



INSTRUCTIONS

READ INSTRUCTIONS CAREFULLY BEFORE MIXING AND APPLYING

**WATCH THE INSTALLATION VIDEO AT [www.youtube.com](http://www.youtube.com/watch?v=diroRfd2uV4)
(type in armorclad in the search box) or go to
<http://www.youtube.com/watch?v=diroRfd2uV4>**

Note: ArmorClad should be applied between 50-90 deg F and when relative humidity is 80% or less. If cooler, add portable heaters to area to keep air temperatures higher. It should be stored in a dry area at temperatures between 60-95 deg F. Material must be above 60 deg F for installation. Install in areas with proper ventilation. Wear safety glasses, protective clothing and rubber gloves for the duration of preparation and application of ArmorClad.

Floors with high moisture levels (damp) must be either pre-treated or covered with special coatings. To test for moisture use our convenient Moisture Test Kit (see website/Buy Now Link to order or call), or tape down a sheet of 4' x 4' clear plastic sheeting on all four sides with duct tape. Wait 24 hours. If moisture builds up under the plastic, or if the floor is noticeably darker/damp, the next step would be to use the Moisture Test Kit to determine the actual level of moisture coming up through the floor, then contact our office to purchase one of our moisture-blocking epoxies or primers. Please note that some concrete may exhibit inconsistent absorption rates that could cause an uneven appearance or dullness. This problem is due to variations in the concrete when poured or uneven curing, and is not a product failure. Floors that exhibit this condition may need to be primed, or may require an additional coat of epoxy. If your floor has uneven appearance, or water soaks in inconsistently, then it may need to be primed. Call our office for details.

BEFORE YOU START: Not included in the kit you need to supply the following: standard 9" roller frame and extension pole.

NOTE: ARMORCLAD ETCH IS A MILD, BUFFERED ACID. ALWAYS WEAR PROTECTIVE EYEWEAR, RUBBER GLOVES AND KEEP SKIN COVERED.

Surface Prep- THE MOST CRITICAL STEP to assure the performance of the ArmorClad system is to apply the product to a clean, well-prepared surface. The surface must be free of debris, dirt, oil, curing compounds, sealers and loose paint. Even new concrete must be cleaned to remove dirt, dust, and salts that form as the concrete cures. **DO NOT SKIP THE PREP STEP OR A FAILURE COULD OCCUR.**

Step One- Remove foreign substances. Scrape off any surface debris such as putty, paint or oil dirt so that the surface is smooth and even. Use running water from hose with nozzle, or a pressure washer to flush the entire area to remove any loose dirt and debris from the surface.

Hint..if you do not have a pressure washer, renting one at a local home center or paint/hardware store makes this job much easier and faster, and will get the floor cleaner.

Step Two- Clean and degrease. Add the ArmorClad Etch to three gallons of hot water in a pail and mix. Wash the floor down first. While wet, spread the mixed etching solution over the area to be coated with the aid of a broom or mop and allow it to soak in for approximately 5 minutes. You may notice some slight foaming which is normal.

While the solution is soaking, scrub the floor with a bristle-type broom or scrub brush on a stick. Rinse well the entire surface with plenty of fresh, clean water to remove all of the spent solution and to remove emulsified oils and grease and any loose dirt or debris.

HINT: WET DOWN YOUR DRIVEWAY OR PLANTINGS WITH A HOSE FIRST BEFORE RINSING OUT THE ETCH SOLUTION. THIS HELPS TO PROTECT ANY MINOR ETCHING FROM OCCURRING TO AN AREA THAT YOU DON'T WANT IT TO OCCUR.

Hint—Broom off any puddles of water with a clean broom prior to beginning the installation. After removing the standing water the floor should be clean. If it does not appear to be clean or appears to be saturated with oils, then you must repeat the surface prep instructions above.. A wire brush may be needed for extreme areas. Begin installation when the concrete surface is clean and dry to the touch.

ALTERNATE: You can also prep your floor by using a 'diamond floor grinder' or sander which are available at local tool rental stores. This method also works very well to remove existing paints, coatings or sealer. Make sure that you vacuum any grinded areas well as grinding and sanding creates a lot of dust.

