



KEY #471 POLYASPARTIC COATING

DESCRIPTION

KEY #471 is a two component, ultra high solids, aliphatic polyaspartic polyurea designed to provide high gloss, UV stable (non-yellowing), high temperature resistance and chemical resistant protection. **KEY #471** is a superior, new generation product exhibiting fast cure time and excellent stain resistance. **KEY #471** has very low odor and can be applied indoors in occupied areas. **KEY #471** is generally used as a clear or pigmented high gloss finish on Key Resin decorative and industrial flooring systems such as Key Chip Systems, Key Quartz Systems, Key Luster Metallic, Key Epoxy Terrazzo, Key Mortar Systems, Key High-Build Coating Systems, and Key Urecon Systems.

KEY ADVANTAGES

- VOC compliant in all states
- Fast set time (recoat in 6 hours)
- Excellent UV resistance
- High gloss
- High temperature resistance to 300°F
- Excellent abrasion resistance
- Chemical & stain resistance
- Low odor for use in occupied areas
- Meets USDA standards
- Contributes towards USGBC LEED credits

KEY CONSIDERATIONS

- Substrate temperature must be a minimum of 35°F
- Substrate must be free of dirt, waxes, curing agents and other foreign materials
- Do not apply over damp or wet substrates
- Avoid applications on surfaces with active moisture vapor transmission unless treatment is used
- 15 minute working time; relative humidity levels higher than 50% RH will further decrease working time
- May be thinned up to 10% with MEK, ethyl acetate, or Oxsol
- Refer to detailed mixing and installation instructions document

COMPOSITION

Two Component, Catalyzed Polyaspartic Polymer

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.

INSTALLATION

Important: Refer to detailed mixing and installation instructions document. **KEY #471** is a two component material (2 parts A to 1 part B by Volume). Add Part B to Part A while mixing, using a slow speed mechanical mixer (Jiffy mixer). Mix until a homogeneous mixture is obtained (approximately 3 minutes). Use care to scrape sides and bottom of container to ensure that no unmixed material remains. Do not whip too much air into the material which may result in pinholes or blisters. Do not mix more material than can be **IMMEDIATELY POURED OUT** and used in 15 minutes at 50% RH (working time will be reduced at higher humidity levels). **KEY #471** will begin to increase in viscosity immediately after mixing and will double in viscosity within 15-20 minutes. Material should be in place at this point.

After mixing, immediately pour material on floor in a ribbon and spread with a flat trowel or notched squeegee depending on thickness of application. **DO NOT** use “dip and roll” method, as **KEY #471** will have a very short working time if left in the mix pail. Note: For “dip and roll” method use **KEY #470**. Typical application is 6-12 mils (125-250 ft²/gallon). Immediately backroll spread material gently with a short nap roller. Do not over roll and entrap air. Total application time should take no longer than 15 minutes, *including roll-in time of the subsequent batch*. **Important note** when using **KEY #471 Clear** to grout colored quartz or chips (flake): As the material is spread across the surface, maintain a substantial ribbon of material on the leading edges of your batch, and pour subsequent batch into the ribbon. Failure to do this may result in visible knit lines. Up to 10% solvent (MEK, ethyl acetate, Oxsol 100) may be added at time of mixing to slightly lower viscosity and lengthen pot life.

KEY #471 will be tack-free in 5-6 hours at 75°F and 50% relative humidity. Allow resin to cure tack-free if applying more than one coat. Light pedestrian traffic is possible after 8 hours, 12-14 hours for wheeled carts or cleaning with liquids, 24-48 hours for vehicle traffic. In general, thicker applications will require longer cure time before exposing to heavy traffic. **KEY #471** is highly stain resistant and hot tire resistant after 48 hours.

CLEAN-UP

Clean skin with soap and water. Tools and equipment should be cleaned with MEK, xylene, or lacquer thinner.

COVERAGE

KEY #471 is typically spread at 125-250 ft²/gallon to yield 6-12 mils. Up to 15 mils is possible in one application but will exhibit a longer cure time to develop full hardness required for heavy traffic. Do not exceed 15 mils or micro-bubbles may form, resulting in a white haze.

COLOR

KEY #471 is available in Clear only, and may be tinted on the jobsite using **Key Polyaspartic Pigment Packs** available in Key Standard Colors or approved custom colors with minimum quantity requirements and increased cost.

TECHNICAL DATA

Viscosity @ 75°F	300-500 cps
Mixing Ratio	2 Parts A to 1 Part B by Volume
Solids Content	95-97% by Volume
Volatile Organic Content	Less than 50 g/L
Weight per gallon	8.77 lbs

CURE/DRY TIME

Working time (poured out) 75°F, 50% RH	15-18 minutes
Dry to Touch 75°F, 50% RH	5-6 hours
Re-Coat, Minimum	6 hours
Re-Coat, Maximum* (*Sanding required if exceeded)	16 hours
Light Foot Traffic	12 hours
Heavy Traffic* (*Varies by thickness, type of traffic)	24-48 hours

TYPICAL PHYSICAL PROPERTIES

Hardness - Shore D ASTM-D-2240	24 hours	25-30
	48 hours	55-60
	5 days	65
Tensile Strength (psi) ASTM-D-412		3,000-4,000
Elongation (%) ASTM-D-412		25 max
Abrasion Resistance ASTM D-4060 (CS-17 Wheel)		40 mg

CHEMICAL RESISTANCE

REAGENT	RATING	REAGENT	RATING
Acetic Acid-10%, 30%	L	Iodine*	L
Acetone	L	Isopropanol	R
Ammonia Hydroxide-38%	R	Lactic Acid-15%*	R
Beer	R	Lactic Acid-50%*	R
Betadine*	R	Methyl Ethyl Ketone	L
Bleach-10% *	L	Nitric Acid-10%*	L
Citric Acid-30%, 40%	R, L	Phosphoric Acid-85%	L
Crude Oil	R	Skydrol	R
Diesel Fuel	R	Sodium Hydroxide-50%	R
Ethanol	L	Spor-Klenz (concentrate)*	L-1 hour
Ethyl Acetate	L	Spor-Klenz (diluted)	L-4 hours
Ethylene Glycol	R	Sulfuric Acid-20%	R
Fatty Acids	R	Toluene	L
Gasoline	R	Urea	R
Hydrochloric Acid-10%	R	Vinegar*	L
Hydrogen Peroxide-30%	L	Xylene	L

R - Recommended for continuous exposure to spills.

L - Limited recommendation for 8 hours or less exposure, requires more frequent cleanup, occasional spills only.

* - May cause slight stain or discoloration.

AVAILABILITY

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

MAINTENANCE

After completing the application of **KEY #471**, the installer should provide the owner with maintenance instructions. **KEY #471** is easily cleaned with neutral soaps or detergents. Refer to Key Resin Technical Bulletins #3 and #3-A for additional recommendations.

STORAGE/INVENTORY OF OPENED UNITS

Store material indoors in an environmentally controlled space, out of direct sunlight. Shelf life is 12 months in the original unopened containers. **Important note:** Opened units absorb moisture from the air, causing material to become more reactive over time with a reduced working time. This may also cause a darkening of the resin, which will affect the appearance of clear and pigmented resin when used at a future time. It is recommended to keep inventory of previously opened split units to a minimum. Inspect stored split units before use, if darkened material is observed, use only for a pigmented undercoat or as a binder resin for a full broadcast system using aggregate or colored chips (flake).

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 Sales/Technical Representatives** are available to assist you. Telephone 888.943.4532 or visit www.keyresin.com.

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.**