

# KEY #9529 MMA FLEXIBLE SEALER

## Product Data Sheet



## DESCRIPTION

**KEY #9529 MMA FLEXIBLE SEALER** is a 100% reactive semi-flexible medium viscosity methyl methacrylate resin developed as a sealer/topcoat over various **Key MMA Systems**. **KEY #9529** is a chemical resistant coating with improved UV light resistance specifically designed for exterior use such as vehicular parking decks, pedestrian decks, roof decks, pool decks, concrete and steel stairs, ramps, and interior freezer/cooler rooms. **KEY #9529** is suitable for use in numerous other applications, both indoors and outdoors.

## KEY ADVANTAGES

- Medium viscosity
- Fast cure for rapid recoat and return to service
- UV resistance; non-chalking
- Semi-flexible for exterior use and freezers
- Meets USGBC LEED criteria for low VOC
- Chemical resistance
- Meets USDA requirements
- Use over wide temperature range—even below freezing

## KEY CONSIDERATIONS

- Concrete must be dry, free of dirt, waxes, curing agents and other foreign materials
- Maintain coating thickness at 15-30 mils per coat to minimize ambering
- 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 F1869 and less than 80% RH per ASTM F2170 unless **Key Resin** moisture mitigation system is used
- MMA odor must be contained and/or ventilated with negative air flow as necessary
- Small enclosed spaces require proper negative air flow ventilation to ensure proper curing
- Application in direct overhead sunlight in very warm temperatures may affect formation of paraffin layer and inhibit cure, resulting in a tacky finish for an extended time—apply in early morning or evening when possible

## COLOR SELECTION

**KEY #9529 MMA SEALER** is supplied Clear (slight haze). Color packs are available, refer to **Key Resin MMA Color Card** or **FlowResin Universal Color Card**. Color pack mix ratio is 1-2 pigment packs per 5 gallons resin. White and light colors require 2 packs.

## COMPOSITION

100% reactive methyl methacrylate resin.

## COVERAGE

**KEY #9529** is typically spread at 50-100 ft<sup>2</sup>/gallon to yield 15-30 mils. Do not apply >30 mils per coat to minimize ambering.

## APPLICATION

### SURFACE PREPARATION

Surface Preparation is the most critical portion of any successful resinous flooring system application. All substrates must be properly prepared as outlined in **Key Resin Technical Bulletin #1**. Work must be performed by trained or experienced contractors or maintenance personnel. **Key Resin Technical Service** is available to answer any questions. All **Key MMA Flooring Systems** require a minimum surface profile of CSP 4-5.

### INSTALLATION

#### (Continued on next page)

**KEY #9529 MMA SEALER** 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 below). 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 #9529 MMA SEALER

Mix Ratios, Working Life, Hardening/Temperature

Temp of Resin, Air & Floor	Hardener by Volume oz/gal	Working Life (minutes)	Hardening Time (minutes)
+30°F	9 vol. oz. +0.5 v.o. #9101	~25	~60
+40°F	7 vol. oz.	~25	~50
+50°F	5 vol. oz.	~15	~40
+60°F	4 vol. oz.	~15	~40
+70°F	3 vol. oz.	~15	~40
+80°F - 90°F	2*-3 vol. oz.	~13-15	~30-40

\*Do not use less than 2 oz. KEY #9000 MMA Hardener by volume unless confirmed with jobsite testing. Consult with Key Resin Technical Services if performing mix ratio by weight instead of by volume. **Important Note:** Yellowing of the resin will occur with excessive thickness or higher amounts of hardener, beginning in the range of 4 vol. oz. It is advised to use lower amounts and allow for extra cure time, particularly with clear resin or very light basecoat colors.

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### ADDITIVES / SPECIAL CONDITIONS

**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. Coating work should be continued only after the complete hardening of the previous layer. Tap random areas with a hard edge tool to confirm resin is hard and not “surface dry”.

