



Installation Instructions

Key Mortar SL & SLT

I. GENERAL INFORMATION

KEY MORTAR SL & SLT consist of 100% solids epoxy and aggregates to produce a fluid, self-leveling mixture that can be spread with a V-notched squeegee or trowel. When sealed, **KEY MORTAR SL & SLT** produce a dense, skid-inhibiting surface that eliminates dirt and chemical penetration. The chemical resistance and overall performance of **KEY MORTAR SL** and **SLT** can be increased by using different Urethane and Epoxy finish coats; consult subsequent installation instructions concerning specific requirements.

II. 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 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
- F. Moisture Vapor Emission Rate and/or Moisture Content of 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 50°F is required for proper cure of the resin flooring system. Storage of materials prior to installation: All material components must be stored indoors in a dry, climate controlled environment at temperatures between 50°F and 75°F to ensure materials have the proper consistency, shelf life and cure to factory specified properties when mixed and applied as outlined below.

III. MATERIAL QUANTITIES

A. Guideline System Requirements for 1000 ft²

<i>Key Mortar SL (Self Leveling Flooring System 1/16")</i>	<i>Qty./ 1000 ft²</i>
1. Key #502 100% Solids Epoxy Primer	4 gallons
2. Key #510 Epoxy Binder	22 gallons
3. Self-leveling Filler	425 pounds
4. Key #520 100% Solids Epoxy Coating	8-10 gallons
or Key #450 Urethane Topcoat	3-4 gallons

<i>Key Mortar SLT (Self Leveling/Broadcast System 1/8")</i>	<i>Qty./ 1000 ft²</i>
1. Key #502 100% Solids Epoxy Primer	4 gallons
2. Key #510 Epoxy Binder	22 gallons
3. Self-leveling Filler	425 pounds
4. Broadcast Sand (30 mesh sand)	500 pounds
5. Key #520 100% Solids Epoxy Coating	10-12 gallons*
6. Key #450 Urethane Topcoat (optional depending on project specifications)	3-4 gallons*

*Note: Coverage rates, number of topcoats and specific products to use should be as specified for your particular project or to match the approved sample or mockup. Consult with Key Resin on substitute materials to consider.

B. Recommended Batch Quantities

- 1.25 gallon unit Key #510
- 25 pounds Key Self-leveling Filler

Estimated Batch Coverage: 60 ft²

IV. INSTALLATION

A. Priming

Key Resin Company recommends that every flooring system be installed with a primer to insure maximum adhesion to the prepared substrate. Priming will also help to seal air in the concrete and prevent outgassing and air bubbling in the finished system. If moisture testing confirms that a moisture vapor control system is necessary, consult with Key Resin for recommendations.

- Mixing **Key #502 Low Modulus Epoxy Primer**
 - Stir each component prior to mixing.
 - Mix two (2) parts by volume of Part A (Base) with one (1) part by volume of Part B (Hardener) for three minutes with a low speed electric drill mixing paddle.
 - If thinning is desired, add no more than one pint of xylene per gallon of epoxy at time of mixing.
 - Do not mix more material than can be immediately poured out and spread/backrolled in 40 minutes. Do not leave mixed material in the pail for longer than 5-10 minutes or working time will be significantly reduced!***
- Application
 - Pour primer onto the prepared concrete.
 - Spread with either a flat trowel or squeegee to a coverage of 250 ft² per gallon.
 - Back roll with a short nap roller.
- Allow Primer to sit for 30 minutes. Trowelled slurry may be applied to wet primer for up to five (5) hours after primer application. If primer is to be allowed to sit overnight or for prolonged periods, broadcast lightly with dry silica sand.

B. Self-Leveling Floor

- Mixing **Key #510 Epoxy Binder & Filler**
 - Stir each component prior to mixing.
 - Mix four (4) parts by volume of Part A (Base) with one (1) part by volume of Part B (Hardener) for three minutes with a low speed electric drill mixing paddle.
 - Continue mixing while slowly adding Key Self-leveling Filler to the premixed Key #510.
 - Continue mixing resin/filler for 3 to 4 minutes or until material is blended to a uniform consistency. The mix has the appearance of "pancake batter."

