

Guidance Notes on the Application of Base Coat Renders in Adverse Weather Conditions



Introduction

The weather conditions and drying times can have a serious impact on the performance of render systems. Care should be taken to ensure adequate precautions are taken so that the systems are not adversely affected by climatic conditions. All render systems have application technical boundaries and if they are applied outside these boundaries there is a risk of potential failure or discoloration of the finish coats. The SPS|Envirowall systems are tested to ensure that they perform to set European standards with all products rigorously quality control tested prior to the delivery to site. Whilst we are in control of the testing, manufacture and quality of the products we supply, we are not in control of their application and in what weather conditions they are applied. The applicator must take full responsibility for this.

Temperature and humidity have a dramatic effect on the curing time of base coat renders. This guide is aimed at offering simple system checks. These can be adopted on site to monitor the curing of the render layers and provide indicators for when it is appropriate to apply finishing coats. This guide gives two simple techniques, the first using a moisture meter for reading moisture levels, the second measuring the pH level.



Applicator Guidance

The weather conditions for application and drying are critical. Do not apply if any of the following conditions are likely to arise during application or shortly following application:

- If frost is forecast
- If the render surface can not be kept dry or exposed to a relative humidity of less than 85%
- If the substrate is hot - above +30°C

The render must be protected against any rain, excessive solar radiation or extreme winds in the first 24-48 hours after application. Sheeting the façade or the scaffold is advised to protect against this, please note that whilst plastic sheeting offers excellent protection, this may delay the curing time as there is very little air movement drawing the moisture out of the material. If these parameters are not met, the product is at risk of colour variation, efflorescence and potential failure. It is the responsibility of the application contractor to protect the render and record the weather conditions during application and curing of the product.

When a cement base coat render is applied, the material is highly alkaline with a high PH as it cures and the cement hydrates the PH will drop. Silicone/acrylic renders and masonry paints have a requirement that the substrate has a PH lower than 9 prior to application. A cured base coat render will easily attain a PH in the range of 8-9 when cured and dry.

If a Silicone/Acrylic render or masonry paint is applied before the base coat has fully cured, a "burning" may occur to the Silicone/acrylic renders or masonry paint due to the alkaline nature of the uncured basecoat. This may appear as a loss in colour or 'mottling' of the render or masonry paint in severe cases, potentially resulting in the breakdown of the product. At this point, water entry may aggravate the situation reducing the strength of the render and in extreme cases delamination may occur.



Method 1 – Moisture Meter Readings

The figures quoted in this section are intended as a guide as high humidity levels will need lower levels to reduce the risk of delayed curing of the finish coats and the risk of efflorescence.

Using a moisture meter, insert the prongs into the base coat and measure the moisture content. The table below gives a guide line on the maximum acceptable levels for both EnviroRend, RetroBase and Cement'in C&G.

Granol acrylic render	15%
Granosil silicon render	15%
Granomin mineral render	15%
Dash Receiver	25%
EnviroBrick render	25%
Speedy Slip acrylic slips	25%

It is important to ensure that any moisture meters used must be able to display values greater 25% and must be calibrated in accordance with the manufacturer's instructions.



Method 2 – pH Levels

This method measures the basic chemical state of the render through its pH level.

Care should be taken to ensure that all areas marked with pH testing pens are removed by light abrasion prior to the application of further render coats. Failure to do so will result in the marks being visible in the finish coats.

It is advisable to carry out all tests using this method in inconspicuous areas.

How to measure pH to check when finish coats can be applied?

The most reliable method is to use a pH pencil. These pencils may be obtained from companies who distribute paint testing equipment such as Cole Parmer

<http://www.coleparmer.co.uk>

The use of a pH pencil will

- Immediately give the surface PH value.
- Give the widest range available - reading from PH 0 to 13 - with 14 different colour matches.
- The handy, easily portable form is perfect for pH spot checking base coat PH, requiring as little as 0.001 ml of distilled water.



How to use a pH pencil

To use, first wet the surface or area with distilled water and then stroke several times with the pH pencil. After 15 seconds, compare the resulting colour against a pH colour chart. The link above is for a kit pack that includes three mechanical pencils and two colour charts. Only use distilled water. Do not use tap, still or sparkling water as this will affect the result.

Care should be taken to remove the pencil marks as this will leach through the finish coat.

The pH testing Kit



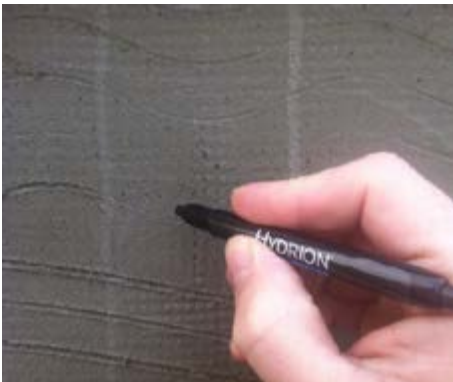
Step 1. Apply distilled water to the base coat



Step 2. Remove pH pencil from test kit



Step 3. Using the pencil, mark the base render



Step 4. Colour will appear on the render



Step 5. Measure colour against chart, if it is above 8 wait some time and test again



Step 6. Retest to ensure it is not above 8



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