

Technical Bulletin #3-A Epoxy, Urethane, MMA, Terrazzo Floor & Wall Coating Maintenance Procedures Owners Instructions Prior to Initial Use

Refer to Key Resin Technical Bulletin #3 as a general guide to care and maintenance. Beyond that guide, Key Resin recommends that the procedures outlined below be considered. Bristled brushes used with cleaning equipment are available in various degrees of stiffness and may dull or leave scratches or swirl marks in the surface of the epoxy, MMA or urethane coating. Consult with the supplier of your cleaning equipment for specific recommendations on which brushes to use. When cleaning your new floor for the first time, test a small, isolated area to confirm that the brush bristles do not immediately dull the finish or leave swirl marks. It is recommended to start out by using the softest bristle available that will achieve the desired result. Foot traffic over an extended time may also dull the surface of epoxy, MMA and urethane coatings or leave scuff marks. Epoxy and MMA coatings, as compared to urethane finishes, will dull more quickly with wear and/or continued maintenance. If a high gloss maintenance finish is needed, we recommend a clear urethane topcoat. For epoxy terrazzo cleaning and maintenance refer to step 8 below.

In lieu of a urethane topcoat, a common procedure for maintaining an epoxy finish with a high gloss is to maintain the surface as you would a resilient tile floor, with a finish or wax you can buff. Refer to steps 5 & 6 below. Another common problem with any resinous coating is the removal of black heel marks or rubber tile marks. We have found that products such as Kent Automotive's "Speedy 500" or "Acrysol" (www.kent-automotive.com) do an excellent job of removing black marks with little or no effect to the surface appearance. We recommend this treatment as a method of removing hard to remove black marks. Refer to steps 2 & 3 below. Also consider placing a tennis ball on the end of a pole and using it to buff out black heel marks—this really works!

In summary, Key Resin Epoxy, Urethane and MMA Coatings are excellent floor coatings with high wear properties. As with any epoxy, urethane or MMA coating, they will dull with wear and/or maintenance. The high gloss can be maintained longer with a clear coat of urethane or with a polish or wax. The surface dulling is not a sign of wear as much as a natural dulling.

- 1) **DAILY CLEANING PROCEDURES**
 - a) Sweep epoxy/urethane/MMA floor with a fine broom or dust mop.
 - b) Remove all surface dirt and grit.
 - c) DO NOT use sweeping compound.

- 2) **LIGHTLY SOILED FLOOR CLEANING**
 - a) Damp mop floors with a neutral cleaner (STRIDE by SC Johnson, Simple Green, etc.), no soaps, crystallizing salts, alkali or acids.
 - b) Allow cleaner to stand several minutes to dissolve dirt – DO NOT allow to dry.
 - c) Hand scrub stains and/or scuff marks using a section of a buffing pad.
 - d) Pick up cleaning solution with mop head.
 - e) Final rinse with clean damp mop and clean water.

- 3) **HEAVILY SOILED FLOOR CLEANING – Example #1**
 - a) Scrub floors with a neutral cleaner (STRIDE by SC Johnson, or equal) and a rotary buffing machine (single disc rotary buffer with appropriate pad).

