

Facts on

Biological films and moulds

What are biofilms?

Every surface in the natural environment is covered in microscopic organisms such as bacteria, moulds and fungi that we cannot see with the naked eye. Most of the time they are harmless or even beneficial and we are only aware of them when they are creating problems such as making food rot, causing infections in our bodies or unsightly growth on surfaces we would like to remain clean.

A biofilm is the name given to a floating mass or layer of microbes. In some situations it is common to see biofilms such as slime on rocks in a river, coloured growth on the shower curtain and grout in the bathroom or black slime in the drawer of your washing machine/inside a tap. Even the plaque on your teeth is a biofilm!

Why do biofilms grow on surfaces?

Microbes are always seeking the nutrients they require for growth and these are often more available on surfaces than in liquid so the bacteria attach themselves too. Once they have attached they begin to multiply and form a biofilm. The cells produce a layer of slime which protects them from drying out and the effectiveness of disinfectants which cannot penetrate through it to kill the microbial cells. Bacteria grow quickly in moist, warm environments with a source of nutrients such as food particles, soap and shampoos, i.e. the conditions found in kitchens and bathrooms which is why these are often the problematic areas.

Are they harmful to health?

Biofilms are rarely more than a nuisance but it is not a good idea to allow the growth of large numbers of bacteria since whilst in low numbers they are usually harmless, in a higher concentration they may manage to infect a cut or wound and some moulds can cause an allergic reaction in susceptible people.

How do I get rid of biofilms?

Biofilms can be removed by spraying them with household disinfectant sprays and wiping/brushing them away and re-spraying the surface. If cleaning the tap then ensure the surface is rinsed thoroughly. Sprays containing bleach will remove any staining caused by a biofilm (not to be confused with lime scale) unless the microbes have infiltrated a soft surface such as silicone sealant. In this case, replacement is the only option.

Black slime is commonly found in washing machine drawers. This is due to environmentally friendly changes in our lifestyles such as the reduction of bleach in washing powders and because we are encouraged to wash our clothes at lower temperatures. Running the washing machine at 60°C or above once a week will heat kill the microbes and may reduce growth as will leaving the drawer open after use to allow it to dry out between loads.