



# KEY 9332 FLEXIBLE MMA

## DESCRIPTION

**KEY 9332 FLEXIBLE MMA** is a higher viscosity, 100% reactive, flexible methyl methacrylate resin used as a crack isolation or waterproofing membrane under various **KEY MMA Systems**. **KEY 9332 MMA** resists cracking caused by horizontal substrate movement, providing a crack resistant, resilient surface. **KEY 9332 MMA** offers stress relieving properties for floor slabs showing movement and/or vibration. Excellent for use as an intermediate layer in loading docks and ramps, equipment rooms, large animal rooms, activity rooms, automotive and tooling industry, freezers, coolers, bridge decks, pedestrian walkways, parking garages, ship decks, joint repair, food industry, dairies, beverage industry, and numerous other applications.

## KEY ADVANTAGES

- Crack Resistant and Waterproofing Flexibility
- Elongation of 300%
- Reduces Noise Created by Mechanical Vibrations
- May be Applied in Thickness of 1/16"-1/4"
- VOC Compliant (100% Solids), Meets USGBC LEED Requirements

## KEY CONSIDERATIONS

- For proper performance, add filler powder and broadcast **KEY 9332 MMA** with 20 mesh silica sand.
- Concrete must be dry, free of dirt, waxes, curing agents and other foreign materials.
- Do not store outside in direct sunlight, storage temperature must be < 80°F.
- On or below grade installation must have an efficient vapor barrier under the slab (minimum 10-15 mil).
- Moisture vapor transmission must be less than 3 lbs per ASTM-F-1869 and less than 80% RH per ASTM F-2170 unless Key Resin moisture mitigation system is used.

## COMPOSITION

**KEY 9332 MMA** is a 100% reactive methyl methacrylate resin.

## COLOR SELECTION

**KEY 9332 MMA** is supplied clear (slight haze). Color packs are available for selected colors. Color pack mix ratio is 1 quart pigment per 5 gallons resin. See **Key Resin MMA Color Card**.

## SURFACE PREPARATION

Surface preparation is the most critical portion of any successful resinous flooring system. All substrates must be properly prepared as outlined in **Key Resin Company's Technical Bulletin #1**. In addition, **All Key MMA Flooring Systems require a minimum surface profile of CSP 4-5**, as outlined in ICRI Guideline 310.2-1997, formerly named G-03732 (available from [www.ICRI.org](http://www.ICRI.org)). Work must be performed by trained or experienced contractors or maintenance personnel.

## MIXING AND INSTALLATION

**KEY 9332 MMA** is typically used in conjunction with fillers and fine aggregate and requires the addition of **KEY 9000 MMA HARDENER** to start the hardening process. The amount of hardener must be adjusted to the respective surface temperature (see table). At temperatures below 40°F, **KEY 9101 MMA COLD TEMPERATURE ACCELERATOR** must be used in addition to the amount of hardener used at the 40°F or 30°F level.

**KEY 9332 MMA Resin  
Mix Ratios, Pot Life and Hardening/Temperature**

Temp. (°F) of Resin, Air & Floor Surface	Hardener by Volume (oz.) Per Gallon of 9332 Resin	Pot Life (min.)	Hardening Time (min.)
+30°F	10 vol. oz.	Approx. 25	Approx. 75
+40°F	9-10 vol. oz.	Approx. 25	Approx. 70
+50°F	8-9 vol. oz.	Approx. 25	Approx. 65
+60°F	6-7 vol. oz.	Approx. 20	Approx. 60
+70°F	5-6 vol. oz.	Approx. 20	Approx. 50
+80°F - 90°F	5* vol. oz.	Approx. 15	Approx. 45

\*Do not use less than 5 oz. Key 9000 MMA Hardener by volume.

Consult with Key Resin Technical Services if performing mix ratio by weight instead of by volume.

**KEY 9101 MMA COLD TEMPERATURE ACCELERATOR:** At temperatures below 40°F, Key 9101 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 ½ 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: KEY 9101 MMA COLD TEMPERATURE ACCELERATOR MUST** be added to the MMA resin and thoroughly blended BEFORE adding the **KEY 9000 MMA HARDENER**, or hazardous decomposition may occur (i.e., violent foaming). **KEY 9101 MMA COLD TEMPERATURE ACCELERATOR** will cause yellowing, it is advised to use pigmented MMA resin versus clear to reduce the appearance of yellowing, darker colors will be less affected than lighter colors.