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- b) Allow cleaner to stand several minutes to dissolve dirt – DO NOT allow to dry.
 - c) Machine rinse to remove cleaning solution or use wet/dry vacuum.
 - d) Final rinse with a clean damp mop and clean water.
 - e) Oil or tar stains: If the above procedure is not effective, try a citrus based degreaser (Zep Industrial Citrus Cleaner) or commercial oil degreaser (Kent Acrysol, Kent Speedy 500, Simple Green, Tri-Sodium Phosphate-TSP, etc.).
 - f) Difficult stains on textured broadcast or troweled mortar floors: A light duty portable steam cleaner (available from Wal-Mart, Home Depot, etc.) will remove entrapped dirt. Caution is advised if using steam to clean a thin-film coating system. Avoid thermal shock which may cause cracking or loss of bond.
 - g) Oil or grease residue in kitchens and food processing areas: A slippery residue may build up if the floor is not consistently and thoroughly cleaned with a degreasing agent such as the products mentioned in section “e” above. Scrubbing with a stiff bristle deck brush may be necessary for heavy build up. Floors with aggressive non-slip texture may also become slippery from grease build up if not cleaned thoroughly.
- 3A) HEAVILY SOILED FLOOR CLEANING – Example #2
- a) Use a Butyl degreaser (Zep, Simple Green, etc.) diluted in hot water as recommended by the manufacturer. Wax strippers should never be used as a degreaser.
 - b) Apply to floor surface and let sit for 15 minutes.
 - c) Use a rotary floor buffer with 3M red model 5100 pads to agitate the surface. A deck brush with stiff bristles may also be used if you don't have a rotary floor buffer.
 - d) Remove the cleaning product from the floor with a soft neoprene squeegee. Do not use a mop.
 - e) Rinse the floor with clean warm or hot water and remove the water with a soft neoprene squeegee.
 - f) Areas that don't have a drain to squeegee the water into can utilize a wet/dry vacuum.
 - g) Oily or greasy spills should not be cleaned with a mop. Always follow the cleanup instructions on the MSDS for the spilled product.
 - h) All other spills should be cleaned up immediately to prevent staining and to reduce slipping hazards.
 - i) The floor surface should be protected when moving furniture or heavy equipment across it.
- 4) MISCELLANEOUS/UNUSUAL FLOOR CLEANING SITUATIONS
- a) Silicone contamination: DuBois Chemical's DuSqueeze, consult with JohnsonDiversey on specific instructions and suitability, 800-438-2647.
- 5) ADDITIONAL FLOOR DRESSING FOR HIGH GLOSS FINISH
- a) Apply one coat of acrylic water-based floor finish (VECTRA by JohnsonDiversey, orequal) over a CLEAN floor.
 - b) Apply additional coats at minimum 30-minute intervals to achieve desired sheen.
 - c) Allow floors to dry overnight (approximately 12-18 hours).
 - d) Buff using buffing machine with white pad at standard buffer speed.
- 6) REJUVENATION OF SHEEN – AS REQUIRED BY FLOOR WEAR CONDITIONS
- a) Dust mop or broom clean floor to remove all dirt and grit to be sure it is not buffed into the epoxy/urethane/MMA surface.
 - b) Lightly spray acrylic dressing rejuvenator over area to be treated (SNAPBACK by JohnsonDiversey, or equal). Fine mist only, do not overspray.
 - c) Buff with a single disc rotary buffing machine and white pad at standard buffer speed.
 - d) Wax Strippers: Typical wax strippers used on resilient flooring and hard surface

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flooring are suitable for use on Key Resin epoxy, urethane and MMA sealers and will not harm the finish when used as directed by the manufacturer, or as tested by Key Resin. Proper dilution rate must be followed, do not exceed recommended dwell time. If a maximum dwell time is not published, contact Key Resin to arrange testing.

Caution: Wax strippers that are allowed to dwell too long may attack the

Polymer resin finish. Key Resin can test any questionable products to confirm suitability. Recommended products: Zep Heavy Duty Floor Stripper (or equal), diluted 8:1, maximum dwell time 30 minutes.

- e) Caution: Do NOT use wax strippers as a cleaner directly on unwaxed polymer resin floors, as damage to the polymer resin may result.
- 7) FLOOR CLEANUP – NEW CONSTRUCTION
- a) Treat floors as described in Section 3 TW ICE PER WEEK for a period of 2 to 3 months after completion of construction and/or building occupancy.
- 8) EPOXY TERRAZZO – NEW CONSTRUCTION
- a) Refer to Key Resin Technical Bulletin #3.
 - b) Refer to Key Epoxy Terrazzo Maintenance Guidelines.
 - c) Refer to NTMA Terrazzo Care and Maintenance Guide.
 - d) For areas that have been completed through the grouting stage but are not polished and sealed until a later date: The epoxy grout will function as a protective layer so that other trades can work on the surface or pedestrian traffic can occur until the final polish and sealing. Application of a sealer or wax dressing to this surface with buffing is not required though it will not harm the terrazzo. Key Resin recommends only sweeping or damp mop cleaning as necessary to keep it clean.
 - e) For areas exposed to strong cleaning agents, sanitizers, or liquids that may cause stains (e.g., iodine, Betadine) typically found in hospitals, pharmaceutical manufacturing and laboratories, it is recommended to seal the terrazzo finish with a chemical and stain resistant sealer such as Key #467-HS Urethane or Key #470 Polyaspartic.
- 9) CONDUCTIVE AND ELECTRO-STATIC DISSIPATING FLOORS
- a) It is especially important to continually maintain conductive and electro-static dissipating flooring systems in a clean, film free condition. Accumulations of soil, dust, grease, and other contaminants will reduce the effectiveness of conductive/ESD flooring by creating a dielectric barrier on the floor surface.
 - b) When cleaning conductive/ESD floor coatings, always follow the cleaning process with a clear water rinse to remove cleaning chemical/detergent residue, which can inhibit electrical performance. Using hard water (high levels of dissolved minerals) may leave a residue that may reduce the performance of the conductive/ESD flooring system.
 - c) Periodic stripping of calcium/hard water mineral deposits or detergent residue may be required to maintain compliant electrical resistance characteristics. In such instances a chemical stripper, such as CLR, mixed at the lowest recommended concentration may be used, followed by a thorough rinsing with clean water.
 - d) Do not apply any acrylic finish, wax, polish, or other product that will impart a non-conductive film on floor surfaces. Do not use dust control sprays. Do not apply ESD wax or acrylic finishes. See that industrial processes do not leave a non-conductive film on the floor, i.e.: lacquers, paints, lubricants, silicones, etc.
- 10) WALL COATING SYSTEMS – NEW INSTALLATION, PERIODIC CLEANING
- a) Wall coating system should be fully cured before cleaning, refer to topcoat product data sheet.

