

Land Science Technologies Specifications for Retro-Coat™ Version 1.0

Part 1 – Scope

1.1 Product and Application

This specification describes the application of the Retro-Coat™ System. The minimum thickness of the system is between 25-30 mils, including a 20 mil minimum application of Retro-Coat.

1.2 Acceptable Manufacturers

- A. Retro-Coat as manufactured by Land Science Technologies San Clemente, CA.

1.3 Performance Criteria

- A. Retro-Coat as manufactured by Land Science Technologies San Clemente, CA.
 - 1. Diffusion Coefficient (Columbia Labs)
PCE: 7.6×10^{-14} m²/s
TCE: 8.2×10^{-14} m²/s
 - 2. Tensile Elongation (ASTM D-638)
Minimum: 6000 psi
 - 3. Tensile Elongation (ASTM D-638)
Minimum: 6 %
 - 4. Flexural Strength (ASTM D-790)
Minimum: 7000 psi
 - 5. Hardness, Shore D (ASTM D-2240)
Maximum: 85
 - 6. Gardner Impact (ASTM D-2794)
Minimum: 80 inch-pounds
 - 7. Bond Strength to Quarry Tile
Minimum: 1000 psi
 - 8. Vapor Transmission Rate (ASTM E-96)
Maximum: .07 perms
 - 9. Water Absorption (ASTM D-570)
Maximum: .02% in 24 hours
 - 10. 60° Gloss
Minimum: 100.

1.4 Materials

- A. Retro-Coat "A" shall be a modified epoxy containing special flexibilizers and specially formulated resins for superior chemical resistance and enhanced resilience. No solvents are allowed.
- B. Retro-Coat "B" shall be customized blend of hardeners specifically formulated to maximize chemical resistance. No solvents are allowed.

1.5 Applicator

- A. Applicator must be a certified contractor of Land Science Technologies.

Part 2 – Application

2.1 Surface Preparation

- A. All existing surfaces that will be covered with the systems specified herein should be mechanically ground, shot blasted or sand blasted to yield a minimum 60 grit surface texture. All loosely adhered coatings will be removed. Any grease and other contaminants found on the concrete must also be removed.
- B. All open cracks 1/2" and greater should be v-notched to a 3/4" width by 1/2" depth and cleaned of any debris. Such cracks should be filled with Retro-Coat Gel and struck off flush with the surrounding surface.
- C. Cut back and/or remove any expansion joint backing or filler strips to a minimum of 1 1/2" deep. Insert disposable filler in the joints to prevent filling with the overlayment materials and to allow for accurate location of final saw cuts in the overlayment.

2.2 Material Application

- A. Retro-Coat CAULK
 1. Apply Retro-Coat CAULK around the base of all pipe penetrations making sure to fill any gap between the penetration and concrete slab
 2. Apply Retro-Coat CAULK to the joint created between horizontal and vertical transitions. The caulking material should be applied and pressed into the joint filling any gaps that might be present.
- B. Retro-Coat PRIMER
 1. Apply Retro-Coat PRIMER to all areas at a thickness of 6 mil and allow to dry tack free. In areas where the concrete surface is in need of slight repair or needs to be leveled, a slurry form of Retro-Coat PRIMER called Retro-Coat PRIMER-S can be applied with a flat squeegee. Retro-Coat PRIMER-S is self priming and does not need to be primed again.
- C. Retro-Coat
 1. Mix Retro-Coat, Part A with a low-speed (<750 rpm) jiffy-style mixer for about 30 seconds, or until uniform in color, then mix in Retro-Coat Coating, Part B for another 30-60 seconds.
 2. Dump contents onto floor in a ribbon pattern, squeegee, and then back roll at a coverage rate of 160 SF/gallon to achieve a film thickness of 10 mils.
 3. Apply second coat 10 mil coat to achieve a total thickness of 20 mils. Repeat as necessary to achieve specified thickness.
 4. If a flooring material will be placed over Retro-Coat after it is applied, or appearance is not a priority, (1) 20 mil coat can be applied.

2.3 Protection of Finished Work

- A. Prohibit foot traffic on floor for 24 hours after laying (at 70°F). At 50°F, this time should be extended to 48 hours.
- B. Rinse off any chemicals that may come in contact within 7 days of installation with the freshly laid floor immediately.

2.4 Cleanup

- A. Properly dispose of all unused and waste materials.
- B. Tools can be washed in warm, soapy water when wet, but after drying, can only be cleaned by grinding or with a paint stripper.
- C. Unused resin can be set off with proper amount of hardener and disposed of in regular trash bins.

Part 3 – Quality Control

3.1 Warranty

- A. Installer shall provide a one year warranty against delamination, chemical attack and normal wear and tear.
- B. Manufacturer will provide a one year material warranty.

3.2 Quality Control

- A. Installer shall use a notched squeegee to apply Retro-Coat to the specified mil thickness and calculations shall be done to determine if the correct amount of material has been applied. Retro-Coat contains 100% solids at the time of application; therefore no material shrinkage will occur during the curing process. One gallon will cover 80 square feet.
- B. A wet mil film gauge can be used to spot check the Retro-Coat thickness to make certain the minimum 20 mil thickness has been applied, though some discretion should be used because high points or low points on the underlying surface can adversely affect the thickness measurements.

3.3 Floor Care

- A. The standard smooth surface of Retro-Coat should be cleaned on a regular basis by damp mopping the floor with conventional commercial cleaners. It is important to first remove any grease or oils by a suitable cleaner, preferably a citrus based cleaner. Rinse with clear water to help eliminate film buildup and then allow to dry. Never use abrasive powder cleaners like Ajax or Comet as they tend to scratch the floor.
- B. Additional steps can also be taken to prolong the look and life of a seamless floor:
 - 1. Protect the floor during transference of heavy equipment
 - 2. Educate the drivers inside the building the importance of avoiding "jack-rabbit" starts and stops, as well as keeping the metal forks lifted
 - 3. Regular cleaning should take place as to not allow the buildup of abrasive material, such as sand or dirt, on the coating
 - 4. Eliminate all metal wheels
 - 5. Change over to light-colored polyurethane wheels
 - 6. Do not slide heavy metal totes, drums or bins across the floor
 - 7. Immediately hose down chemical spills, especially on newly laid floors.