OLDER, STAINED OR HIGHLY POLISHED CONCRETE

Concrete that has been in service for extended periods of time, particularly garage floors, becomes polished from the repeated traffic in the common areas. Also, impurities and chemicals from tires becomes trapped in the porous surface. Use of tire shine products like 'Armorall' also resist all coatings. These conditions may require additional treatment to create a strong bond for ArmorClad.

Step One- Before cleaning and degreasing as noted in the instructions, these areas should be sanded and brushed to remove the impurities and to create a rougher surface on which to apply the ArmorClad. This sanding can be done with an electric sander/buffer with a medium abrasive pad or it can be accomplished by hand sanding the areas with medium grit sandpaper. You can also re-etch these areas with muriatic acid at a higher concentration to achieve desired results.

Hint-When sanding by hand, use a drywall sanding pad and extension pole to simplify the process.

Step Two-After sanding and brushing with a wire brush, rinse the areas involved to remove all dust and foreign materials and then proceed with cleaning and degreasing above. See FAQ's for more info.

NOTE: Test all stained, polished or sealed areas by dribbling water droplets on those areas. If it still beads up, then repeat as necessary until water beading stops.

MIXING

ArmorClad is a two component 100% solids-type epoxy resin. It requires the thorough mixing of the Part 'A' and Part 'B' components for the material to properly harden. Mixing can be done by using the mixing stick provided in the kit or it can be enhanced through the use of a low speed electric drill mixer and the paint mixer included. High speed mixing should be avoided so that the air bubbles are not captured in the mixture. Please note that very occasionally epoxy resin ingredients we purchase can 'crystallize' or thicken during cold weather transport to us resulting in a thick cap on the part A portion after we formulate and package. In the unlikely event that this has occurred do not mix or apply and contact us for a replacement.

REQUIRED: *If you purchased more than 1 kit (for example a Master kit and an Add On Kit) you MUST mix the A portions together FIRST to assure color even-ness. The reason for this is the special 100% solids epoxy formulations cannot hold color tolerances between batches like an interior latex-type paint so if you don't do this, color variations could occur and this is not covered under our warranty. It is ok to expose the A to the air, as hardening does not occur until the part B hardener is added. Keep lid on any unused Part A prior to mixing.*

HINT: If you desire to 'cut in' corners or paint along walls and such before doing your floor, you can mix up smaller quantities of the ArmorClad by simply pouring out what you want into a smaller container and holding the 2:1 mix ratio (2 parts of A with 1 part of B).

HINT: YOU MUST MIX THOROUGHLY. MAKE SURE TO MOVE THE MIXER UP & DOWN THROUGHOUT THE MIXTURE. MAKE SURE TO MIX ALONG THE SIDES AND BOTTOM. AFTER COMPLETING MECHANICAL MIXING, USE MIXING STICKS TO ASSURE NO RESIDUAL UN-MIXED PRODUCT REMAINS ON SIDES OR BOTTOM. UNMIXED MATERIAL WILL NOT HARDEN AND COULD RESULT IN REPAIRS AFTER APPLICATION.

Step One-Open the part A & B cans and stir each individually.

Step Two-Mix the contents of Part A thoroughly BEFORE POURING OUT. This step helps to mix in any settled pigments. Pour 2 parts from Part A and 1 part of part B into a larger container that can hold at least the total you are mixing. We recommend mixing up ½ of the contents of each A and B bucket, and then applying to the floor, and then repeating to avoid pre-hardening and having to rush through the project. Note, the two buckets we provide are pre-measured 2:1. Mix the two components together for 2-3 minutes but not any longer. Move the mechanical mixer up and down through the contents while spinning so that you get ALL of the material mixed, not just the material at the bottom of the pail. NOTE: When mixing the A and B together you will notice 'veins' appear. These veins should be 100% gone which is another indication of complete mixing. Be sure to scrape the sides and bottom of the containers to assure that all the material is properly mixed. Improperly mixed resins will not harden properly or show color variations when applied. DO NOT MIX AT HIGH SPEEDS AS THIS CAN CAUSE AIR BUBBLES. IMPROPER MIXING MAY CAUSE THE PRODUCT TO NOT HARDEN PROPERLY, SO MAKE SURE THE PRODUCT IS PROPERLY MIXED. IF IN DOUBT, MIX A BIT MORE. ALL ARMORCLAD PRODUCTS ARE TESTED PRIOR TO SHIPPING FOR HARDENING. IMPROPER HARDENING IS NOT COVERED UNDER THE WARRANTY AS THE ONLY THING THAT CAN CAUSE THIS IS IMPROPER MIXING OR VERY HIGH MOISTURE LEVELS IN YOUR FLOOR.