- b) If the facility specifies a particular cleaning chemical or sanitizer, try the cleaning solution in a very small inconspicuous area to confirm that there is no change in gloss or color, then you can safely use that cleaning solution throughout the wall.
- c) If no cleaning product is specified, in general start with a mild detergent or a mild commercial cleaner and water solution for washing. Heavily soiled areas may require a stronger alkaline solution: one gallon of lukewarm water with a tablespoon of tri-sodium phosphate or two tablespoons ammonia. Be careful with the concentration or loss of gloss or discoloration may result. Rinse the wall with clean water to get rid of the cleaning solution.
- d) Specific Cleaning Products: Key Resin does not test cleaning products, evaluate any recommendations provided by established suppliers such as Simple Green (product: Crystal), Ecolab, etc. and test accordingly.

OWNER'S INSTRUCTIONS PRIOR TO INITIAL USE FOR NEW EPOXY / URETHANE / MMA FLOORING SYSTEM

11) MINIMUM CURE TIME BEFORE USE

- a) Depending on the specific epoxy or urethane resin topcoat used, in general keep light foot traffic off the floor a minimum of 24 hours (at 70°F+) after installation of final topcoat. **Important:** Confirm cure time with product data sheet. Keep vehicles or other heavy traffic (installation of equipment, fixtures, etc.) off new flooring system for a minimum of 72 hours (70°F+) after installation of final topcoat. Allow additional time if temperature is colder than 70°F. Key Urecon systems: without epoxy/urethane topcoat, full cure is achieved in 24 hours for vehicle traffic or exposure to chemicals (at 70°F+). MMA sealers cure completely in 1-2 hours and may be exposed to vehicle traffic at that time. Key #470 Polyaspartic: 4-6 hours for light foot traffic (at 70°F+), 18-24 hours for vehicle traffic depending on applied thickness of topcoat and specific formulation used.
Important: Failure to stay off the floor for the specified time period may result in damage to the floor system and void any warranty offered by Key Resin and/or the flooring contractor.
- b) Protection of flooring system from other trades: Brown craft paper works well for light traffic and does not pose a risk for entrapping moisture. For heavier traffic including Hyster lifts, use masonite or plywood with craft paper or plastic sheeting underneath. For a more durable substitute for plastic sheeting, consider proprietary reinforced sheet goods and mats that are readily available. Do not place Masonite directly on resin floor material or discoloration may occur. Be careful not to entrap moisture beneath the plastic or a white haze may form which can be difficult or impossible to remove, requiring a reapplication of a topcoat at the very least.
- c) Cleaning/Waxing: Keep water or any liquids off new flooring system for a minimum of 5 days (at 70°F+) after installation of final topcoat. Allow additional time if temperature is colder than 70°F. Prior to wet cleaning floor the first time, test small inconspicuous area for any adverse reaction (formation of water spots, milky haze, or loss of gloss). Urecon SLT and Urecon TG systems with no epoxy/urethane topcoat may be cleaned in 24 hours. MMA sealers cure completely in 1-2 hours and may be cleaned at that time. Key #470 Polyaspartic may be cleaned in 24 hours (at 70°F+). Delay waxing/buffing of epoxy or urethane topcoats for a minimum of 5 days (at 70°F+) to ensure final topcoat is fully cured and hard enough to withstand abrasion from high-speed buffers, otherwise loss of gloss may occur.
- d) Special note for facilities using bleach solutions or high-performance disinfectants: Bleach solutions that are not rinsed away soon after use may leave a permanent white haze or dulling

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of the finish. High performance disinfectants such as the type used in animal care facilities and pharmaceutical manufacturing may discolor the finish of various epoxy, MMA and urethane coatings.

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