



Installation Instructions

KEY URECON SLT-HP

I. GENERAL INFORMATION

URECON SLT-HP is a three or four component, self-leveling, urethane-modified cementitious topping broadcast with silica or quartz aggregate and designed to protect concrete substrates from chemical corrosion, abrasion, impact and thermal shock. Urecon SLT-HP requires a pigmented chemical resistant epoxy, urethane or polyaspartic sealer depending on project specifications.

II. SURFACE PREPARATION

Surface Preparation is the most critical portion of any successful resinous flooring system application. All substrates must be properly prepared to a minimum surface profile of CSP-3 (www.icri.org) as outlined in **KEY RESIN COMPANY'S TECHNICAL BULLETIN #1**. Specific attention should be paid to the following:

- A. Concrete Placement
- B. Curing and Finishing Techniques of the concrete substrate
- C. Age of Concrete
- D. Previous Contamination of the substrate
- E. Present Condition of the Substrate

Also, the temperature and humidity conditions of the area to receive the flooring system should be checked. An optimum room temperature of 75°F with a minimum slab temperature of 60°F is recommended for proper cure of the resin flooring system. System may be installed with integral cove base.

III. SPECIAL CONDITIONS

Do not apply in temperatures below 45°F, above 85°F, or if relative humidity is above 85%. Do not apply to sand-cement screeds (tile setting bed mortars), asphaltic substrates, glazed tile or brick (unless glaze is mechanically abraded), copper, aluminum, softwood, or existing coatings of epoxy, polyester, or urethane. Do not apply to wet concrete or to polymer modified concrete with moisture content above 10%. Do not apply to concrete if air temperature is within 5°F of dew point. Do not featheredge application or mix material by hand.

IV. MATERIAL QUANTITIES

A. Guideline System Requirements for 1000 ft²

Key Urecon SLT-HP (3/16"-1/4")	Qty./ 1000 ft²
1. Key Urecon SC Primer/Sealer (neutral color)--optional	8-10 kits
2. Key Urecon SL (neutral color or pigmented)	30-33 kits
3. Key Broadcast Sand or Colored Quartz Granules	300-400 pounds

4. Key #625* Chemical Resistant Epoxy	10-12 gallons
4A. Key #470** Polyaspartic	10-12 gallons
4B. Key Urecon SC Primer/Sealer**	10-12 units
5. Key #450 Urethane (if specified)	3-4 gallons
5A. Key #467 Urethane (if specified)	2 gallons

Optional Non-Slip Additives for additional texture:

6. Aluminum Oxide (24 or 80 mesh, white)	50 pounds
6A. Non-Skid Additive (20/30 mesh or 80/100 mesh)	1 gallon

*Note: Key #625 or Key #625-OP may be used at installer's discretion.

**Note: Key #470 Polyaspartic and Key Urecon SC are optional substitutions for Key #625 Epoxy, contact Key Resin for detailed mixing and application instructions.

V. INSTALLATION

Mechanical mixing is required. A ten-gallon KOL Mixal and paddle is recommended or a ¾ horsepower drill and "jiffy" or helical mixer may also be used with a 6 gallon pail.

1. Mixing Key Urecon SL.
 - a. Add Part I and Part II to mixer and blend for 30 seconds. *Important:* Do not overmix or working time will be significantly reduced.
 - b. Add Part III slowly to the mix (while mixer is running) and allow to blend for 1-2 minutes. Only mix as long as needed to completely "wet-out" aggregate or working time will be significantly reduced. Be sure to "wet-out" all parts of mix, scraping sides and bottom of mixer during mixing. All powder must be uniformly blended with no visible lumps of dry powder. Mixing bucket and mixer or blades should be scraped out thoroughly and cleaned with solvent (acetone, MEK or xylene) every few batches or working time on subsequent batches will be shortened. If mixing in a plastic bucket, dispose of bucket after every 2 mixes and replace with a clean bucket for this reason. *Important:* Do not overmix or working time will be significantly reduced.

Set up mixing station as near to the work area as possible. Exothermic heat will be generated and flash setting may occur if material remains in the pail too long. Do not mix more than can be used in 10 minutes.

2. Application of Key Urecon SL and aggregate broadcast.

(Note: If using optional Urecon SC Primer, contact Key Resin Tech Service for instructions)

 - a. Place mixture on floor and spread with a gauged straight edge (gauge rake set 3/16" to 1/4", slightly higher than desired thickness) or flat trowel. Leave a "wet line" or puddle of material between batches to avoid "knit-lines" in the finished system. Grind out any ridges or lumps that form where material from adjacent batches may overlap after the broadcast application has cured, prior to starting topcoat procedure. Maximum working life is 15 minutes at 70 degrees F, less than 10 minutes at 80+ degrees F. To extend the working life 5 minutes, add 5% xylene or MEK to the urethane resin during mixing, prior to adding the powder. Cooling the resin components prior to use is a more effective method in very warm temperatures. If pigment pack is to be used, add to urethane resin during mixing.
 - b. Back-roll the surface lightly with a loop roller while material is still wet. To minimize marks in the finished system, the contractor should wear "spiked" shoes while walking on wet material. Keep roller cleaned with isopropyl alcohol.
 - c. Broadcast silica sand or quartz granules into the wet floor system until the surface of the system appears dry. Be careful not to clump the material or produce high spots. Approximately 3-4 pounds of sand will be needed for 10 ft² of flooring. Allow to cure minimum 8 hours. Sweep and vacuum excess granules, spot sand or grind to reduce any significant uneven areas.

