ROCK TRED
POLYMER COATING SOLUTIONS
*Defining Excellence Since 1939*

# Installation Guidelines for Installing the ROCK-BLOCK Moisture Barrier System

ROCK-TRED's ROCK-BLOCK Moisture Barrier System is one of the most effective polymer coating moisture suppression systems on the market. It is easy to apply, relatively low cost to install and provides superior performance compared with much higher priced competitive systems. When correctly applied ROCK-BLOCK will reduce moisture vapor transmission through the treated concrete slab to levels acceptable for ROCK-TRED's non-breathable flooring systems to be applied.

ROCK-BLOCK is manufactured in two different versions. Our basic formula is called ROCK-BLOCK Original Formula and our newest version is named ROCK-BLOCK 3K. The two formulas are engineered for different application methods. ROCK-BLOCK Original Formula is applied in two clear neat coats totaling approximately 16-18 mils, while ROCK-BLOCK 3K is applied in a single, heavier 16 mil coat after a third dry component is mixed into the liquids. Both versions, when applied correctly, will reduce moisture vapor transmission through a concrete slab to acceptable levels for subsequent non-permeable finishes to be applied and will also prevent failures from osmotic blistering. Please refer to ROCK-TRED's Technical Data Sheets for more detailed information on the two versions of ROCK-BLOCK.

As with all ROCK-TRED coatings preparation of the substrate is key to installation success. For both versions of ROCK-BLOCK the concrete substrate must be clean, dry, cured for at least 28 days in an HVAC conditioned environment and mechanically profiled. ROCK-BLOCK Original can be applied over either diamond ground or shot-blast substrates as long as a minimum CSP-2 profile is achieved. ROCK-BLOCK 3K must be applied over a CSP-3, shot-blast profile and is not recommended for application over diamond ground surfaces. All bond breaking contamination such as oil, grease, animal fat, silicone, etc. must be removed from the concrete. Unreacted soluble salts and other organic substances, concrete curing membranes, floor hardeners / densifiers and all previous coatings must be removed to allow ROCK-BLOCK to bond and work effectively. Contact your ROCK-TRED Representative or the Main Office for information on how to remediate existing contamination and for further preparation steps that may be required. If you are unsure if any or what types of contamination are present ROCK-TRED recommends coring the substrate and having the cores properly analyzed by a qualified laboratory. Contact ROCK-TRED for more details on coring and core analysis.

Correct mixing and application of the ROCK-BLOCK coating is critical to its performance. Basic instructions for mixing and application are as follows for the two versions of ROCK-BLOCK.

ROCK-BLOCK Original Formula is a two part coating that is intended for installation in two successive 8 -12 mil coats. The entire Bag-Pak of Resin should be poured into a clean mixing vessel. The entire Bag-Pak of the Hardener should then be

poured into the Resin. Do not mix partial kits of ROCK-BLOCK. The components should be power mixed at low RPM (around 300 RPM) with a spiral style mixing blade for between 2-3 minutes. Do not add any colorants, reducers, thickening agents, etc. into the ROCK-BLOCK. No induction time is needed and the product will have a useful working window of approximately 10-15 minutes at 70°F. The mixed liquids should be immediately poured onto the substrate in ribbons. The liquids should be spread at between 8 - 12 mils (135-200 sq. ft. per gallon) using a stiff straight or notched squeegee and then back rolled with a clean, lint free 3/8" nap roller cover. Typically, it is best to back roll the coating perpendicularly to the direction that it was squeegeed. The wet film thickness should be periodically checked using a mil thickness gauge to insure proper coverage. If any bubbles or separation is noticed in the first coat attempt to back roll further to eliminate them. It is not uncommon to have some bubbles or separation in areas of the first coat due to substrate porosity or contaminants in the concrete. If the separation or bubbles persist and cannot be back rolled out apply the coating as evenly as possible. Then, when the first coat is dry and hard enough, sand with 60 grit sanding screens, vacuum all dust, wipe the surface with MEK and proceed with the second coating at the same 8 -12 mils making certain that all voids from bubbles or separation are filled in with the second coat. At 75°F the first coat will be dry to touch and ready to recoat after approximately 2 – 4 hours. Take care to not walk on the first coat too early and to not use spiked shoes for applying the second coat unless the first coat is dry and hard enough to not puncture. Mix and apply the second coat in the same manner as the first coat. The recoat window of the first coat is a maximum of 24 hours (recoating within 18 hours is preferred). If the maximum recoat window is exceeded the ROCK-BLOCK must be sanded, vacuumed and wiped with MEK prior to recoating. Do not broadcast any aggregate or other media into the ROCK-BLOCK.

