



# SYSTEM 4

## SOLVENT-BORNE EPOXY KIT

**PRIMER:** PRE-PRIME 167      **BASECOAT:** DEVCOE 224HS HIGH SOLIDS EPOXY  
**COLOR CHIPS:** LIGHT, MEDIUM, OR HEAVY COVERAGE      **TOPCOAT:** HPU 747 CLEAR URETHANE

**PATCHING:** Patching pits and divots (optional) is the first step of the process. Remove loose aggregate and repair voids. Fill pits and pock marks by using a patching compound or concrete patch with sand to achieve a thick 'peanut butter' thickness to trowel into the voids. Wait 24 hours for compound to fully cure before acid-etching or grinding. Optional: Use a self-leveling sealant to caulk into the expansion joints to make a clean line. It is recommended to only partially fill the "saw cuts" as this will allow the concrete to expand and contract as necessary.

**SURFACE PREPARATION:** *Concrete Surfaces:* All surfaces must be sound, dry, clean and free of oil, grease, dirt, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances prior to applying your primercoat. Remove laitance and roughen unusually slick poured or precast concrete as well any oil, grease, and dirt by utilizing muriatic acid, phosphoric acid, or by grinding the concrete rough. The Original Color Chips Etch 'n Clean solution is a phosphoric acid that has the ability to provide both the cleaning and the profiling (roughening the surface) in one operation, but since it is a better cleaner than an etcher it is recommended to grind the concrete or use muriatic acid on steel-trowelled (very smooth) concrete floors. Etching the concrete allows the base coat to adhere securely. Pour onto surface and scrub into the pores of the concrete with a stiff bristle broom. The acid should only have contact with the concrete for a maximum of 10 minutes. Triple rinse thoroughly with water (power washing is ideal) and allow to dry a minimum of 8-10 hours. Remove loose aggregate by sweeping. *Previously Painted Surfaces:* Old coatings should be tested for lifting. If lifting occurs, remove the lifted coating chemically or mechanically (grinding). If the coating is not lifting simply scuff / sand entire area to remove gloss and roughen. Clean with TSP or rub with Xylol and allow to dry. Once dry, start coating with the 224HS basecoat epoxy. (the primer and etch 'n' clean is not necessary on previously painted coatings).

**PRIMING:** Using the Preprime 167 penetrating sealer will improve the effectiveness and efficiency of the coating by penetrating and sealing the concrete plus providing an additional bonding coat for your basecoat; improving the service life of the maintenance system. The entire contents of each container (part A and part B) must be mixed together. Add the converter portion to the base portion slowly with continued agitation. Once the two components are mixed you have 4 hours to use it (4 hour potlife). The Preprime has a very low viscosity (much like water) so usually one gallon will coat over 500 sq ft. It MUST be applied in one thin, wet coat sufficient to completely cover and penetrate the surface. Do not apply heavy coats. There should be NO POOLING, just a thin layer to soak into the concrete. After it has been applied, wait until the preprime becomes tacky or hard. This can occur anywhere between 1 hour and 24 hours, depending on the porosity of the concrete. Preprime 167 is normally a dip-and-roll application with a 3/8" nap roller. It will dry blotchy and uneven, some areas will be glossy and some dull, some tacky and some dry. This is normal, however once tacky the basecoat can be applied. *Note: must be topcoated within 72 hours of application.*

**BASECOAT APPLICATION:** *MIXING:* Do not apply over wet surfaces or under very humid conditions where condensation or fog could settle on the coating during the cure process. The entire contents of each container (224HS Part A and 224 Converter) must be mixed together in a separate container (5-gallon bucket preferred). Mix both portions first to obtain a smooth, homogeneous condition. Then pour Part A into bucket, adding the converter slowly with continued agitation. After the converter addition is complete, continue to mix. You want to mix it for a minimum of 5 minutes (mix VERY thoroughly). The 224HS epoxy can be very thick and difficult to roll out depending on the temperature and humidity levels. If this is the case, mix in 4-6 ounces of Xylol (Xylene) per gallon of mixed material. This will make the material much more manageable without sacrificing its protective properties. Allow the mixed material to stand 15 minutes at 60-80°F (16-27°C) before use. Restir before using. Mixed material is usable for 6 hours. Higher temperatures will reduce working life of the coating; lower temperatures will increase it. *Coverage:* 200-225 Square feet per gallon over primed concrete.

