



# TECHNICAL BULLETIN

## Mould and mildew formation on sealants

The appearance of mould and mildew on sealants is a recurring event. This can be noted by the appearance of black spots and stains on the surface of the cured sealant. Fungi are microbes; out of more than 250,000 known types of fungi there are also 50,000 which belong to the group of mould fungi.

The black spots which appear on the surface are actually products of the metabolism of mould fungi.

### 1) Reasons - Mould growth is the result of a number of environmental conditions:

- High moisture content and bad air circulation in bathrooms and kitchens
- Organic waste materials on the sealant surface (soaps, body gel, kitchen rests, etc)
- Warm temperatures

Elastic sealant joints (silicones, hybrid polymers) are excellent insulators; therefore they are not thermal conductive. As a result they are the warmest part of a tiled surface and the most suited substrate for the growth of mould fungi on the organic waste materials.

Mould fungi reproduce through microscopic spores, very often single cells. They distribute like dust, are very resistant and have a long life span. Once these spores arrive on a sealant joint where the three factors (moisture, organic waste, high temperature) for growth are present, the spores will first absorb moisture and swell and then a circular thread appears which grows into germ tissue. This germ tissue (mycelium) can grow very quickly. At this stage the growth of the mould fungus is limited to the organic waste materials on the sealant surface (primary mould growth).

### 2) Counter measures

Soudal offers sealants which contain mould inhibitors (fungicides). Among the products containing such mould inhibitors are All Purpose Silicone, Bathroom & Kitchen Silicone, Silirub Cleanroom, Fix All Flexi, Fix All High Tack, Fix All Crystal, Soudaseal 240FC, T-Rex Power Bond.

Soudal only uses quality fungicides which are free of heavy metals in order to protect the environment. These mould inhibitors will block the formation of the mould, but will be consumed by this process. This means that the amount of fungicide in the cured sealant is decreasing over time and that after some time, when the total amount of free fungicide is depleted, mould may form on the surface of the sealant again.

A sealant surface containing mould inhibitors will therefore remain mould-free for a longer time than a sealant surface not containing this fungicide, but after a period of time (depending on the environment in which the product is applied) formation of some mould will appear on a sanitary sealant surface as well.

### 3) Mould and mildew prevention

It should be mentioned that a good hygiene of the sealant surface will prevent the formation of this kind of contamination. Regular cleaning and disinfecting of the surfaces will therefore keep the sealant (and of course all other materials in that area) free from mould.

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In addition the environmental parameters (temperature, humidity, amount of spores) are very important. It is impossible to prevent the presence of fungi spores in the area. However, in the area which is regularly aerated and kept dry the anti mould performance of sanitary sealants is much longer.

In addition, the joint surfaces need to be cleaned regularly with a neutral or alkali based cleaner. Also disinfected regularly with a germ killing disinfectant. Acid based cleaning agents should not be used as they promote growth of mould.

#### **4) What to do once mould grows on the sealant surface**

As long as the mould growth is limited to the surface an anti mould spray or similar products should be applied. Such products will kill the mould fungi and the black residue can be cleaned off easily.

Once the mould grows into depth of the sealant joint it is necessary to completely remove the joint. Before applying a new sanitary sealant you should ensure that the joint area is completely free of fungi by applying an anti mould spray onto the joint area.

For more information contact us, phone 1300 50 70 11 or [info@soudal.com.au](mailto:info@soudal.com.au)

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