

WHY DOES CONCRETE NEED TO BE ACID WASHED?

The acid washing of concrete is a requirement after the concrete has cured sufficiently, in order to remove surface efflorescence and to open the pores before sealing. This will help the sealer to penetrate and result in a superior bond between the sealer and the surface.

Floors that are acid washed before sealing will have greater colour enhancement and will appear darker than floors that have not been acid washed.

Acid washing is a critical process and should be approached with care and carried out in a controlled way. The correct protective clothing and safety gear should be worn whilst acid washing.

SURFACE PREPERATION:

Acid washing works best when the surface is clean and free of moss, mould, dirt or any other debris that may be present on the slab. If there is present debris on the surface it is highly recommended to wash the surface down with Permacolour Concrete Cleaner prior to acid washing. Permacolour also offer a Moss, Mould & Lichen Killer that would be suitable to remove unwanted matter before acid washing commences.

Diluted acid is known to stain, mark, etch or kill any foliage, stainless steel, vehicles etc it comes into contact with. It is recommended to mask off and protect any areas that are not designated to be treated during the acid wash.

HOW TO ACID WASH

Acid should never be applied without being diluted with water first. See below for Acid/Water ratio. All concrete to be acid washed must be free of any previous sealer or paint treatments, oil, grass, overhanging plants, leaves, soil etc.

Prior to acid washing, the concrete should be thoroughly saturated but not puddling using a hose or watering can.

Ensure that the acid solution is poured on wet surfaces only using a watering can. If the concrete dries during the acid washing process, it should be wet again before applying acid to the surface.

The acid washing process is better managed with the Involvement of two people. Whilst one person pours the acid solution out of the watering can, the second person immediately brooms the surface in a circular motion to spread the acid whilst it is reacting with the surface. A bubbling/foaming reaction is evidence of the reaction between the acid and the concrete surface and no areas should be missed, ensuring that the reaction is visible over the entire surface. Avoid walking on areas that have been worked already. The acid stops reacting with the concrete after approximately 30 seconds so it is important to scrub straight away.

On completion of the acid washing and before the reacted acid is allowed to dry, the area should be flushed well with water, ensuring that all the acid is removed from the surface. Use plenty of water to neutralise the acid, if water is restricted Permacolour Acid Neutraliser can be applied to the surface once the acid washing has taken place then rinsed off.

CONCRETE SHOULD BE 100% DRY BEFORE SEALING

Type of Concrete	Acid to Water Ratio	Calculating concentrated per m ²
Exposed Plain Concrete	1 part Acid to 6 parts Water	25m ²
Exposed Coloured Concrete	1 part Acid to 14 parts Water	60m ²
Broom or Textured Coloured Concrete	1 part Acid to 12 parts Water	50m ²
Hard Trowelled Coloured Concrete	1 part Acid to 10 parts Water	45m ²
Concrete Floors after 3+ months	1 part Acid to 12 parts Water	50m ²

*** Please note these ratios are a guideline only. If you are unsure please call us first.*

Acid Washing Safety Guide

ACID WASHING PPE:

Acid washing should always be approached with care and carried out in a controlled way. It is highly recommended that the correct safety equipment, knowledge and application procedures are used when dealing with Hydrochloric Acid. For further information feel free to download our Safety Data Sheet from our website or get in touch with our team to secure your copy.

Please refer to the MSDS for the recommended PPE gear, at a minimum the below should be worn-

- Protective glasses
- Rubber gloves
- Respirator (Especially if working inside or confined areas)
- Boots/ Gumboots
- Long sleeve clothing

PERMACOLOUR'S SAFE HANDLING:

- NEVER add the water to the acid, always pour the water in first to avoid acid splash back from occurring.
- ALWAYS ensure you have a mask on when decanting or opening the acid container to avoid inhaling the strong fumes.
- Ensure you have access to water throughout the job as acid will burn if it comes into contact with your skin. Wash off immediately if an accident occurs.
- Only decant in a well-ventilated area that can be washed down— do not decant on the surface you are treating as spillage will mark the surface permanently.
- Do not walk in the acid solution as footprints will remain in the concrete forever.
- Do not overfill the watering can.

ALTERNATIVE ACID WASHING OPTIONS:

Permacolour Enviro Etch & Clean is a safe and environmentally friendly etching agent designed to be applied the same as Hydrochloric Acid whilst providing more of an etch on the surface without the nasty fumes.

As Enviro Etch & Clean is safer to use in comparison to the Hydrochloric Acid this should be considered when working inside or confined spaces.

For further information on the Enviro Etch & Clean please feel free to visit www.permacolour.co.nz for our latest product information guides or ask one of our friendly staff today!

CHEMICAL REACTION INFORMATION:

When Hydrochloric Acid is mixed with water a chemical reaction occurs resulting in a large amount of heat being released. During the mixing process the reaction intensifies when additional acid is incorporated into the mix. If water is added to acid the substances do not dilute immediately, this creates a more concentrated solution which will boil violently causing a hazardous environment of fumes. Acid is also known to splash out of the container during this reaction. Adding acid to the water will allow the substances to safely dilute with minimal reaction. For your own safety please NEVER add the water to the acid.

What you need onsite:

- Safety Gear
- Plastic watering can
- Hose
- Stiff broom
- Hydrochloric Acid
- Neutraliser

WARRANTY

Permacolour products are warranted for one year after date of purchase. Please refer to the Limited Material warranty for additional clarification. The information contained herein is true and accurate to the best knowledge of Permacolour. Since we cannot anticipate all possibilities and conditions under which this information and our products may be used, Permacolour hereby accepts no responsibility and offers no warranty in the case of results achieved by the use of our products or of the safe use and suitability of these products. Permacolour offers our products for sale subject to, and "The Customer" and all users are deemed to have accepted our Terms and Conditions of Sale. We warrant our products to be free of manufacturing defects. If any product is found to be defective and was within storage/shelf life, Permacolour will replace the product at no charge to the purchaser. Permacolour makes no other warranty with regards to our products, either expressed or implied. Whilst any information provided by ourselves, both verbally or written, is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations by us, our representatives or distributors, as the conditions of use and the competence of any labour involved in the application are beyond our control. As all Permacolour technical data sheets are updated on a regular basis it is the user's responsibility to obtain the most recent issue.