TECHNICAL NOTES

MOULD AND ALGAE ON EXTERIOR SURFACES

MAINTAINING YOUR HOME – MOULD AND ALGAE ON EXTERIOR SURFACES

Organic growth on external surfaces is typically naturally occurring micro-organisms of fungi or algae which left unchecked can cause blemishes or staining of painted or unpainted surfaces. The resultant blemishes are the result of site and environmental conditions that support or "feed" their growth.

The key to reducing the risk of contamination is managing the conditions that otherwise fuels growth.

MOULD OR ALGAE?

The distinction becomes important when we consider control measures.

Algae are plants that derive their energy from chloroplast requiring light energy from the sun.

Mould is actually a form of *Fungi* which thrive in conditions of low or no light providing there is adequate moisture and a nutrient source (eg any organic matter such as leaves, wood, dirt etc). Fungi can be spread by airborne spores that are present in surrounding environments.

Treatment of either Fungi (mould) or Algae is similar typically involving cleaning and sterilising.

Prevention of growth / re-growth requires maintenance of the surface and environment to eliminate one or more of the conditions required for growth.

PAINTED SURFACES

Fungi and Algae can exist on virtually any surface (even glass) provided the right conditions for growth are met.

Visible growth on painted surfaces is typically caused by contaminants present together with the presence of high enough levels of moisture to support growth.

Whilst paints can be "fortified" with agents restricting growth, protection relies on reaching the growth and the active agent remaining "active".

Agents in paints become ineffective where they cannot "touch" the growth source (eg where growth emanates from deposits on the film). Additionally the active agents are "consumed" in the process such that protection is time limited where conditions support ongoing growth.

KEEPING SURFACES FREE OF MOULD/ALGAE

Mould and Algae are essential parts of the earths' biomass & natural growth will occur where favourable conditions exist. Typically algae is more prevalent on roofing and horizontal surfaces receiving maximum light and moisture.

Unlike Fungi, Algae requires light to grow.

Fungi (mould) do not require light but thrive in damp environments.

In all cases maintenance of surfaces and surrounding environments is required to restrict growth / regrowth involving:

- Regular cleaning of surfaces to remove dirt and airborne deposits
- Restriction of nutrient sources such as leaves, plant matter, waste
- Specific attention to areas of high moisture and/or poor ventilation creating ideal growth conditions

BEST PRACTICE TO MAINTAIN YOUR EXTERIOR FACADE.

Organic growth on external surfaces is a sign that the prevailing conditions that exist (eg. high surface or substrate moisture levels, organic nutrient availability, airborne mould spores) are conducive to organic growth. Once initiated, natural growth will develop and continue until treatment is effected and one or all of the conditions are controlled.

Where you see mould on a surface you need to look for potential causes - generally dirt accumulating on the surface (containing contaminants or the "food source") and excess moisture (potentially poor ventilation, drainage, leaks allowing the moisture level to stay permanently high)

Overwhelmingly, the easiest condition to control is the reduction of surface contamination through regular and simple cleaning Dirt, organic matter, airborne pollution left unchecked provides both the nutrient source and increased moisture retention.

PREVENTION IS BETTER THAN CURE!

Whether your building is cement render, brick, masonry or timber, all exterior painted surfaces will benefit greatly from an annual "spring clean". Dependant on the site conditions and location more frequent cleaning may be required, examples include:

Coastal environments continuously subjected to wind spray may collect more dirt and airborne matter and benefit from more regular cleaning

Rural locations subject to increased airborne plant / organic matter or industrial areas are at higher risk of surface contamination supporting growth.

Locations with high airborne yeasts (such as near breweries or bakeries) are at increased risk.

A simple but routine maintenance program of the external surface involving inspection & cleaning also provides for identification of potential issues before they develop into costly repairs. Pay particular attention to likely water ingress points such as around windows & flashings, gutters & downpipes and drainage away from walls.

Prepare a bucket of warm water mixed with a moderate amount of household detergent. Caustic-based preparations should not be used, as they may damage the coating. Hose down walls to remove loose dust and dirt.

Apply the cleaning solution to wet walls with a soft bristle brush, or broom. Localised grime or ingrained dirt should be removed by cleaning with gentle scrubbing. Before the cleaned walls areas dry, hose it down thoroughly with clean water.

Note : Cleaning by High Pressure Wash is generally not recommended as damage my occur where pressures are excessive. If used in conjunction with soft brushing or brooming or for rinsing a maximum pressure of 450-psi is recommended using a wide fan jet angled at 45 degree and kept at least 20cm away from the surface.

Dependant on location and environment professional cleaning and recoating every 5-7 years is recommended to maintain premium aesthetics. Warranty periods of materials (including paint) typically do not cover normal exposure weathering and aesthetics.

TREATMENT OF EXTERIOR WALLS WITH MOULD OR ALGAE

Where organic growth has initiated and spread, remedial action is required to treat the infection - Cleaning alone typically will not prevent further growth

In minor instances where growth is minimal, isolated to a specific area, and discoloration of the surface is not ingrained, spot treatment with a mild household bleach solution (5% Sodium Hypochlorite) may be practical.

It should be noted that in such cases :

The spot treatment may "bleach" the colour - *a test area in an inconspicuous area is recommended*

The treatment provides an "initial kill" but offers no residual protection – *attention to the conditions supporting growth as defined is required for longer term protection.*

Where ingrained growth has developed and staining of the surface has occurred,

Pre-Treatment and Recoating System approach is required consisting of:

Pre-Cleaning, Sodium Hypochlorite Treatment and Residual Effect Sanitising of the surface

Encapsulation using a Sealer Coat to restrict moisture penetration and stain migration

Recoating with 2 coats of "Tropical Strength" (high Fungal / Algal protection) Topcoat.