

# Concrobium Mould Removal Product Overview



## Overview

A particularly vexing problem in the mould remediation industry is addressing fungal contamination sources in the areas of buildings that are generally unoccupied and that have restricted access to and movement within the space.

Roof areas and crawlspaces, which typically pose these challenges, often have visible mould growth and are readily viewed by repair personnel, home inspectors, and others. Unlike wall cavities where new finish material is applied after remediation is complete, the visual appearance of roof areas and crawlspaces plays a much bigger role in client satisfaction with the contractor's efforts in dealing with microbiological growth.

Given these challenges, any remediation process specifically designed for these sites should offer the following:

- Compliance with accepted industry practices and the established standard of care
- Effective removal of fungal contamination (physical separation of mould from substrate and removal from the site)
- Effective removal of staining
- Improved appearance without resorting to coloured coatings or other topical applications that can obscure the underlying surface, add toxic chemistry and create vapour barriers where none should be

Fortunately, by matching state-of-the-art remediation products with a detailed understanding of industry practices, a comprehensive approach for addressing contamination in difficult-to-reach spaces is now available.

The following methodology provides an overview of the steps required to remediate and restore mould-damaged roof spaces – and similar restricted areas, such as crawlspaces – using the Concrobium product!

This step-by-step approach helps restoration contractors achieve superior remediation results with greater efficiency by replacing labor-intensive work practices (sanding, wire-brushing), dangerous chemicals (bleach, hydrogen peroxide), and complicated blasting (soda, dry ice) with a safe, innovative, straightforward cleaning process.

## **Step 1: Site evaluation**

As with any remediation process, a detailed site evaluation should be completed to assess the problem and develop an appropriate work scope for the project.

This evaluation should include:

- A thorough visual inspection with particular attention paid to areas with water staining or potential microbial growth.
- Identification of the source(s) of the moisture issue so corrective action can be taken.

At a minimum, the following should be considered:

- Exterior moisture sources (compromised tiles, flashing deficiencies, or separations around chimneys)
- Interior moisture sources (pipe leaks, exhaust issues, HVAC malfunction, elevated water table)
- Inadequate ventilation leading to moisture accumulation and vapour diffusion (inoperable roof vents)
- Appropriate environmental measurements as necessary to complement the official inspection, including moisture measurements and, possibly, air/surface sampling for identification of microbial contaminants.

## **Step 2: Planning for Building Occupant Safety**

A plan should be developed and implemented to prevent cross-contamination from the roof area (or other unoccupied spaces) to occupied parts of the building.

This plan should address:

- Pressurization (negatively pressurize roof area or positively pressurize living spaces, or both)
- Isolation (set up plastic sheeting and other isolation systems; seal ductwork and vents)
- Airborne particulate reduction (mechanical air scrubbing and/or outdoor air exchange)

## **Step 3: Planning for Worker Safety**

Roof areas and other confined areas, such as crawlspaces, present particular challenges for restoration contractors. A comprehensive plan should be developed and implemented that addresses issues including:

- Proper classification of job site with respect to ingress/egress and confined space issues
- Site access (plan to safely enter and exit restricted spaces without cross-contamination)
- Appropriate worker PPE availability (to protect against not only microbial contamination, but also against airborne dust and insulation in the specific environment)
- Maintenance of safe environmental working conditions (e.g., temperature control, lighting, hazard reduction, engineering controls)

#### **Step 4: Reduction of Loose Particulate**

Once the work site has been properly prepared, it is essential that steps be taken to control particulate matter that could become airborne during remediation procedures. To effectively limit the spread of loose contaminants (both visible and microscopic) it is important to remember that there are three classes of particulate matter that should be addressed by the mould remediator:

1. airborne particulates,
2. settled particulates, and
3. adhered particulates. (Certain industry guidelines classify settled particulates from mould as “condition 2”, and adhered particulates that appear to be physical growth as “condition 3”.)

To reduce the airborne particulate count and limit the amount of settled particulate that could become airborne during remediation procedures, the following steps should be taken:

- Deploy a mechanical air scrubber(s) with a HEPA filter throughout the work process to reduce airborne particulates.
- Examine contaminated contents and either discard or clean items, depending on their value and the likelihood that the items can be effectively cleaned. Mould-saturated paper-based products, soft porous items, and fabrics can be difficult to clean at a reasonable expense. Items to be discarded can be HEPA vacuumed first if desired, but should in all cases be sealed in plastic bags and removed from the area.
- All surfaces should be HEPA vacuumed to remove loose particulate matter – particularly those showing evidence of growth.
- Most standard types of roof area and crawlspace insulation (fiberglass, treated cellulose, spray foam, foam board, etc.) will not typically support direct growth. Whether it is necessary to remove and replace the insulation is a question that must be answered on a case-by-case basis. Some of the factors to consider when determining if insulation needs to be removed include the type of insulation, moisture content, degree of mould accumulation, amount of natural ventilation, volume of air migration from the space to the occupied areas, sensitivity of the occupants, current effectiveness of the material, the cost of removal and replacement, and requirements of local building codes.

#### **Step 5: Adhered Particulate and Stain Removal**

Once airborne and loose particulate matter has been addressed, mould that is adhered to surfaces needs to be physically separated from the substrate for removal. Using this method, wire-brushing and sanding are replaced by the application of Concrobium Mould Stain Remover (CMSR). Once dried on the surface, the solution accomplishes two things: 1) physical separation of mould from the surface and 2) surface mould stain removal.

- Ensure target surface temperature is at least 15.5°C (60°F)
- Mix CMSR according to instructions and set up spray equipment
- Apply CMSR to areas of visible growth
- Saturate surfaces and observe results for approximately 20 minutes (avoid spraying the solution directly on insulation)
- Reapply solution to surfaces where mould stains do not appear to be fading (Note: rough surfaces or areas of deep stubborn staining may respond better if agitated with a nylon cleaning brush)
- Allow surface to dry

## **Step 6: Detailed Cleaning**

Once adhered mould has been loosened from the surface and stains have been removed, detailed cleaning should be undertaken to remove any fungal micro-fragments that remain on the surface. Careful, detailed HEPA vacuuming and cleaning are critical for the complete removal of all remaining bio-contaminants.

While in some situations the entire site should be HEPA vacuumed, at a minimum the following steps should be completed:

- HEPA vacuum all previously treated surfaces using brush attachment
- HEPA vacuum all visible dust and corners/crevasses

## **Step 7: Surface Protection**

Once the area has been cleaned to a standard necessary to meet clearance criteria, the site can be treated with a preventive antimicrobial for ongoing mould resistance. Using a ULV (cold) fogger, apply Concrobium Mould Control (CMC) according to the manufacturer's directions. The product is a VOC-free, odourless fungistat that is vapor-permeable after it dries, unlike typical coatings and sealers. When fogged, CMC will help to clean the air and will provide surfaces with an antimicrobial resistance.

In general, the fogging involves:

- Adjusting the conditions in the remediated space to facilitate as much dwell time in the air as possible (reduce airflow and movement)
- Using a ULV fogger, applying a heavy fog to the entire remediated space
- Allowing surfaces to dry (from 1 to 3 hours, depending on conditions)

## **Step 8: Post-Remediation Verification and Documentation**

Once the protection phase is complete, the site is ready for post-remediation verification activities:

- Moisture measurements to ensure that remaining materials have dried properly
- Surface measurements utilizing an ATP sampling instrument for immediate results
- The use of an indoor environmental professional to sample according to previously-agreed-upon verification plan
- Documentation of the process, including before and after photos, a summary of the work steps, and a log of measurement/sample results
- Completion of any final repairs to control future moisture intrusion

