

HOW TO PREPARE YOUR CONCRETE FLOOR FOR AN EPOXY COATING

Preparation is the most important key to successfully installing an Epoxy Coating!

The absolute first step before applying your epoxy coating is to prep your floor and here are our recommended methods:

NEW or uncoated Concrete:

1- Concrete must be 28 days old before applying coating over it.

2- Remove top layer of concrete by diamond grinding /shot blasting.

The idea is to remove any sealers/ densifiers and open concrete pores to allow epoxy coating to penetrate into the floor.

3- Any cracks or spalls can be patched using Sikadur 33 – 2 pack filler.

4- Any oily spots must be cleaned with degreaser otherwise it will result in fish eyes.

5- Floor must be vacuumed thoroughly to provide a dust free surface.

6- Diamond grinders can be hired from Kennards Concrete Care or Dynamic Hire and if this not possible, you can try acid etching as per below:

Acid etching a floor is sometimes the only viable alternative for many DIY applicators when prepping concrete correctly to accept a coating. Safety precautions and steps need to be taken to insure a successful and safe outcome. Potentially dangerous if not done correctly, it can not only damage your concrete, it can cause serious bodily harm as well. So please take the time to learn how to acid etch your garage floor or concrete safely before starting. Muriatic acid, also known as hydrochloric acid, is the typical acid of choice when etching concrete. It is inexpensive and a dangerous chemical that can damage almost anything it comes in contact with. It will eat through clothes, metal, skin, and creates a noxious vapor that can cause surrounding metals to rust as well as burn the lining in your nose and lungs.

Hydrochloric Acid is generally mixed at a ratio of 20 parts water to 1 part acid for sufficient strength to etch properly. Ideally you want to test the strength needed first before doing the entire floor. You can do this by first mixing a small solution in your watering can starting at a 20:1 ratio. Apply it to a small area of wet concrete. It should begin bubbling and fizzing immediately. If not, then you will want to increase the strength accordingly. Sometimes a ratio stronger than 5:1 may be needed for particularly dense concrete or a smooth power trowelled floor.

Caution! Always add acid to water, not water to acid. If you pour water into acid it can cause an explosive reaction that can spray you with the mixture and burn your skin!

Before acid etching, make sure the floor is cleaned properly of all oil, contaminants, grease, and dirt. Contrary to what many people think, acid will not clean grease and oil spots. In fact, if these areas have not been cleaned and degreased properly, the acid solution will just sit on top and not react with the concrete.



*****Ensure you read all product, technical and safety data sheets prior to application as liability falls on the applicator. All products must be applied in accordance with manufacturer's recommended method.*****

1 – Dampen the concrete:

Use your hose to lightly spray down the concrete in your floor so that the concrete is wet but not puddling water. If you have a large floor, you may want to acid etch in sections. Do not let the concrete dry out before or during application of the acid solution.

2 – Apply the acid solution:

Use the plastic watering container to sprinkle the acid solution on the concrete. This will spread the solution evenly without much splashing. Do not just pour it on the concrete. This will create an inconsistent spread of the acid solution and will not provide for a uniform result.

3 – Scrub the acid solution:

Once the solution is applied, lightly scrub it into the concrete with a push broom or long handled scrub brush. This helps to create a uniform etch of the concrete. Let the solution sit for 10 – 15 minutes while it continues to fizz and bubble. Do not let the floor dry out during this process. Add more solution if necessary.

4 – Final rinse:

It is important to thoroughly flush and rinse the remaining solution out of the concrete multiple times. Use a high pressure nozzle while thoroughly scrubbing the concrete with your scrub brush. You can introduce a mild solution of Simple Green at this point if you like. Just make sure it is thoroughly rinsed. Using a pressure washer for this process well also. Do not use a pressure washer to rinse off the acid solution as it can drive any acid solution deeper into the concrete and cause problems later.

FURTHER TIPS FOR ACID ETCHING CONCRETE

It's a good idea to cover anything in your floor that you don't want to get splashed with a plastic drop cloth. Don't acid etch the concrete if the temps are below 10 degrees as the acid will not be as effective with the cooler temperatures. Also, make sure your floor has dried thoroughly before applying epoxy coatings. Fans will help. Give it at least one day with warm weather and longer if it's humid or cooler. Though the surface may be dry, the pores of the concrete can still contain moisture and escape through outgassing when the temperatures rise during the day. This will cause your coating to form bubbles. You can always do a quick moisture test with plastic if you are not sure.

Learning how to acid etch your floor isn't hard, but it's very important to follow the proper steps. When done correctly, the chances of having your coating fail due to improper preparation of the concrete is reduced significantly.

Previously coated Concrete:

1- Damaged coating must be removed by diamond grinding /shot blasting

The idea is to remove the existing coating completely to allow the new coating to penetrate the floor

2- Any cracks or spalls can be patched using Sikadur 33 – 2 pack filler

3- Any oily spots must be cleaned with degreaser otherwise it will result in fish eyes

4- Floor must be vacuumed thoroughly to provide a dust free surface

5- Diamond grinders can be hired from Kennards Concrete Care or Dynamic Hire

NOTE: If you like to pressure wash your floor, you must assure the floor is fully dry and moisture content is under 3% before applying the floor coating product.

