

KEY #9800 FLEXIBLE PUMMA

Product Information Sheet



DESCRIPTION

KEY #9800 FLEXIBLE PUMMA is a higher viscosity, 100% reactive, flexible methyl methacrylate polyurethane hybrid resin used as a crack isolation or waterproofing membrane under various **Key MMA Systems**, or as a resilient mortar or joint filler for numerous applications. **KEY #9800 FLEXIBLE PUMMA** resists cracking caused by horizontal substrate movement, providing a crack resistant, resilient surface with superior performance in cold temperature environments. **KEY #9800 FLEXIBLE PUMMA** offers stress relieving properties for floor slabs showing movement and/or vibration. Excellent for use as an intermediate membrane layer or patching mortar in loading docks and ramps, equipment rooms, large animal rooms, activity rooms, automotive and tooling industry, freezers, coolers, bridge decks, roof decks, pedestrian walkways, parking garages, ship decks, pool liners, pool decks, joint repair, food industry, dairies, beverage industry, and numerous other industries and applications.

KEY ADVANTAGES

- Fast cure for rapid recoat and return to service
- Crack resistant and waterproofing flexibility
- Improved flexibility in sub-freezing temperatures
- Meets USGBC LEED criteria for low VOC
- Reduces noise created by mechanical vibrations
- May be applied in thickness of 1/16"-1/8"+
- Use over wide temperature range—even below freezing

KEY CONSIDERATIONS

- Concrete must be dry and free of dirt, waxes, curing agents and other foreign materials
- 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
- **KEY #9800** is created at jobsite by blending **KEY #9332** with **KEY #9430** at 2:1 volume ratio

COLOR SELECTION

KEY #9800 is supplied Clear (slight haze). Color packs are available, refer to **Key Resin MMA Color Card**. Color pack mix ratio is 1 quart pigment per 5 gallons resin.

COMPOSITION

100% reactive methyl methacrylate polyurethane hybrid resin.

COVERAGE

KEY #9800 yield of mixed slurry will vary depending on mix design used. Chart shows yield for 1.5-1.8 gallons

Coverage: 1/16"	36-44 ft ²
1/8"	18-22 ft ²
3/16"	12-15 ft ²
1/4"	9-11 ft ²

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.

MIXING/INSTALLATION

(Continued on next page)

KEY #9800 FLEXIBLE 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.

Note: **KEY #9800 MMA** must be top coated or sealed with **KEY #9418 MMA** (use for body coat only), **KEY #9526 MMA** or **KEY #9529 MMA**. These can be either pigmented or clear.

KEY #9800 FLEXIBLE MMA

Mix Ratios, Working Life, Hardening/Temperature

Temp of Resin, Air & Floor	Hardener by Volume oz/gal	Working Life (minutes)	Hardening Time (minutes)
+30°F	10 vol. oz. +0.5 v.o. #9101	~25	~75
+40°F	10 vol. oz.	~25	~70
+50°F	8 vol. oz.	~25	~60
+60°F	6-7 vol. oz.	~20	~60
+70°F	4 vol. oz.	~20	~45
+80°F - 90°F	3* vol. oz.	~20-25	~45-50

*Do not use less than 3 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.

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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: MUST add KEY #9101 to the MMA resin and thoroughly blend BEFORE adding the KEY #9000 MMA HARDENER, or hazardous decomposition may occur (i.e., violent foaming).

TYPICAL SLURRY FORMULA

Material	Weight	Volume
Key #9800 PUMMA	8.4 lbs/gal	1.0 gallon
Key Self Leveling Filler	15-22 lbs	1-1.5 gallons
Key 9000 MMA Hardener	Follow Chart	Follow Chart
Pigment Pack	N/A	6.4 vol. oz.

INSTALLATION

Add hardener to the clear resin and blend; add filler and pigment (if used) and mix thoroughly with jiffy mixer. Blend for 1-2 minutes until no lumps are present. Apply mix to the primed surface using a gauge rake or notched trowel. Refer to the appropriate formula chart depending on intended use.

The fresh slurry coat must be broadcast to excess with a wearing course of aggregate when installed as a single coat slurry system. When installing two coats of **KEY #9800 MMA**, it is optional to apply the first slurry coat "neat" or lightly broadcast, the second coat is broadcast to excess. It may also be recommended to use veil or scrim cloth reinforcement between the two layers for certain applications, consult with **Key Resin Technical Service**. Aggregate broadcast rates will vary from 0.25-1.0 lbs/ft² depending on type and size of aggregate, mix design, and thickness of slurry. It is recommended to broadcast 30 mesh aggregate or larger. Do not use broadcast aggregate smaller than 30 mesh or the risk of random cure problems increases. Aggregate may be natural or colored quartz, sand, aluminum oxide, emery, etc.

HELPFUL HINTS

Good ventilation during the application process ensures adequate cross linking and hardening. Read, understand and follow Safety Data Sheets (SDS) 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 and possible roller marks, etc.

TECHNICAL DATA

Viscosity @ 75°F	600-800 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	20-25 minutes, will vary with temp. & amount of Hardener
Recoat Time	45-75 minutes, will vary with temp. & amount of Hardener
Weight/gal	8.4 lbs/gal

PHYSICAL PROPERTIES

Elongation at Break	ASTM D638	200%
Tensile Strength	ASTM D638	135 psi

AVAILABILITY

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

STORAGE

Store **KEY #9800** 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 into new containers to inspect resin before use.

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.

MAINTENANCE

KEY #9800 MMA is a basecoat resin used with various **Key MMA Systems**, refer to the specific system technical data sheet or sealer product information sheet for recommended maintenance instructions, or **Key Resin Technical Bulletin #3** and **#3-A**.

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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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