

# TECHNICAL INFORMATION SHEET

## Cracks in mineral render finishes and best practice

Any finished render system should not be considered as flexible and as it is bonded to the substrate, any movement in the substrate will show itself in the render finish. The render finish should be seen as the final coating or skin to the structure to which it is bonded to. Hairline cracks may appear in the finish due to surface tension shrinkage, as the product cures, and will be less than 0.2mm in width.

These hairline cracks are classed as fissure cracks and are not detrimental to the performance of the render system and are acceptable under BS EN 13914. Cracks that are wider than this are also not detrimental to the system but should be inspected further as they are typically caused by underlying structural movement. This movement may be settlement in the new structure, and as such once the structure has settled, the cracks can be repaired using the Sika Crack Repair kit and should not appear again. If the cracks do not settle down, then this shows more serious movement. Typical causes of this, but not limited to, include: moving ground conditions; ground frost heave not allowed for in the foundation design; excessively wet substrates; lack of bed joint reinforcement and lack of provision of movement joints, etc.

The most common causes we find on site are the lack of provision of bed joint reinforcement and lack of provision for movement joints. Both are extensively covered within house builder warranty technical guides, i.e. NHBC, LABC, Premier, etc. and for timber frame structures with a block outer skin, we find that the movement joints in the timber frame are not mirrored in the blockwork causing the render to crack.

Vertical cracks are commonly caused by the lack of movement joints, whilst cracks coming diagonally from windows/doors or following the blockwork coursing are caused by the lack of bed joint reinforcement in these areas.

**Please refer to: BS EN 13914-1:2016**

**Design, preparation and application of external rendering and internal plastering - External rendering**

- guidance on assessment of cracks in rendered finishes.

### Crack Repairs

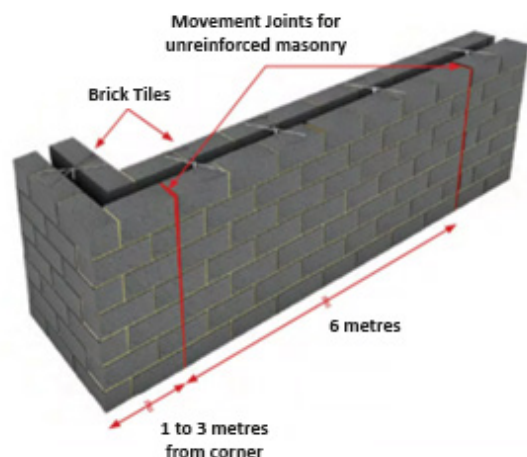
If the cracks are no longer active, please refer to the **How to repair cracks to masonry coatings** for appropriate procedures.

Alternatively, you can contact the Sika Building Finishing Technical Team for further assistance.

### Best Practice

#### Movement Joints

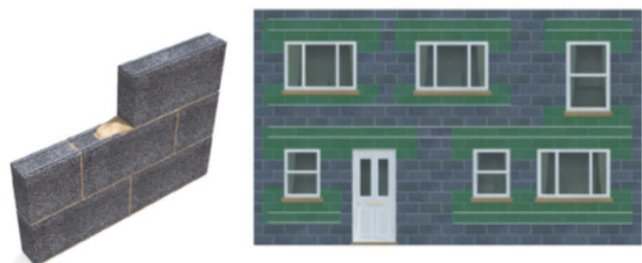
Movement joints should be introduced into the structure as recommended by the designer/brick/block manufacturer and in accordance with the guidelines offered under BS 5628 - Code of practice for design of joints and jointing in building construction. As a guide these are generally placed at 6m centres and within 3m of a corner.



## Bed Joint Reinforcement

Cracking of the substrate can be greatly reduced by using bed joint reinforcement.

Reinforce one block course above the lintel and below the sill, with an additional chord one block apart. Extend the reinforcement a minimum of 500mm past opening or where openings are closer together, to create a continuous chord.



Typical Bed Joint Reinforcement and TV10 Mesh locations (minimum requirement)

## Rain Protection

The use of a temporary downpipe/plastic sleeve as shown in photo 1 will protect the substrate from becoming wet and reduce the risk of lime bloom and discolouration.



Photo 1

## Lime Blooming - Efflorescence

Efflorescence is a natural process caused by the migration of soluble salts to the surface of cementitious products which often appears as white surface deposits. This can also affect a render appearance where the efflorescence effect is often termed as lime blooming. It is not harmful and does not affect the strength or durability of the render.

**Sika Salt-Away** can be used to aid the removal of lime bloom/efflorescence. For additional guidance for a project specific solution, please contact Sika.



## Dissimilar Backgrounds

The use of different density materials will generally result in differential movement occurring in the substrate. This will require the use of **Sika TV10 mesh** embedded within the render.

For additional guidance for a project specific solution, please contact Sika.



## Wet Substrates

When rendering is required to wet substrates, it is recommended to apply a sealer key coat prior to applying the main coat of render. This key coat will provide a sound substrate for the main render by controlling suction and reducing the impact of lime blooming occurring through the render during its curing stage. The key coat would be created by mixing **Sika 751 Lankolatex** with the render and allowing it to dry for a minimum of 24 hours before applying the top coat render finish. For additional guidance for a project specific solution, please contact Sika.



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## Algae Growth

Where an algae has formed, it should be removed prior to the application of the render by power washing the wall. In severe cases, the application of **Sika Mouldbuster** will kill the algae/moss and its spores.



## Please Note

Sika Limited will provide technical assistance if necessary and website and telephone assistance is also available, please visit **[www.sika.co.uk/buildingfinishing](http://www.sika.co.uk/buildingfinishing)**.

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