

# KEY #9430 FLEXIBLE PUMMA

## Product Information Sheet

### DESCRIPTION

**KEY #9430 FLEXIBLE PUMMA** is a high viscosity, 100% reactive flexible polyurethane methyl methacrylate resin used to fill expansion joints and as a crack isolation and waterproofing membrane under various **Key MMA Systems**. **KEY #9430 PUMMA** maintains flexibility in sub-freezing temperatures and resists cracking caused by horizontal substrate movement providing a crack resistant, resilient surface. **KEY #9430 PUMMA** offers stress relieving properties for floor slabs showing movement and/or vibration. The high elongation of **KEY #9430 PUMMA** makes it suitable for filling both exposed expansion joints and contraction joints.

### KEY ADVANTAGES

- Flexible enough for expansion joint filler
- Crack resistant flexibility in sub-freezing temperatures
- Reduces noise created by mechanical vibrations
- May be applied as basecoat membrane in thickness of 1/32"(30 mils)–1/8"
- Meets USGBC LEED criteria for low VOC
- Full cure in less than 60 minutes
- May be blended with **KEY #9332** to create **KEY #9800 PUMMA**—consult with **Key Resin**
- May be blended with **KEY #9418**—consult with **Key Resin**

### KEY CONSIDERATIONS

- Concrete must be dry and free of dirt, waxes, curing agents and other foreign materials
- When used as joint filler, lightly sprinkle sand onto surface to eliminate slight tackiness
- 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 #9430** 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 polyurethane methyl methacrylate resin.

### COVERAGE

**KEY #9430** yield varies by use. For use as a joint filler: Refer to slurry formula chart, one gallon slurry yields 231 in<sup>3</sup>, which will fill a joint with dimensions of ½ inch x ½ inch x 77 lineal feet. For use as a membrane: Apply 'neat' at 40-50 ft<sup>2</sup>/gallon to yield 30-40 mils. To apply >40 mils refer to slurry formula chart and consult with **Key Resin Technical Service**.

### 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 #9430 FLEXIBLE PUMMA** should be mixed with 15% (by volume) **Key Self-Leveling Filler** powder when used as a joint filler, and requires the addition of **KEY #9000 MMA HARDENER** to start the hardening process. When used as a membrane basecoat, **KEY #9430 PUMMA** may be applied 'neat' for thickness of 30-40 mils, for greater thickness mix with 20% (by volume) filler powder 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 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.

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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 vol. oz.	~20	~60
+70°F	4 vol. oz.	~20	~45
+80°F - 90°F	2 vol. oz.	~25	~50

\*Hardening times shown apply to spreading **KEY #9430** as a membrane in a thin layer. Hardening time will be reduced when filling a joint due to exothermic reaction, and will vary depending on the width and depth of the joint. If the resin bubbles due to excessive exothermic reaction, reduce **KEY #9000 MMA HARDENER** on subsequent mixes.

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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 #9430 PUMMA	8.4 lbs/gal	1.0 gallon
Key Self Leveling Filler	3-4 lbs	1.5-2.0 pints
Key 9000 MMA Hardener	Follow Chart	Follow Chart
Pigment Pack	N/A	6.4 vol. oz.
Yield: ~1.1 gallons slurry		

### INSTALLATION

Add hardener to the clear resin and blend; add pigment pack and self-leveling filler(if used) and mix thoroughly with jiffy mixer. Blend for 1-2 minutes until pigment is thoroughly mixed and no lumps from filler/sand are present. For joint filling, transfer mixed resin to a pourable container or caulk gun. One gallon of **KEY #9430** will yield 231 cubic inches, or fill a joint with dimensions of ½ inch x ½ inch x 77 lineal feet. Closed cell backer rod should be used to support bottom of **KEY #9430** joint filler.

For use as membrane basecoat, apply mix to the primed surface using a gauge rake or notched trowel. **KEY #9430** must be overlaid with **KEY #9332 Flexible Membrane** and suitable sealer as required for the intended service conditions. Consult with **Key Resin Technical Service** for details.

### 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 DATA

Percent Reactive	100%
Volatile Organic Content (VOC) (EPA Method 24)	23 g/L, compliant to low VOC Rule 1113 in all 50 states
Weight/gal	8.3 lbs/gal
Viscosity @ 75°F	630-940 cps

### CURE/DRY TIME

Working Life	20-25 minutes
Recoat	45-75 minutes

### PHYSICAL PROPERTIES

Elongation at Break	ASTM D638	235%
Tensile Strength	ASTM D638	250 psi

### 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 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).

### MAINTENANCE

**KEY #9430 PUMMA** 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**.

### STORAGE

Store **KEY #9430** 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.

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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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