ROCK-BLOCK 3K is a three part coating that is intended for installation in a single coat at 16-20 mils. One unit of ROCK-BLOCK 3K contains one BagPak of Hardener, one BagPak of Resin and one plastic bag of dry black powder which is the Part C component. Mixing the ROCK-BLOCK 3K properly is crucial for success. Empty the entire BagPak of Resin into the mixing vessel. While power mixing on low speed (300 RPM) with a spiral or whisk style mixing blade slowly add all Part C powder into the Resin until fully blended. While mixing, scrape down the sides and bottom of mixing vessel with a spatula to free settled clumps of Part C. Continue mixing until all the Part C is fully incorporated into the Resin and there are no clumps of powder. Add the entire contents of the Hardener BagPak and continue to power mix at low RPM (around 300 RPM) with a spiral or whisk style mixing blade for an additional 2-3 minutes. Again, do not add any colorants, reducers, thickening agents, etc. into the ROCK-BLOCK. No induction time is required. Apply the ROCK-BLOCK 3K in the same manner as described above for the ROCK-BLOCK Original Formula except install in one single coat at 16 – 20 mils thick (80 – 100 sq. ft. per gallon). Like the ROCK-BLOCK Original Formula, allow the ROCK-BLOCK

3K to cure dry and hard before applying subsequent coatings and do not exceed the maximum 24 hour recoat window. Do not broadcast any aggregates or other media into the wet ROCK-BLOCK.

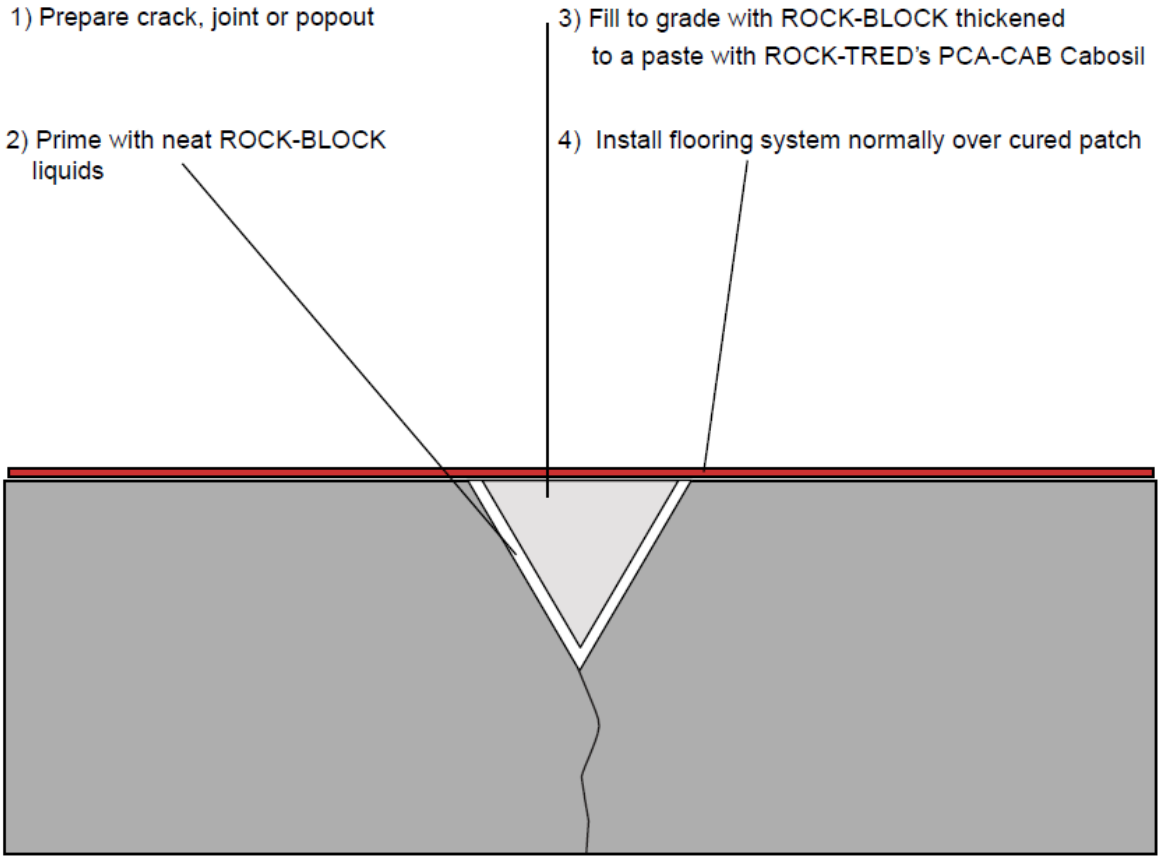
Correct treatment of joints, cracks and surface patching is also critical for success with the ROCK-BLOCK Moisture Barrier System. All joints and cracks are to be mechanically prepared by routing with diamond grinding wheels or diamond sawblades so the sidewalls and bottom of the crack or joint are clean and prepared. Existing caulk, polymer joint fillers, coatings, backer rod, expansion joint fiber, etc. should be completely removed. Spalls, popouts, hollow or poorly bonded concrete and other surface defects should be chipped back to sound concrete and prepared by bush hammering or abrasive blasting to reveal clean, profiled concrete. After the mechanical preparation is complete the prepared areas must be thoroughly vacuumed to be completely clean of dust and debris.