**APPLYING THE BASECOAT/CHIPS:** After material is thoroughly mixed, Start painting in the corner furthest away from the exit of the room. Use a brush to cut in along the walls and edges. Pour from the bucket onto the floor in thin ribbons then roll the material out using a quality 1/2" nap roller. After you have painted a large enough area (8 x 8 foot) begin to apply the chips. Chips are applied by tossing them upward toward the ceiling allowing them to float down into the wet basecoat. (we recommend dispersing the chips in a "feeding the chickens" style toss; using only three fingers to take a pinchful of chips at a time and launching them into the air at an upward angle, allowing the chips to float down into the wet coating). It will take at least an hour for the material to start to tack up so you have plenty of time to broadcast your chips evenly. If you broadcast too much in one area, you have to match the entire floor to that spot so take your time and do a little at a time. Continue painting approximately 6 foot wide sections and tossing chips until entire floor is complete. Since everyone's idea of medium and heavy chip coverage can be different, it's important to make sure you don't run out of chips before the end of your job. It's best to use apply a little less chips onto the floor than what you generally want, that way when you reach the end of your floor you can apply what chips have left and give the floor a much more dense appearance. Another tool to assist in achieving uniform chip coverage are spike shoes. Wearing spike shoes will grant you the ability to walk overtop the wet epoxy. By walking across the wet epoxy as you roll it out you can paint large areas and go back, or walk over to areas not completely covered and sprinkle more chips to make a more uniform appearance. Note: be careful not to drop chips in handfuls directly down onto floor, once chips are placed they cannot be moved, but they can be painted over and re-chipped if you make a mistake. *Dry Time:* At 77°F (25°C), dries to recoat with epoxy or urethane in 6 hours and dry hard in 9 hours.

**TOPCOAT APPLICATION:** Our High Performance Urethane is a flammable liquid and very gaseous, therefore it is recommended to wear an OV respirator and make sure area is well ventilated. This product should NEVER be used in a basement. While applying the clearcoat leave garage bays open as well as during the curing process. (you may partially close at night, leaving it open a few inches from the floor and reopen in the morning just make sure open flame is not present). You will know when you are ready to apply topcoat (at least 10-12 hours after the basecoat is applied) when you can no longer see your thumbprint in the coating. Our High Performance Urethane (HPU 747) is a two-component product. Mix Part A and Part B together (2 to 1 mix ratio). The entire contents of each container must be mixed together. It is important that all mixing equipment is free of moisture and that moisture does not contaminate the coating. Mix the base portion to obtain a smooth, homogeneous condition. After mixing the base portion, add the converter slowly with continued agitation. Mix thoroughly. The pot life of the mixed material is 3 hours at 77° (25°C). Higher temperatures will reduce working life of the coating; lower temperatures will increase it. Humidity does play a large role in curing times. Make sure the weather forecast permits at least 2 full days of no rain before applying the topcoat. (it is not recommended to apply the material or allow to cure during rainfall, the moisture in the air can cause hazing). Roll one even coat of HPU over entire surface to be coated. When applying topcoat walk on previously applied chip/basecoat with clean shoes or socks only, any dirt or debris tracked on to chip/basecoat will be sealed in by application of clear topcoat. Use a small chip brush to complete the edging around the perimeter, continue onto the rest of the floor with a quality 3/8" nap roller. Be sure to apply coating evenly. Applying too thick may cause hazing or yellowing. *Dry Time:* Dries to light foot traffic in 14-24 hours. You can move heavy items on it in 36-48 hours. Full cure in five to seven days. Low temperature, high humidity, thick films or poor ventilation will increase these times. Lack of ventilation and/or the use of portable fuel burning heaters that produce exhaust gases, during application and initial stages of curing, may cause yellowing to occur.

This system can be completed in 2 or 3 days after the prepwork has been completed. We usually recommend a three day process after the preparation is complete: Day 1: apply the Preprime 167 primer. Day 2: apply your base coat and chips, and Day 3: roll on your clear top coat. You can walk on it the next day.

*Essential Tools of the Trade:* 3/8" nap roller (1 for the Primer, 1 for the Clearcoat), 1/2" nap roller (1 for the basecoat), quart of xylol (Xylene) (for cleanup and thinning basecoat), 3" brush (for edging), buckets, etc