

STRUCTAflor

Structural Flooring



Characteristics of mould fungi

THE NATURE OF MOULD FUNGI

The fungi that meet this broad description are referred to as the Lower Fungi. This group of fungi is made up of a large heterogeneous number of genera belonging to the Class called Fungi Imperfecti.

The moulds include many industrially useful species, e.g. *Penicillium*, *Aspergillus*, *Fusarium*, *Trichoderma*, *Cladosporium*, and are very variable in colour, ranging from white through pinks and yellows to dark green and even black. These colours are the result of pigmented mycelium (the fine hyphae or threads that make up the growing mass of the fungus) and pigmented spores, and are often easily seen as a cobweb-like web ramifying across damp substrate surfaces.

Mould fungi grow on simple sugars on substrate surfaces, and, in the case of wood products, never attack the wood structure since they derive their nutrients from the cell contents rather than the chemicals in the cell walls that provide integrity and strength to the wood.

The most recognizable problem of unwanted mould growth in an established home is where humid and damp situations prevail, e.g. in bathrooms, laundries, kitchens, and poorly ventilated bedrooms. Condensation may arise here and this source of water favours mould growth and spread. Often the moulds are easily seen because they are darkly pigmented and/or produce coloured spores.

Under unusual circumstances when mould growth is profuse and prolonged over wall and floor surfaces and copious numbers of their spores are produced by some species, e.g. *Stachybotrys* species, they can present a respiratory health problem, causing asthma-like symptoms, lung diseases, and allergic reactions. The spores have to be in very large numbers, disturbed by air movements and readily and frequently respired. Generally there has to be exposure to the fungi over a long period, i.e. a chronic exposure, for potential health effects to arise. It would be most unlikely that a home owner would suffer this degree of exposure during the building stages; by the time the dwelling is handed over the builder should have ensured the home is weather-tight, dry and fit-for-occupancy. This condition would not support mould infection and growth.

THE REQUIREMENTS OF MOULD FUNGI

Like all fungi, moulds will only grow if the substrate contains useful simple nutrients, there is oxygen present, and most importantly, there is sufficient moisture. In the case of wood materials such as particleboard flooring and pine framing the moisture content must be above about 20-25% and remain at and above such levels for some time, i.e. if the wood material dries it will not be conducive to moulds becoming established and certainly will not sustain any mould already present on the wood.

The moulds that grow on damp wood surfaces produce a dark discolouration but never attack the wood itself. In other words they do not cause decay or rot of the timber. In my experience it is not unusual to observe mould growth on damp building materials at some stage during the construction process, especially before the building is made weather-tight. In the cases where wet weather is encountered during building, all exposed timbers, flooring, etc. may become wet and exhibit some degree of water damage raising the moisture content of the material. Moulds may begin to colonize wood at levels above 20-25%, but when the moisture contents are greater than c. 35% and higher their more rapid growth is supported and they are readily noticed growing on and spreading across the wet surfaces. They will continue to grow until these surfaces have dried out sufficiently (to 20% moisture content or less) that the mould fungi cannot survive.

CONTROLLING MOULDS

The easiest way of controlling mould growth is to remove the moisture source. Good air movement or ventilation will reduce humidity and assist drying of the surfaces of substrates. Under these conditions moulds cannot establish themselves and their spores are not produced. Mould growth that has already become established will not survive.

When mould growth is observed it is important to remove the moisture source. The mould can then be eliminated by wiping the affected surfaces with mild detergent and/or bleach solutions or other chemicals such as oxalic acid.

EXPOSURE, STORAGE AND HANDLING

STRUCtAflor may be exposed to the weather for up to 5 months, however it is always advisable to enclose the building as soon as possible after laying the floor. Any ponded water should be removed as soon as practicable. This can be achieved by drilling holes of 8mm maximum diameter at not less than 1 metre spacing through the floor where ponding occurs and sweeping water away.

When storing outside, ensure packs are kept clear of the ground. Cover with waterproof sheeting laid on timber battens so that air circulates freely between the waterproof cover and the product. Handle and stack with care to avoid damage. Always wear a dust mask, goggles and gloves when working with wood products. Refer to website for the Safety Data Sheet.



STRUCtAflor H2 BLUEtongue & GP YELLOWtongue



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