After the components are mixed together you have approximately ½ hour of working time to apply at 70 deg F. HIGHER TEMPERATURES WILL SHORTEN WORKING TIME. Work diligently and quickly to avoid premature hardening and product failure. Premature hardening is not covered under warranty. DO NOT MIX IN DIRECT SUNLIGHT, and keep mixture out of sunlight. You can mix as much or as little of the material as you like, as long as you hold the mix ratio (2:1) constant. HIGHER AMBIENT TEMPERATURES CAN CAUSE HARDENING PREMATURELY. GETTING THE MATERIAL ONTO THE COOLER FLOOR WILL ALSO HELP SLOW DOWN CURING.

NOTE: ARMORCLAD IS A 100% SOLIDS RESIN AND IS A 'THICK' COATING. IF YOU FIND THAT IT IS TOO THICK TO APPLY DUE TO TEMPERATURE OR OTHER CONDITIONS, YOU CAN THIN IT A BIT BY ADDING UP TO 1/2 CUP OF XYLENE (ALSO KNOW AS XYLLOL) TO EACH GALLON. THINNING WILL ENHANCE WORKABILITY AND WORKING TIME. DO NOT OVER-THIN.

APPLICATION OPTION ONE-SINGLE COLOR

ArmorClad may be installed as a solid color or with the decorative flakes to provide an attractive, terrazzo-like finish. The clear coat (if used) provides significant additional durability and shine.

Option One, Solid Color Application-Appropriate tools to reduce effort and help produce a professional finish. A small, disposable paintbrush should be used to coat edges, corners and any hard to reach areas. Larger areas should be coated using supplied squeegee and/or a ¼ or 3/8 non-shedding roller cover on a heavy duty 9" roller frame along with a sturdy extension pole. Pour the ArmorClad epoxy onto the floor in a left-to-right pattern in a 'bead', then roll or squeegee out. Applying to the floor onto the cool concrete slows down the curing process and allows longer working time. DO NOT LEAVE IN BUCKET FOR EXTENDED PERIODS. DO NOT USE A ROLLER PAN. APPLY DIRECTLY TO FLOOR AS FLOOR IS ALWAYS COOLER THAN THE AIR AND WILL EXTEND WORKING TIMES AND MAKE THE PROJECT EASIER.

Hard to reach areas should be coated first using the small paintbrush. Before mixing the entire contents of the cans together, you may wish to mix equal small quantities of A & B in a coffee-type can and use a brush for corners, edges, etc. Larger areas should be done with the roller or squeegee, whichever you find easier to use. HINT: THE SQUEEGEE IS HELPFUL FOR EDGES AND FOR SPREADING OUT THE EPOXY, BUT A ROLLER SHOULD BE USED TO MAKE IT EVEN AND SMOOTH OUT THE EPOXY, SINCE NO FLOOR IS PERFECTLY LEVEL. Apply ArmorClad evenly and consistently to the entire area being coated. Be careful to cover all areas and do not leave light streaks or heavy areas. Apply smoothly and evenly. Upon completion the surface should look uniform in color without streaks or heavy accumulations.

APPLICATION OPTION TWO: DECORATIVE FLECKS

Option Two- Fleck application. When installing fleck chips, the mixed ArmorClad epoxy is applied in the same fashion for the solid color application, however, it is done in segments noted below.

Apply the ArmorClad solid color evenly with complete coverage to an area that you can easily reach across to disperse the deco chips, usually a width of about 2-3 feet. Remember, you can't walk on wet epoxy unless you have purchased our spiked 'epoxy walking shoes'.

