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# FLOOR REPAIR, LEVELING & PREP BULLETIN

This bulletin has been prepared by IncStores to assist you in making decisions about repairing and prepping your floor. Unfortunately there is not a single 'magic' product manufactured that will repair all floors. Depending on your floor type, and repairs needed, you may need to use more than one of the products mentioned below to make proper repairs

1. Epoxy floor coatings are measured in 'mils' (thousandths of an inch). For reference, standard floor paint dries about 2.5 mils. A medium build epoxy coating system (Armorpoxy II) will cure at 7-15 mils. A high build epoxy coating system will dry at 20-35 mils (ArmorClad and ArmorUltra). For reference, a sheet of standard copy paper is 4.5 mils. *If you need to 'level' just ¼", that would be 250 mils*, so you can see why using an epoxy to make floor repairs or 'level' a floor would be impractical and expensive. Broom finish floors and rough surface floors can have surface variations of up to 1/8" (125 mils) and normally cannot be leveled by epoxy only. The term 'self leveling' means that the epoxy will smooth itself out in most cases, at the thickness it is applied at. **AS A GENERAL RULE FLOOR REPAIRS NEED TO BE DONE PRIOR TO COATING, AS SURFACE TEXTURE WILL 'TELEGRAPH' THROUGH A LIQUID-TYPE FLOOR COATING, AND EPOXIES WILL NOT 'FIX' A FLOOR.**
2. **LEVELING AND PATCHING HOLES, SPALLS AND CORROSION**
  - a. These kinds of floors are not easily repaired economically using an epoxy so use a commercially available cementitious type skim coat. Skim coat can make repairs up to about ½". If your floor has just some pock marks and needs to be 'skimmed over' we suggest using Laticrete Drytek Skimcoat. Laticrete Drytek products are sold by IncStores, or can be purchased locally. Please allow adequate time according to manufacturer's recommendations for curing prior to applying the epoxy. If the floor is in very bad condition and the damage is deep, aggregate is showing, etc and needs to be completely resurfaced, please contact our office for guidance as you may need to resurface the floor with a floor resurfacer.
  - b. Alternate: Use Armorpoxy **Epoxy Mortar Liquid Resin**. This product is a 2 part epoxy into which you mix locally-purchased sand (it doesn't make sense for us to ship sand, the cost would be very high). Use the Epoxy Mortar for filling smaller areas, holes, spalls, etc. Comes in a 1 gal (holds 50 lbs sand) or 3 gal sizes

(holds 150 lbs of sand). The Epoxy Mortar Resin (ARMNP1X version) can also be used to make 'coves' that are often required by health departments for where walls meet floors in kitchens and baths. We also carry a convenient '**Cove Tool**' which is a curved trowel that 'makes' the cove.

- c. Use our **Crack Repair Epoxy Putty** for small areas, cracks, and minor corroded areas (see below).

***NOTE: ANY REPAIRED FLOOR THAT HAS DIFFERENT PRODUCTS ON IT SUCH AS PATCH, CRACK FILLER, MORTAR, ETC THAT IS DIFFERENT FROM THE ACTUAL FLOOR CONCRETE WILL HAVE DIFFERENT LEVELS OF POROSITY AND ABSORPTION. BECAUSE OF THIS WE STRONGLY SUGGEST THAT ANY FLOOR THAT HAS HAD REPAIRS DONE TO IT SHOULD BE PRIMED WITH THE APPROPRIATE ARMORPOXY MATCHED PRIMER. PRIMING EVENS OUT POROSITY AND HELPS TO PREVENT SHEEN DIFFERENCES FROM THE EPOXY ABSORBING IN AT DIFFERENT RATES, WHICH CAN LEAD TO DIFFERENCES IN SHINE AND APPEARANCE OF THE FINAL RESULT.***

**3. CRACK FILLING: Remove any loose or flaking material from cracks. Use angle grinder or other tools if necessary.**

- a. Hairline cracks cannot be filled in with epoxy. Grind or etch surface prior to repairing cracks. To fill hairline cracks use our Crack Repair Epoxy Putty. This product is a 2 part very thick putty-like product that you mix in equal parts on a piece of cardboard or wood, and then use a putty knife to apply to small cracks up to 3/8" wide. It mixes and works similar to auto body-type fillers. This is an excellent product that you can paint right over, and does not require drying or curing time. If crack is very slight, we suggest using an angle grinder to open it up a bit, then repair. Vacuum well prior to repairing.

See photo below of crack repair done using this product and then coated.



**4. SURFACE PREP**

- a. Surface prep is the MOST important step of any coating project. An improperly prepped and prepared floor will result in either a failure, or shortened performance life. Prepping can be done by either using the 'acid etch' method, or mechanical method. New concrete MUST be prepped the same as old concrete.
- b. Acid Etching: Etching is an excellent low cost way to prep. Etching removes any surface lime which all concrete has, and also creates millions of microscopic pores in the surface for adhesion. If you plan on acid etching you can use our **ArmorEtch** acid (which is a kinder/gentler buffered acid and has less fumes and does not affect the skin like standard acids), or locally-purchase muriatic acid.

Normal mix is 4 parts water to 1 part acid, but you can use less water if your floor is sealed or particularly dirty. Always rinse well to neutralize any acid and allow to dry fully before coating with epoxy (normally overnight, can be longer based on conditions). A solution of water and TSP (trisodium phosphate, available at any paint or hardware store can also be used to neutralize acid).

- c. Sealed floors: Many floors have sealers added to them when poured or applied at a later date. To determine if your floor is sealed, walk around and dribble water droplets on the floor. If it 'beads up' like on a hood of a waxed car, then you have a sealer, and sealed floors will resist all coatings. The sealer must be removed by acid etching (normally at higher concentrations, or multiple times), or mechanical means. Repeat prep steps until water does not bead. Sanding a sealed floor prior to using acid etch helps to 'open up' the floor to allow the acid to penetrate and etch.
- d. Mechanical methods: You can use a rotary type sander or diamond grinder (may be available at tool rental stores) or use a shot blasting machine to prepare your floor. These types of tools are available at most tool rental places. Make sure to vacuum well after this step as sanding or grinding creates a lot of dust. IncStores sells an excellent small **grinding machine** for small/medium sized areas, along with a special vacuum to remove the dust.
- e. Oily/greasy floors: No standard coating can stick to an oily floor. Oil soaks into concrete, and is impossible to remove completely without concrete replacement. If your floor is oil soaked and/or stained, after prepping, check with the water drop test to see if still beading. If so, then you need to use our **Oil Stop Primer** which is a special primer designed to stick to oily floors. This is an excellent product that is patent-pending.