3. Application of grout and seal coats.

The grouting and sealing of a floor should be performed over the entire area receiving the system. The applicator should complete the broadcast portion of the application prior to grouting and sealing. The coverage rate and number of the applied grout and seal coats dictate the final texture of the floor. Higher coverage rates will yield rougher textures. Coverage rates outlined will yield a medium texture.

Grouting with Key 625

Note: For other optional resins (Key 470, Key Urecon SC, Key 630) consult with Key Resin Tech Service.

- a. Mix Key 625 at 2:1 mix ratio.
- b. Spread the Key 625 at a rate of approximately 80-100 ft² per gallon over the rough sand surface using a flat trowel or squeegee tightly over the surface. A flat trowel will achieve a more consistent thickness at 80 ft² per gallon coverage rate. Handheld window squeegees also work well.
- c. Lightly back-roll the material with a short nap roller to help spread the material and eliminate trowel marks.
- d. Allow material to cure at least 12 hours (regular cure hardener) if applying optional seal coat. Quicker cure time is possible with fast cure or cold cure hardener. If applying grout coat with no seal coat: Allow material to cure at least 24 hours (regular cure hardener) at 70 degrees F. for light foot traffic. Using cold cure hardener allows for light foot traffic in 6 hours at 75 degrees. Full chemical cure and maximum resistance are achieved in seven (7) days. Do not clean floor with water for a minimum of 3 days (longer in cooler temperatures) to avoid water spotting. If floor must be cleaned with water sooner, consult with Key Resin Technical Service.

Seal Coat with Key 625 (optional)

Note: For other optional sealers (Key 470, Key Urecon SC, Key 630, Key 450, Key 467, etc.) consult with Key Resin Tech Service.

- a. Mix Key 625 as described in the section above. While mixing, it is optional to add 80 mesh white aluminum oxide granules and/or Key Non-Skid Additive (80/100 fine mesh or 20/30 mesh) to epoxy as recommended to achieve desired finish texture. If mixed batch is not poured out immediately, briefly remix material to keep granules from settling to bottom of mix container. *Alternate procedure:* Apply Key 625 without adding grit as outlined below, lightly sprinkle 24 mesh white aluminum oxide granules or Key Non-Skid Additive (20/30 coarse mesh) into the applied epoxy and backroll or let granules drop into resin without backrolling. Do this sparingly in the traffic areas, avoid clumping of the granules.
- b. Spread the Key 625 at a rate of approximately 100-160 ft² per gallon using a flat trowel or squeegee, depending on desired finish texture.
- c. Lightly back-roll the material with a short nap roller to help spread the material and eliminate trowel marks.
- d. Allow material to cure at least 24 hours (regular cure hardener) at 70 degrees F. for light foot traffic. Using cold cure hardener allows for recoating or light foot traffic in 4-6 hours at 75 degrees. Full chemical cure and maximum resistance are achieved in seven (7) days. Do not clean floor with water for a minimum of 3 days (longer in cooler temperatures) to avoid water spotting. If floor must be cleaned with water sooner, consult with Key Resin Technical Service.

Terminations, Crack Repair, Joint Treatments

- a. All free edges (perimeters, terminations adjoining cove base or control/expansion joints, or along gutters or drains) should ideally be "keyed in" to provide extra anchor to distribute mechanical and thermal stresses. This is optional depending on the application, exposure to severe thermal shock, heavy loads, etc. but is very important around drains or adjoining other floor finishes. This can be achieved using a chipping hammer or saw.
- b. All expansion joints must be exposed through the system. Control joints (sawcuts) and cold joints should also ideally be exposed through the Urecon system but may be overlaid if the facility owner accepts that future telegraphing cracks may develop if expansion/contraction movement occurs in the substrate joint. To overlay a control joint, fill with rigid epoxy (e.g., Key Crack Filler #715), Urecon SL or Urecon SC. Follow with 12" wide fiberglass cloth reinforcement, using Urecon SC to imbed cloth. Consult with Key Resin Technical Services on the use of flexible joint fillers and flexible epoxy crack isolation membrane as a surface treatment over filled control joints and cold joints. Do not overlay expansion/isolation joints.
- c. Cracks: Route cracks larger than 1/16" and fill with rigid epoxy (e.g., Key Crack Filler #715 SFC), or Urecon SC and reinforce with minimum 12" wide fiberglass cloth. Consult with Key Resin Technical Services on use of flexible epoxy crack isolation membrane as a surface treatment over filled cracks.