in a cool and dry place, below 80°F, out of direct sunlight. Do not store near open flame or food. Shelf life is 6 months in the original unopened containers. After extended storage: Additives and fillers can separate with storage, materials should be inspected for any visible signs of settlement, polymerization, or paraffin coagulation (clumps, strands). Thoroughly mix pails or drums (use a drum mixer, do not rely on rolling drum on floor) and pour into new containers to inspect resin before use.

HELPFUL HINTS

Adequate cross ventilation should be provided. Good ventilation during the processing ensures a good cross linking and hardening. Read, understand and follow Material Safety Data Sheets and Application Instructions prior to use. Use only as directed. If substrate and/or material temperature is above 90°F, DO NOT apply material.

Proper mixing and installation is critical to the optimal success of all product. See <u>Installation Tips</u>, <u>Techdata</u>, & <u>MSDS</u> for more details on our products. Be sure to contact us with any questions and/or concerns that you have.

For more information please contact:

Epoxy.com

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Methyl Methacrylate MMA Concrete Crack Healer and Sealer