**Typical Slurry Formula**

Material	Weight	Volume
Key 9332 MMA	8.4 lbs.	1.0 gallon
Key Self Leveling Filler	15-22 lbs.	1-1.5 gallons
Silica Sand 30-50 mesh (optional)	11.0 lbs.	110 vol. oz. (0.85 gallon)
Pigment Pack	N/A	6.4 vol. oz.
Key 9000 MMA Hardener	Follow chart	Follow Chart

Add hardener to the clear resin and blend; add dry powders and mix thoroughly with jiffy mixer. Blend pigment and mix for 1-2 minutes until no lumps are present. Apply mix to the primed surface using a gauge rake or notched trowel. The above mixture will yield approximately 1.5-1.8 gallons of slurry. Coverage per batch is:

Yield*	1.5-1.8 gallons slurry
Coverage: 1/16"	36-44 ft <sup>2</sup>
1/8"	18-22 ft <sup>2</sup>
3/16"	12-15 ft <sup>2</sup>
1/4"	9-11 ft <sup>2</sup>

\*Note: Yield of mixed slurry will vary depending on mix design used.

The fresh slurry coat must be broadcast to excess with a wearing course of aggregate when installed as a single slurry system. When installing two coats of **KEY 9332 MMA**, the first slurry coat must be broadcast light to medium, the second coat is broadcast to excess. It may also be recommended to use polyester veil reinforcement between the two layers for certain applications, consult with Key Resin Technical Service. Aggregate rates will vary from 0.25-1.25 lbs/ft<sup>2</sup> depending on type and size of aggregate, mix design, and thickness of slurry. It is recommended to broadcast 20 mesh aggregate or larger. Do not use broadcast aggregate smaller than 20 mesh or the risk of random cure problems increases. Aggregate may be natural or colored quartz, sand, aluminum oxide, emery, etc.

**KEY 9332 MMA** must be top coated or sealed with **KEY 9418 MMA** (use for body coat only), **KEY 9528 MMA** or **KEY 9526 MMA**. These can be either pigmented or clear.

## PHYSICAL PROPERTIES

Percent Reactive	100%, zero VOC
Working Life, 50°F-70°F	20-25 minutes, will vary w/temp. & amount of Hardener
Recoat Time	55-75 minutes
Viscosity, cps	1,100-1,200 cps
Weight per Gallon	8.3 lbs.
Compressive Strength	2,500-3,000 psi
Tensile Strength	75-80 psi
Elongation at Break	300%

## CLEAN-UP

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

## AVAILABILITY

Key Resins are available throughout the United States, Canada, Mexico and a number of other countries. Contact the **Key Representative** in your area. Telephone (888)943-4532 or visit [www.keyresin.com](http://www.keyresin.com).

## MAINTENANCE

**KEY 9332 MMA** is a basecoat resin used with various **Key MMA Systems**, refer to specific system data sheet or sealer data sheet for recommended maintenance.

## 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.

## TECHNICAL SERVICE

**Key Resin Company** and **KRC Associates, Inc.** provide services and consultations on material selection, specification, troubleshooting, and other information on the proper repair and protection of concrete surfaces. **Key Resin Sales/Technical Representatives** are available to assist you. Telephone (888)943-4532 or visit [www.keyresin.com](http://www.keyresin.com).

## WARRANTY

Information regarding Key Resin brand MMA resins and systems is based upon extensive research and experience in the field of applied engineering by the manufacturer **Plasti-Chemie GMBH International**. By making such information available, Key Resin does not thereby assume any liability beyond express terms of our standard limited material warranty. Key Resin does not warrant the accuracy or completeness of any such information, whether conveyed orally or in writing, but to the best of our knowledge believe it to be accurate. We reserve the right at any time and without notice to update or improve our products and process and our information concerning the same. By Key Resin making this information available does not relieve the purchaser or user from his obligation to verify the suitability of our products and processes for the intended use or application. The purchaser and user likewise have the responsibility to ensure that the purchase, use or application does not infringe upon patent rights or other rights of third parties. **Key Resin Company ("Key")** warrants for a period of one (1) year that its products will be free of manufacturing defects and will be in conformity with published specifications when handled, stored, mixed, and applied in accordance with recommendations of **Key**. If any product fails to meet this warranty, the liability of **Key** will be limited to replacement of any non-conforming material if notice of such non-conformity is given to **Key** within one (1) year of delivery of materials. **Key** may in its discretion refund the price received by **Key** in lieu of replacing the material. No customer, distributor, or representative of **Key** is authorized to change or modify the published specifications of this warranty in any way. No one is authorized to make oral warranties on behalf of **Key**. In order to obtain replacement or refund the customer must provide written notice containing full details of the non-conformity. **Key** reserves the right to inspect the non-conforming material prior to replacement. EXCEPT FOR THE EXPRESSED WARRANTY STATED ABOVE, THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE. **KEY'S** OBLIGATION SHALL NOT EXTEND BEYOND THE OBLIGATIONS EXPRESSLY UNDERTAKEN ABOVE AND **KEY** SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO THE PURCHASER OR ANY THIRD PARTY FOR ANY LOSS, COST, EXPENSE, DAMAGE OR LIABILITY, WHETHER DIRECT OR INDIRECT, OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.