Immediately after applying the epoxy to the segment, apply the deco chips by carefully sprinkling them from a height of approximately three feet and allowing them to randomly 'rain down' onto the wet surface. Do not 'throw' them down, it is better to throw them up and let them 'rain down'. Be careful to not over-apply the amount of chips in any one area. The chips should be applied so that the surface is uniform in the amount and random in color. Leave a wet edge of the ArmorClad where you can start coating your next area with disturbing the chips you already applied. Note: Don't worry if some of the chips get onto the unpainted part, or if you don't leave an overlap edge for the next section, you can just paint over any stray chips and they will become entrained in the epoxy. Continue this process until the area is completed with a uniform appearance. Make sure to note how many chips you have for the project and apportion them properly so you don't run short at the end of the project.

Hint-You can practice applying the chips by sprinkling some over a clean, dry area and then sweeping up for re-use.

Let dry for 12-24 hours, then sweep or vacuum up any loose flecks, or flecks that may have fallen onto each other.

CLEAR COAT APPLICATION

The clear standard included protective topcoat (Ultraglaze) is applied after the ArmorClad is fully dry enough to walk on (normally overnight, but can be sooner depending on temp or humidity conditions). Open can, mix well and apply. For enhanced safety, we recommend using the included anti-slip aggregate should be added to the clear coat to reduce the risk of slipping on finished floors that may be exposed to wet or oily/greasy conditions. Use 1 package per gallon. Slowly pour the contents of the non skid into the topcoat and mix well to thoroughly suspend in the mixture. Ultraglaze coat will go on 'milky white' but clear up shortly to a high gloss shine. Apply with roller.

Hint-The aggregate will settle while mixed in the glaze, so periodic stirring is required during the application process to assure uniform application of the anti slip aggregate.

Please note that if you notice any uneven or problem areas with your application do not apply the topcoat until you have rectified those issues. Normally topcoat will not 'fix' issues with the epoxy application.

If you have purchased the optional Commercial / Military Topcoat Upgrade, this is a 2 part product that gets mixed at a 2:1 mix ratio. Mix parts A and B in a similar fashion as the epoxy step, pour in the Ultrawear additive at the rate of ½ can per gallon of mixed topcoat. STIR AND MIX WELL to fully suspend the Ultrawear as this additive is a bit 'heavy' and can fall out of suspension, leading to an uneven result. Pour mixed topcoat and additive into roller pan in small quantity and roll onto floor. Repeat mixing to re-suspend the Ultrawear, pour more into the pan and repeat until covered.

CLEAN UP

ArmorClad epoxy can be cleaned off hands and other surfaces with xylene (xylol) before the material begins to harden. Warm soap and water may also be used if the epoxy is still wet. Sticky resin on hands can be removed with mineral spirits or xylene. Fully cured ArmorClad can only be removed with industrial paint strippers available from us, or through mechanical methods such as grinding or sanding. Any leftover mixed ArmorClad, paintbrushes and roller covers will harden once the material cures and should be disposed of according to your local regulations.

RETURN TO SERVICE

At 75 def F, ArmorClad should cure for at least 24 hours before opening the area to foot traffic. 5 days before driving across, and 7 days before parking a car on it. Extreme temperatures and humidity levels can dramatically impact curing times. If the ArmorClad is not 'rock hard' after 72 hours @ 75 degrees F, then do not drive on it and call for assistance.

Coverage- when applied to a smooth/dry surface coverage is approximately 600 square feet per kit. Coverage calculated @ 8.3 mils. This is equivalent to 4 layers of standard floor paint. Topcoating adds an additional layer of protection.

MAINTENANCE

ArmorClad surfaces are easy to maintain through periodic mopping with a non-bleach household detergent solution and rinsing with clear water. Clear topcoat should be re-applied based on usage, salt/winter exposure and wear as part of a regular maintenance program.

FREQUENTLY ASKED QUESTIONS

-My concrete is relatively new, do I still need to clean the floor before applying ArmorClad? Yes, construction dust, dry wall paste, and paint splatters can affect the bond. Lime, which is an ingredient of concrete floats to the top while it cures and must be treated. Scrape foreign substances from the floor and then clean the floor with the etching solution. This is mandatory step. Skipping the prep step can cause failures.