### MIXING / INSTALLATION

Add hardener to the clear resin and blend, after 30 seconds add pigment and continue blending for 1-2 minutes. Apply mix to the hardened MMA primer/body coat pouring a ribbon and spreading material with a notched/flat squeegee or trowel to the desired thickness, followed immediately with rolling using a short/medium nap roller. Roll in one direction, then roll in a 90° pattern. This will reduce the occurrence of roller marks in the top coat. Coating thickness should be a minimum of 10 mils and maximum of 20 mils (80-160/ft<sup>2</sup>gal.) over a smooth primer/basecoat, or maximum of 25-30 mils when used as a grout coat over a textured broadcast system, depending on the profile of the base material. 100 ft<sup>2</sup>/gallon is average over a smooth basecoat. If the coating exceeds 20 mils over a smooth basecoat, the top coat may remain visibly blue or yellow.

**IMPORTANT:** Backrolling should be performed immediately after spreading, and should be completed before reaching the upper limit of the pot life time, as the resin quickly transitions from fluid to sticky within a few minutes. Very light surface rolling may still be performed towards the end of the working time, but do not allow full weight of the roller to completely imbed in the resin and contact the bond line or problems may result (resin may become “stringy” and pull away from the previous layer). Also, be aware that addition of the pigment to the clear resin may slightly speed up the cure process. Use a clean roller cover with each successive batch.

**IMPORTANT:** Do not apply **KEY #9529** in direct overhead sunlight in very warm temperatures due to possible inhibition of paraffin shield resulting in cure problems or color variations. Apply early/late when sun is at a low angle or in cloudy conditions.

### TECHNICAL DATA

Viscosity @ 75°F	130-190 cps
Percent Reactive	100%
Volatile Organic Content (VOC) (EPA Method 24)	20 g/L, compliant to low VOC Rule 1113 in all 50 states
Working Life 50°F -70°F	13-25 minutes, will vary with temp. & amount of Hardener
Recoat Time	See Chart
Weight/Gallon	8.3 lbs/gal

### PHYSICAL PROPERTIES

Hardness, Shore D	ASTM D2240	25
Heat Resistance, Dry Heat		140°F
Elongation @ 75°F	DIN EN ISO 527	155%
Abrasion Resistance	ASTM D-4060, CS17 Wheel, 1000 cycles	77 mg

### CLEAN UP

Clean tools and equipment with **KEY #9001 MMA MONOMER**, lacquer thinner or MEK. Consult material Safety Data Sheet (SDS) for safety and health precautions.

### 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 unless prepared for very short working time, possible roller marks, aesthetic variations in finish, etc.

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## AVAILABILITY

Key Resin materials are available throughout the United States and a number of other countries. Contact the **Key Resin Representative** in your area for details.

## TECHNICAL SERVICE

Key Resin Company provides services and consultations on material selection, specification, troubleshooting, and other information on the proper repair and protection of concrete surfaces. **Key Resin Representatives** are available to assist you. Telephone 888.943.4532 or visit [www.keyresin.com](http://www.keyresin.com).

## STORAGE

Store **KEY #9529** in a cool and dry place, below 80°F, out of direct sunlight. Do not store near open flame or food. Shelf life is 12 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

## MAINTENANCE

**KEY #9529 MMA** is considered to be a low maintenance flooring solution. After completing the application of **KEY #9529 MMA**, the installer should provide the owner with maintenance instructions. **#9529 MMA** is easily cleaned with neutral soaps or detergents. Refer to **Key Resin Technical Bulletin #3** and **#3A** for additional recommendations. Certain textures and environments require specific cleaning with bristled brushes and cleaning chemicals. Due to the thermoplastic character of MMA resins, black marks can occur from fork lift tires skidding and general black rubber wheeled traffic. This may require cleaning chemicals designed for removing rubber wheel marks. Consult with **Key Resin Technical Service** for recommendations.

## WARRANTY

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 (1) one 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.

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### CORPORATE OFFICE / EASTERN US / INTERNATIONAL

4050 Clough Woods Drive . Batavia, OH 45103  
513.943.4225 888.943.4532 [www.keyresin.com](http://www.keyresin.com)

### WESTERN US

4330 N. 43rd Avenue, Suite B4, Phoenix, AZ 85031  
602.523.9353