Once clean and prepared, the area to repair may be patching according one of the following methods.

1. Treatment for Non-Moving Cracks, Joints and Small Voids and Popouts
    a. Static cracks that are less than 1/32" do not need special preparation or pre-patching. After preparing the slab these cracks are to be filled with the liquid ROCK-BLOCK coating during application. Be aware of where these cracks are located and be sure they are filled when coating – additional material and back rolling may be required to insure they are filled.
    b. Small pop outs, voids and static cracks and joints larger than 1/32" should be prepared as detailed above. After preparation, mixed ROCK-BLOCK A and B liquids ONLY should be applied via brush as a wet prime for the side walls and bottom of the void, crack or joint. When the wet primer is still tacky the void may be filled to grade using ROCK-BLOCK A and B liquids thickened with ROCK-TRED's PCA-CAB fumed silica powder. Please note that not all brands and grades of fumed silica are acceptable for patching with ROCK-BLOCK liquids so the PCA-CAB should be purchased from ROCK-TRED. Add the PCA-CAB into the ROCK-BLOCK A and B liquids to create a thick paste that can be troweled into the void and then finish struck flush with the surrounding floor.

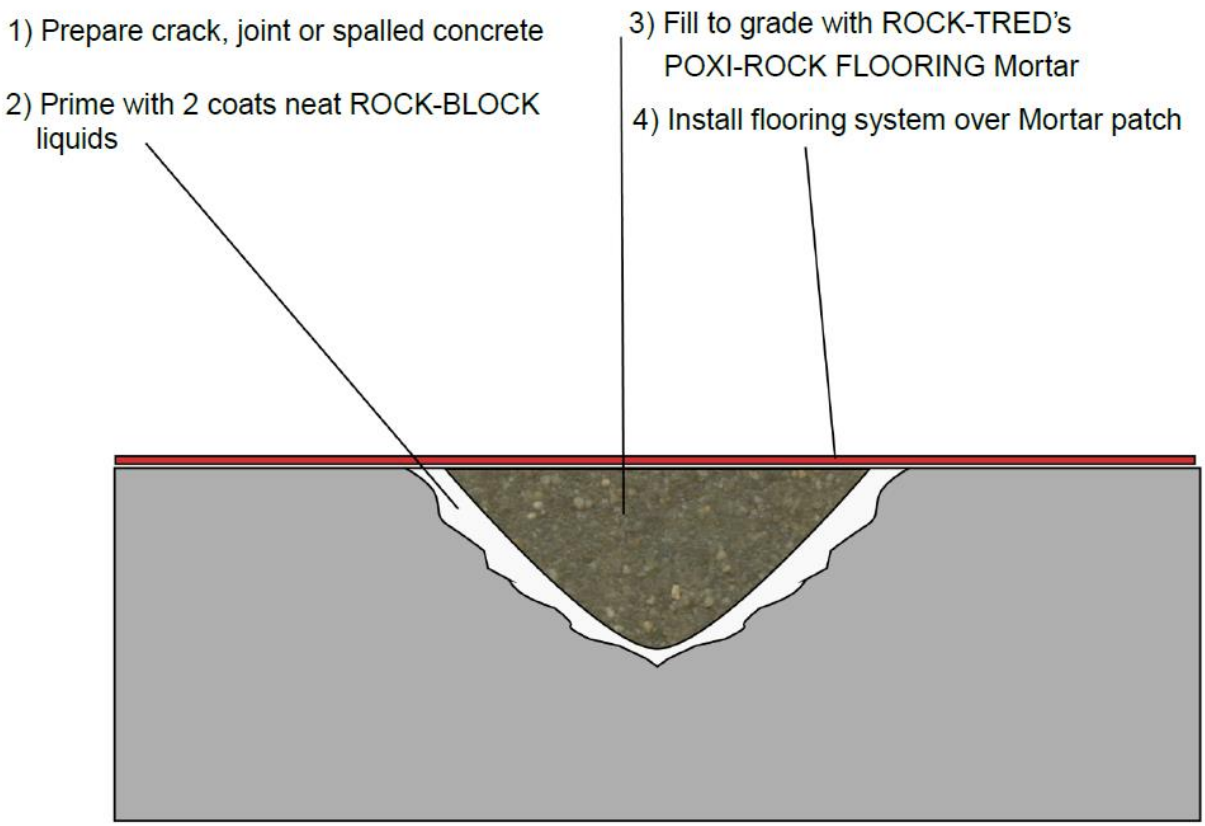
    *See Figure 1 on Page 4 for the technical application diagram for this type of repair.*

Figure 1: Treatment for Non-Moving Cracks, Joints and Small Voids and Popouts




2. Treatment for Non-Moving Large Cracks, Voids and Deep Fill Repairs
    a. These larger areas requiring repair are typically cracks and joints wider than ¾" or large areas of spalled concrete with an average depth greater than ¼". The treatment outlined above using the ROCK-BLOCK A and B primer followed by ROCK-BLOCK thickened with PCA-CAB would still be effective on these areas against moisture vapor drive, but the material cost and time required to apply multiple layers of the thickened ROCK-BLOCK may be cost prohibitive. These larger areas are to be prepared as outlined above, but to save time and cost they can be double primed with neat ROCK-BLOCK BLOCK liquids and then conventionally patched. The double priming requires application of 2 coats of neat ROCK-BLOCK liquids via brush or roller at 8-10 mils per coat. The first coat of ROCK-BLOCK liquids should be allowed to dry to touch prior to application of the second coat. After the second primer coat is cured the void may be patched according to the normal application instructions using ROCK-TRED's POXI-ROCK FLOORING epoxy and sand mortar mix.