-My floor is newly-poured, how long do I have to wait? Normally a slab needs 30 days to cure. It can be less or more depending on conditions. Do moisture test as indicated below.

-Do I have to remove old coatings or paint before I apply ArmorClad? Yes, it should be. The ArmorClad epoxy may form a bond on these surfaces that is stronger than the bond of the old coating on the concrete. This could cause the old coating to pull away from the concrete, leaving an uncoated area. Leaving old coatings on could cause failure due to entrapment of moisture. Armorpoxy sells floor paint strippers for this use. If you are unable to remove the old coating, at the minimum power was with a minimum 3000 psi power washer, or sand. Then, etch with the etching solution right over any remaining coating. If you are unable to remove the old coating, then make sure to etch properly

-I have stains on my concrete caused by tires of my car. Do these areas have to receive special treatment before coating? Yes, tires contain chemicals that leach into the concrete over time. If too much of these substances are trapped in the concrete, then the Armor Fleck will not adhere to them and it won't stick. These dark areas should be sanded with a rough sanding pad, scrubbed with a wire brush and then apply the etch and then rinse well thoroughly.

-I may have a clear sealer on my floor. How can I determine if I need extra surface prep? The easiest way to determine this is to sprinkle water on the questionable areas of your floor. If the water beads, you have a foreign substance that must be removed. Sanding or etching can be used to remove this problem. Also diluted muriatic acid has been shown to help also. Test again with water to assure proper sealant removal. Repeat as necessary until no water beading occurs.

-I think I may have a moisture problem, how do I determine that? To test easily for moisture before you coat, duct tape down a sheet of 4' x 4' clear plastic. Tape all 4 sides completely. Wait 24 hours. Check for moisture buildup under the plastic. If significant amounts, then wait until dry, or consider another alternative (ArmorCover or ArmorTiles).

-Can I apply multiple coats of ArmorClad over a period of time? Yes, no special surface prep is required if the additional coats are applied within 3-5 days. If a longer period goes by, then the area should be sanded lightly to create a rougher surface to which the ArmorClad can adhere to.

-Do I really need to add the anti-slip aggregate to the glaze coat? Any coated surface, especially a high quality, smooth surface can be slippery when wet or exposed to oils and grease. **As a safety feature, we highly recommend that the anti-slip aggregate be added to the final coat.**

-I have some cracks in my floor. Should I fill these in before applying the ArmorClad? Filling the cracks may yield a smoother, more beautiful floor since any liquid coating will not fill in cracks 100%. If you have cracks, our epoxy crack filler kit works very well for hairline and smaller cracks. Urethane or epoxy caulks may be used. Another idea is to hide the cracks with the deco chips. Do not use silicone-type caulks or fillers, they resist ArmorClad. Do not use silicone-type crack fillers.

-Can I apply ArmorClad to wood? Yes you can, it will adhere to wood, although it was formulated for concrete application. Prime wood first with Armorpoxy one part white wood primer.

SAFETY

As with any chemical, avoid contact with skin, avoid inhalation and wear protective clothing, rubber gloves and eye protection. Apply only in well ventilated areas. Follow all local, state and federal regulations that may apply to your area. See our website at www.armorclad.com for msds sheets.

CLEAN UP

Clean up with xylene (xylol) available at any paint or hardware store.

THINNING

ArmorClad may be thinned by adding up to 1/2 cup (4 oz) of xylene (xylol) per gallon.

FIRST AID

For skin contact, wash thoroughly with soap and warm water. In case of contact with eyes, flush with warm water and immediately contact a physician or go to the emergency room of your local medical center or hospital. If swallowed, do not induce vomiting. Contact a physician and the poison control center.

WARRANTY

Armorpoxy warrants that ArmorClad, if properly applied will not delaminate, peel or flake for life. Warranty registration must be filled in and returned within 10 days of shipment. This warranty covers adequate replacement product to correct any affected areas. Acts of god, water damage, flooding, seismic movement, cracks in concrete from settling and similar issues are not covered. Misuse and normal wear/tear is not covered. Normal wear is not covered. Moisture-caused problems are not covered. Deco flecks and clear coating is not covered.

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