- e. ***Do not mix more material than can be immediately poured out and spread/backrolled in 40 minutes. Do not leave mixed material in the pail for longer than 5-10 minutes or working time will be significantly reduced!***

2. Application

- a. Place mixture on primed surface and spread with 1/4" V-notched trowel, 1/4" V-notched metal rake, or 1/16" gauge rake pulling the material toward you in a "figure-8" pattern. Leave a "wet line" or puddle of material between batches to avoid "knit-lines" in the finished system.
- b. Back-roll system with a spiny roller or loop roller while material is still wet to help reduce entrained air that may cause pinholes to form. To minimize marks in finished system, the contractor should wear "spiked" shoes while walking on wet material.
- c. Allow the material to level for approximately 10 to 15 minutes. If surface or room temperatures are below 70°F, some of the self-leveling filler can be left out of the mix to improve fluidity of the mix. Slab and room temperature should be maintained at 70°F for best results.

Termination points at the end of the day should be made at doorways, expansion joints, etc. If it is not possible to terminate at these points, 2" masking tape should be placed in a straight line at the ending point. Carefully trowel the material up to and slightly over the inside edge of the tape. Allow material to cure for about thirty (30) minutes and remove the tape.

- 3. Broadcast to excess (**Only for Key Mortar SLT system**; if applying the Key Mortar SL system, proceed to the sealing portion of step **C. Grouting and Sealing**)
Broadcast 30-40 mesh silica sand 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 4 to 6 pounds of sand will be needed for 10 ft² of flooring. If terminating the system with tape as described in note above, broadcast sand up to the tape and remove after material cures thirty (30) minutes. ***Remember to only walk on the wet surface while wearing "spiked" shoes!!! Do not walk on floor after broadcasting.***
- 4. Allow the floor to cure overnight. Sweep excess sand with a stiff bristled broom or power vacuum. A light sanding or rubbing with a stone will aid in achieving a uniform "sanded" surface.

C. Grouting and Sealing

The grouting and sealing of a floor should be performed over the entire area receiving the system. The applicator should complete the self-leveling/broadcast portion of the application prior to grouting and sealing.

- 1. **Grouting** (coverage rate shown for **Key Mortar SLT** applications only.)

Using **Key #520 100% Solids Epoxy Coating**

- a. Mixing
 - i. Thoroughly mix each component prior to combining.
 - ii. Mix two (2) parts by volume of Part A (Resin) with one (1) part by volume of Part B (Hardener) for three minutes with a low speed electric drill mixing paddle.
 - iii. ***Do not mix more material than can be immediately poured out and spread/backrolled in 30-35 minutes. Do not leave mixed material in the pail for longer than 5-10 minutes or working time will be significantly reduced!***
- b. Application
 - i. Pour material onto floor in a line and spread with a flat squeegee or trowel to a coverage of 80-100 ft²/gallon, depending on desired finish texture.
 - ii. Back roll with a short nap roller to even the surface texture of the coating.
 - iii. Allow to cure 12-16 hours.
 - iv. A second topcoat may be required depending on desired finish texture.

2. Sealing (Optional depending on project requirements)

Using **Key #450 Urethane Topcoat**

- a. Mixing
 - i. Thoroughly mix each component prior to combining.
 - ii. Mix two (2) parts by volume of Part A (Resin) with one (1) part by volume of Part B (Hardener) for three minutes with a low speed electric drill mixing paddle. SU-93 Thinner and/or Accelerator may be used as necessary.
 - iii. ***Do not mix more material than can be used in 60 minutes. Do not leave mixed material in the pail for more than 45-60 minutes!***
- b. Application
 - i. Pour material onto floor in a line and spread with a flat squeegee to a coverage of 250-300 ft²/gallon. This will yield 3 to 4 mils dry film thickness.
 - ii. Slowly and immediately back roll with a short nap mohair roller to even the surface texture of the coating. Do not backroll excessively. If cross-rolling, do so immediately after first back rolling procedure, do not delay this step or micro bubbles or lap marks may result.
 - iii. Do not open to light traffic for 24 hours at 75 degrees F. Full chemical cure and maximum resistance are achieved in five (5) days.

D. Alternate Materials

The following alternate materials may be used (using the proper mixing and application procedures), depending on your particular project requirements or specifications:

- a. Primer
Key #532 Water Based Epoxy Primer, Key #535 Water Based Epoxy Primer, Key Epocon SL Moisture Vapor Control Underlayment.
- b. Finish
Key #445/#446 Water Based Urethanes, Key #467-HS Low Odor Urethane, Key #470 Polyaspartic are optional seal coats to eliminate the solvent odor of Key #450 Urethane. These sealers vary in performance and chemical resistance, consult with Key Resin for recommendations.