CASE STUDY SOOT REMOVAL FILM

Run the film! Dust-free removal of surface mold

The combined ATP/AMP measurement detected very low levels of contamination with dead mold residue.
Not only were the visibly clean wall surfaces disinfected, they were also cleaned of dead and allergenic mold residue through use of the SRF film.

A major problem when dealing with mold remediation is the danger of dust developing that releases and distributes spores, mycelium, toxins and allergenic substances.
Remediation methods previously used in tackling mold surfaces can lead to air becoming polluted by hundreds of thousands, even millions, of spores etc. as they are released into the air. Even when damp surface cleaning methods are used, very high levels of air pollution may still occur. Even prior disinfection through the use of alcohol or hydrogen peroxide cannot prevent this sufficiently since the surfaces dry again. Sufficient disinfection of dirty, heavily polluted porous surfaces may not always be guaranteed Dead, contaminated material may (partially) be released again.
On the other hand, immediate use of dust-binding, removable cleaning films guarantees that all potential air-born dust and contaminated surface coatings are immediately contained, even during the spraying process itself. Once the applied white film has bonded, the contaminated layer, now bonded to the film, is simply peeled off. A pore- deep, clean surface free from contaminants remains. The method is also suitable for absorbent, porous surfaces that are sensitive to chemicals and mechanical processes.
Two types of film are available and have been used for more than a decade in removing (toxin-containing) soot deposits left behind following a fire. As a result, they are called soot removal films (abbr. SRF, SOOT REMOVAL FILM) even if they have now extended far beyond their original use.
The slightly alkaline SRF 4 (pH 11) most commonly used in buildings provides the best cleaning performance. The more conservative and almost neutral SRF2 (pH 8.5) is used to tackle very sensitive surfaces including wall paintings and historic timber structures, Efficacy and mate- rial compatibility can largely be regulated by varying the parameters for use and the application techniques. Exposure time can take anything from minutes to hours depending on application, in some instances, even days may be necessary. The films can also be used as temporary protection on the ground in order to prevent any spreading or further dirt penetration. The surfaces must or should not be pre-treated or disinfected when using the SRF method.

As a general rule, there is no need to suction clean beforehand either. In some cases, both of these pre-treatments would be rather counter-productive. Contaminated material can be pressed or forced deeper into the pores when such methods are used, making it even more difficult to remove or only through the use of abrasive methods. In contrast, SRF makes subsequent disinfection of mold damage easier, since only (mostly invisible) low amounts of residue need be disinfected.

Where very thick layers of mold or mass dust deposits are present, prior treatment using suction cleaning is only useful in specific cases, for example, when it prevents contact between the removable film and the surface. Treatment using SRF, therefore, saves time and money with almost every type of surface contamination, whereby dispersal of hazardous substances (spores, fibers, toxins, etc.) is kept to an absolute minimum. As opposed to other methods (wet washing, jet washing, blasting) contamination is generally removed from all manner of absorbent or porous

surfaces in a much better, deeper and more gentle way.

Even blasting with soft powder or dry ice is not as effective, is much too abrasive and produces extreme amounts of dust in comparison.

Materials are not soaked through or damaged by moisture which can usually be the case with wet, aqueous cleaning methods which also promote growth of molds and often require subsequent drying. The SRF film merely dampens the surface fractionally and is quick to dry.

The removable remediation film should only be applied by a remediation team who has sufficient experience with the materials, the method of application, its application on sensitive surfaces and who is familiar with the problematic of mold growth. Firstly, for example, surface material that could disperse into the air (spores, dust) must be quickly immobilized by lightly spraying with SRF. Special compressed air sprayers are used for the very viscous material. On the other hand, a direct blast of compressed air close-up could cause dust to be dispersed.

For safety reasons, a HEPA air filter unit is still used when employing the SRF method, set-up either as a recircula- ting air or vacuum unit. Dust could, for example, be dispersed when a building site is set-up (putting up containment systems). However, in comparison to other methods, this drastically cuts down the use of expensive air filter cartridges continually being replaced according to demand. In individual cases, the film method can re- duce the complex containment process as this also re- sults in high costs and delays. This is especially true for large building complexes or churches, the costs of con- tainment systems in interiors are often high.

Here are three examples where experts recommended the use of SRF:

The wooden roof trusses of a large industrial building were covered with surface mold. SRF4 freed the wood of its mold coating pore-deep. In this instance, it was not necessary to use alcohol as a disinfecting follow-up treatment, something usually recommended, since, although the film of the alkaline SRF4 (pH 11) does have a minor germicide and antibacterial effect, it is not a disinfectant. Following excavations in a church, the heavily mold-covered floor and base of the church pillars were sprayed with SRF2 in order to bind the dust and the coating of mold was simply peeled off again a few days later. The SRF film can be disposed of as household waste.

The ground was now clean but still had mold deep inside caused by the rising damp, this was heavily treated with disinfecting alcohol and the process was repeated several times. HEPA air filters were set up to purify the air whilst the ground material was subsequently drying.

The church was only outwardly sealed. This was the safest and most economic method in comparison to other methods. Further contamination of the entire nave was also prevented. A severe attack of mold caused by water extinguishing a fire occurred in a historic, public building with 60 rooms. After a gradual containment process took place and the building structure was partially exposed, the contamina- ted walls and timbers were cleaned using dust-binding SRF and disinfected with alcohol or hydrogen peroxide. By measuring adenosine triphosphate (ATP) present in all living biological cells, the success of the cleaning and disinfecting process could quickly be checked on-site. Dead biological cells only contain the degradation product adenosine monophosphate (AMP).

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