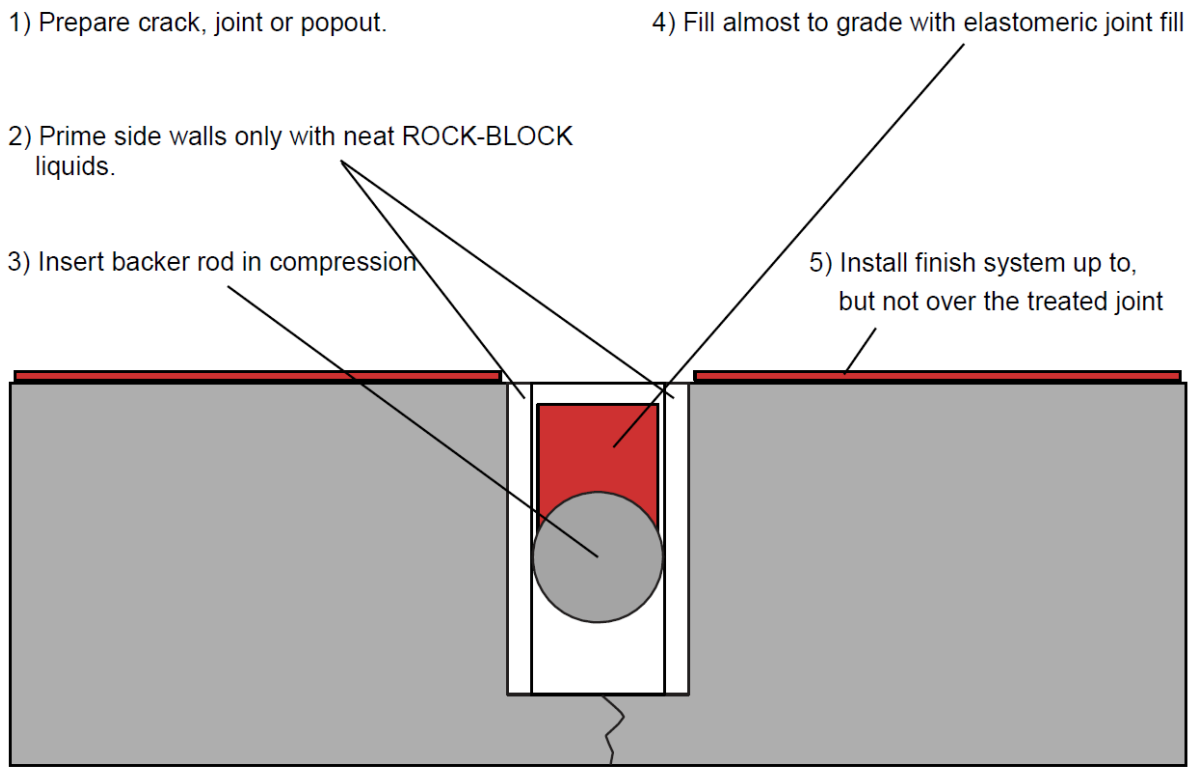
Figure 2: Treatment for Non-Moving Large Cracks, Voids and Deep Fill Repairs




3. Treatment for Moving Cracks and Joints
    a. Cracks and joints that have slight movement must be allowed to maintain this movement and cannot be rigid filled or the ROCK-BLOCK System will crack and fail. Joints and cracks that are moving due to structural instability should have the instability remediated prior to installation of the ROCK-BLOCK System. The joint or crack should be prepared as outlined above. Once clean and prepared, the sidewalls ONLY of the joint should be double primed with two successive brushed on 8 mil coats of ROCK-BLOCK A and B neat liquids. The first coat should be allowed to dry tack free prior to applying the second coat. After the second coat is dry a closed cell foam backer rod should be inserted into the joint in compression. The top of the backer rod should be at least ¾" deep in the joint, or for deeper joints, at a depth at least two times the width of the joint. Once the backer rod is tight in the joint fill to approximately 1/8" below grade with an elastomeric joint filler such as ELASTI-POXI JOINT FILL or ELASTI-THANE BASECOAT. It is important to not coat over the elastomeric joint fill with a rigid coating system. Sometimes it is easier to

prepare the joint, install the flooring system and then re-open the joint through the finished floor and follow the procedure outlined above.

Figure 3: Treatment for Moving Cracks and Joints




After the ROCK-BLOCK Moisture Barrier System has been installed it may be coated over with nearly any of the ROCK-TRED Systems or coatings as well as many other types of floor finishes such as VCT, PVC sheet systems, hardwood and engineered wood flooring.

For more information on the ROCK-BLOCK Moisture Barrier System please refer to the ROCK-BLOCK and ROCK-BLOCK 3K Technical Data Sheets, contact your local ROCK-TRED Representative or the ROCK-TRED main office.