

# KEY #451 URETHANE SEALER

## Product Data Sheet



## DESCRIPTION

**KEY #451** is a two component, chemical resistant, aliphatic (non-yellowing) industrial maintenance polyurethane sealer. The high gloss finish offers abrasion resistance, chemical and stain resistance, and superior color retention. **KEY #451** can be used equally well on vertical or horizontal surfaces. It is ideal for concrete floors and walls in warehouses, storage facilities, aircraft hangars, animal housing, vehicle maintenance facilities, and numerous other uses. **KEY #451** is available in both clear and pigmented formulations. **KEY #451** can be used as a finish coating option for most **Key Resin Systems**.

## KEY ADVANTAGES

- Chemical and stain resistant—refer to chart p.2
- Abrasion and mar resistant
- Suitable for both exterior/interior, horizontal/vertical use
- Excellent industrial maintenance coating
- Hot tire pickup resistant
- Meets VOC regulations in all 50 states and SCAQMD

## KEY CONSIDERATIONS

- Application rate must be no thicker than 350 ft<sup>2</sup> per gallon, thicker films will show bubbling in the cured film or have improper cure development
- **Note: Noticeable orange peel texture will develop if rolled too late in the working time**
- Sensitive to air moisture during application/curing, air relative humidity should not exceed 85% RH
- VOC content is 100 g/L, compliant in all 50 states and SCAQMD as Industrial Maintenance Coating
- Substrate temperature must be a minimum of 55°F
- Substrate must be properly prepared and free of dirt, waxes, curing agents, and other foreign materials
- Note: Certain types of rubber tires may cause staining, Key Resin does not provide a warranty against staining

## COLOR SELECTION

**KEY #451** is available in Clear Gloss and the following factory tinted colors: Light Grey 100, Dark Grey 170. Additional standard colors are available as special order and require a minimum order quantity of 40 gallons—contact Key Resin for details. Confirm color selection with samples. Clear may be tinted with Standard Color **Key UPP Urethane Pigment Packs** or **Key UNVCP\* pigment packs**. **\*Note: UNVCP pigments will create a noticeable orange peel texture. DO NOT use UNVCP 850 Traffic Yellow or 950 Traffic Red.**

## CURE/DRY TIME (RH% will affect cure time)

Pot Life (in mix pail)	45 mins @ 75°F, 50% RH
Recoat (min. - max.) (Verify hardness before walking on 451)	12-24 hours @ 75°F, 50% RH
Light Foot Traffic Service (Verify hardness before service)	36 hours @ 75°F, 50% RH
Wheeled Traffic Service (Verify hardness before service)	96 hours @ 75°F, 50% RH
Full Chemical Cure (Verify hardness before power scrub cleaning)	7-8 days @ 75°F, 50% RH

## APPLICATION

### MIXING INSTRUCTIONS

**Important: Thoroughly mix each Part A and Part B component prior to combining or splitting into smaller mixes.** Mix one (1) part by volume of Part A (Resin) with one (1) part by volume of Part B (Hardener) for three minutes very thoroughly with a medium speed electric drill and jiffy mixer. It is optional to add 5%–10% **KEY SU-93** solvent thinner, PM Acetate or other approved solvent.

**Tinting Clear with Pigment Pack:** Add Key UPP pigment AFTER first mixing Part A and Part B for a minimum of two minutes. After adding pigment, mix for additional one minute.

