BUILDING TRUST

TECHNICAL INFORMATION SHEET

What causes holes in my mineral render finish?

Holes forming in a finished 'Monocouche' / one coat / lime render looks unsightly and often only appear several months or sometimes years later. But why does this happen?

There are a couple of reasons that generally cause this, but the primary issue is air entrapment within the render. As the render dries, the water vapour needs to escape via the surface, but when it comes across a closed surface, there is nowhere for it to go. The bubbles get bigger as the more moisture tries to move through the render and collects together under the surface.

The problem occurs if the surface is closed with a steel float and the render has not been aerated sufficiently with a serrated spatula or derby first, particularly when the applicator has sprayed the material onto the wall. The same can also occur in walls that have been hand applied but this is far less likely.

For spray applications, the applicator needs to have the correct adjustment of the air nozzle on their particular spray render machine – this information is provided by the machine manufacturer and is 'tweaked' by the applicator to suit different renders. If this is not carried out correctly when the render is sprayed, some air bubbles get trapped inside the render, creating a thin, non-bonded layer of render above the air bubble. The applicator, during the initial spray, should be aware of this and can adjust the machine accordingly to avoid this occurring.

If this is not picked up during spraying, it should normally be dealt with when the applicator rules off the wet material using a serrated derby or spatula. This will often break the 'bubble' and ensure there are no voids within the render. If a standard derby is used or a flat spatula, then this may just exacerbate the problem, sometimes causing small slumping effects in the render surface during the levelling off process. This slumping effect is a tell-tale sign which applicators should be aware of. Pump suppliers are also fully aware of this and should make the applicators aware of this on their training courses.

When the slump effect is seen, all the applicator needs to do at this stage is break the bubbles which will resolve the problem. However, inexperienced applicators may think the render is too wet and tend to leave the render for a short while to stiffen and then go back and re-work, flattening the render surface, which traps in the air bubbles. The applicator then completes the work which looks nicely finished, and under initial set all looks fine. As the render cures, water vapour tries to leave the render through the natural pore network that exists. If the surface is closed off, the water vapour cannot escape, forming a bubble under the surface. When the render gets wet, particularly so during the winter months, and with the effect of freezing temperatures, the thin bubble surface begins to show on the surface and will eventually break, with the render falling away which then leaves holes in the finish. This is generally more apparent on the prevailing walls as these receive the harshest weathering.

To deal with the problem at this stage is quite difficult because patching the render is possible but very unsightly. Painting over after repairs also does not hide the patches, it just evens the colour of the finish which customers do not readily accept.

The only suitable solutions are to either hack off and re-render but this is generally very disruptive, so an alternative is to needle gun / scabble the surface and patch repair the holes. Then depending on whether it is a lime or cement based render apply an appropriate new top coat finish.

Due to the potential issue of thickness limitations, one solution for cement based finishes is to apply a Micro

Gobetis 3000 sealer coat, apply a 2 – 3mm layer of mesh reinforced Maite base coat then apply an acrylic finish comprising of DPR or Revlane+ Regulateur Primer and DPR Sand Fine or Revlane + Taloche Fin top coat finish.

For lime based finishes, apply a sealer coat of Fixopierre followed by a new top coat Parex lime finish.

This information is provided as guidance only and it is the individual's responsibility to ensure that they and the client are satisfied with the desired solution or any colour matching requirements. Sika are unable to offer any colour matching guarantees.

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