



# High Performance Paint Specification



## PS-C001

### ACID ETCHING OF CONCRETE WITH HYDROCHLORIC ACID

#### INTRODUCTION:

In general, concrete must be clean, dry and sound before a coating is applied to it. 'Clean' means that there is no foreign matter such as dust, dirt, grease or oil on or soaked into the concrete. 'Dry' means no free water is present. 'Sound' means there is no laitance or weak surface skin on top of the concrete and that the concrete has no defects to harm the performance of the coating. Acid etching the surface removes the top layer of loosely adhering particles and provides a profile for the coating to key into.

- If the surface is coated with an epoxy coating and this is sound, there is no need for acid etching.
- If the concrete has been grit blasted or ground, again acid etching is not required.

#### PROCEDURE:

This method below uses Hydrochloric Acid, which works quickly. Other acids such as Sulphamic acid can be used and are considered safer to use than Hydrochloric.

- 1 The Hydrochloric acid strength ready to use is approximately 10%. Sulphamic acid is a powder and dissolved in water at 1kg per 10 ltr.
- 2 If concentrated acid (approximately 33%) has been purchased this must be diluted, using:  
  
1 Part Acid : 2 Parts Water.  
CAUTION: Add the acid to water slowly with stirring. Do NOT mix the other way as it may boil and burn eyes and skin.
- 3 Spread evenly on the concrete by either using a broom, squeegee, a low pressure spray or watering can.  
NOTE: Where the acid stays longer on the concrete the colour will darken to a deeper colour. If a clear coating is to be applied on top of the concrete special care must be taken to produce even etching of the surface.
- 4 When the acid has stopped 'fizzing' the reaction has stopped – maximum 5 – 10 minutes.
- 5 Waterblast to remove any residue and fine dust then allow to dry. Check to see that all dust has been removed.
- 6 AVOID contact with METALS, especially copper, brass and zinc as the acid will corrode these and can cause discoloration.

#### HEALTH AND SAFETY:

Read the Material Safety Data Sheet (MSDS). Wear gloves and goggles and work in a well-ventilated area. If using concentrated acid be 'VERY CAREFUL', wear a plastic apron as well as protective eye wear and gloves.

#### REFER TO THE FOLLOWING SPECIFICATIONS FOR RELATED INFORMATION:

PS – C004	The Moisture Content of Concrete
PS – C006	Making Concrete Clean and Dry
PS – C007	Making Concrete Oil/Grease Free

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