**Key UPP Pigment Pack mix ratio:** One (1) Pint UPP per two (2) mixed gallons Key 451 Part A and Part B.

**Exception:** White requires two (2) pints UPP per two (2) mixed gallons for adequate hiding power.

**Key UNVCP Pigment Pack mix ratio:** One (1) Can per two (2) mixed gallons Key 451 Part A and Part B. Be aware UNVCP will create a noticeable orange peel texture. **DO NOT use UNVCP 850 Traffic Yellow or 950 Traffic Red.**

### INSTALLATION

**KEY #451** is typically spread with a squeegee and back-rolled, or applied from a paint pan using dip & roll method, or spray applied with an airless unit. Use a 1/4"-3/8" nap phenolic core roller at a spread rate of 400-500 ft<sup>2</sup> per gallon to achieve 2.5-3.0 mils dry film thickness. Thicker application may result in bubbling in the cured film or improper cure development. Keep a wet edge at all times, always roll in the same direction—do not over roll. Rolling too late in the working time will create a noticeable orange peel texture. Use with adequate ventilation. Application in a small closed room requires negative air movement to remove solvent fumes and allow for proper curing.

**Recoating:** Verify hardness of **KEY #451** before recoating when wearing spike shoes, test an inconspicuous area.

For complete installation instructions, contact **Key Resin Technical Service**.

### CLEAN UP

Clean skin with soap and water. Tools and equipment should be cleaned with xylene or lacquer thinner. Consult Safety Data Sheet (SDS) for safety and health precautions.

## COVERAGE

**KEY #451** will yield approximately 2.5-3.0 mils dry when spread at 400-500 ft<sup>2</sup> per gallon. Coverage varies by type of system.

## COMPOSITION

Chemical resistant aliphatic polyurethane.

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## TECHNICAL DATA

Viscosity	Clear: 300 cps Pigmented: 600 cps
Mixing Ratio 2 gallon and 10 gallon units	1 Part A to 1 Part B by Volume
Solids Content, By Volume	75% ave. (clear and tinted)
Volatile Organic Content (VOC) EPA Method 24	100 g/L Industrial Maintenance Coating

## PHYSICAL PROPERTIES

Gloss, 60°- Clear	ASTM C794	Gloss Finish
Heat Resistance (dry)		140°F Continuous 200°F Intermittent
Impact Resistance	ASTM D2794	Direct, 160 in. lbs. Reverse, 160 in. lbs.
Sunlight Resistance		Non-yellowing
Abrasion Resistance	ASTM D4060 CS-17 Wheel, 1000 cycles	30 mg. loss, average

## 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.

## MAINTENANCE

After completing the application of **KEY #451**, the installer should provide the owner with maintenance instructions. **KEY #451** is easily cleaned with neutral soaps or detergents. **Important:** Verify adequate cure hardness before power scrub cleaning, use soft white nylon brush heads, test cleaning procedure in an inconspicuous area. Refer to **Key Resin Technical Bulletin #3** and **#3A** for additional recommendations.

## 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](http://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.

## CHEMICAL RESISTANCE

REAGENT	RATING
Acetic Acid - 5%	L
Acetone	L
Betadine	L*
Beer	R
Bleach - 10%	L*
Citric Acid - 10%	R
Citric Acid - 40%	L
Crude Oil	R
Diesel Fuel	R
Ethylene Glycol	R
Fatty Acids	L
Gasoline	R
Hydrochloric Acid - 10%	R
Hydrochloric Acid - 37%	L
Iodine	L*
JP-8 Jet Fuel	R
Lactic Acid - 10%	L*
Methyl Ethyl Ketone	L
Motor Oil	R
Nitric Acid - 10%	L*
Skydrol	R
Sodium Hydroxide - 50%	R
Spor-Klenz (Concentrate)	L* - 1 hour
Spor-Klenz (Diluted)	L* - 8 hours
Sulfuric Acid - 20%	L*
Toluene	R
Urea	R
Vinegar	L*
Xylene	R

R - Recommended for splash/spill service with daily cleanup.

L - Limited recommendation for 8 hours or less exposure time, requires more frequent cleanup, occasional spills only. Bleach or acids allowed to evaporate/concentrate repeatedly will cause stains.

\*May cause slight stain or discoloration depending on exposure time. Increase in exposure time increases the concentration and reactivity of the reagent.

Refer to Key Resin Chemical Resistance Guide for further information.

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