MINZ
Mould Inspections NZ

ASSESSOR REPORT

Client name:	Tel:
Site address:	Email:
Date:	Job Ref:

This was a non-invasive inspection undertaken on 10/10/17. The objective was to assess the regrowth of mould in the roof void. The mould on the roofing underlay and timber roof structure was chemically decontaminated on 28/09/17 as per photos provided at the time.

It was decided to test 3 areas at both ends and the highest point of the roof void for temperature, relative humidity and moisture content of the timber trusses.

Disclaimer: This report is based on a non-invasive visual inspection only and reflects the condition of the property at the time of the investigation. The report is designed to provide a summary of the problem source and a solution. It is not to be considered a structural integrity report of the property. MINZ Ltd accepts no liability to third parties who may act upon the contents of this report.

ASSESSOR REPORT

1) Highest point of the roof – Temperature: 22.8°C – RH: 68% - Moisture content 17%

Disclaimer: This report is based on a non-invasive visual inspection only and reflects the condition of the property at the time of the investigation. The report is designed to provide a summary of the problem source and a solution. It is not to be considered a structural integrity report of the property. MINZ Ltd accepts no liability to third parties who may act upon the contents of this report.

2) Over dry rooms – Temperature: 24.1°C – RH: 69.3% - Moisture content 19%

Disclaimer: This report is based on a non-invasive visual inspection only and reflects the condition of the property at the time of the investigation. The report is designed to provide a summary of the problem source and a solution. It is not to be considered a structural integrity report of the property. MINZ Ltd accepts no liability to third parties who may act upon the contents of this report.

3) Over Garage – Temperature: 23.2°C – RH: 67.3% - Moisture content 19%

It appears that the timbers have now dried out to a moisture reading of below 20%. However, as stated in the Biodet Laboratory Report, Cladosporium being one of the two identified mould species along with Penicillium will establish on timber with a moisture reading of 15-20% which explains the rapid regrowth.

*"**Superficial fungi: Penicillium** species are common environmental isolates and are often found on damp building materials. These fungi may contribute to high spore levels in the air resulting in allergenic reactions in sensitive people, and many of the species may cause infections in immunocompromised individuals.*

***Cladosporium** species are common air-borne contaminants particularly in outdoor air. They are commonly found on outdoor claddings, particularly timber and will also grow superficially on indoor surfaces that have a moisture level between 15 and 20%, often in response to slightly elevated moisture levels such as condensation.*
The main effect of the fungus is disfigurement of the surface that the fungus is growing on. Mycotoxin production is generally not associated with this species but the ability to sporulate heavily and have buoyant easily dispersed spores makes this an important fungal airway allergen."

Disclaimer: This report is based on a non-invasive visual inspection only and reflects the condition of the property at the time of the investigation. The report is designed to provide a summary of the problem source and a solution. It is not to be considered a structural integrity report of the property. MINZ Ltd accepts no liability to third parties who may act upon the contents of this report.

Conclusion - Due to the lack of ventilation in the roof void, the RH readings average 68% which will greatly reduce the drying out process. The home was completed at the end of September so the mould growth and high RH will probably have been instigated by the natural drying out process of the building. A typical concrete slab can contain 1000litres of water which can take 4-6 months to dry out. Approximately 250 litres of paint would have been used on this property along with moisture generated from the Gib stopping. This was also a winter construction so it could be presumed that at some point the frames would have been exposed to wet weather. Once enclosed, this moisture will rise into the roof void and become trapped in the weathertight and unventilated roof.

Solution – Installing passive roof ventilation at house design stage is very simple but not so easy retrospectively. Two options could be suggested for rectification of this particular weathertight roof:

1) Soffit Vents installed around the perimeter of the property accompanied by ridge ventilation to draw the warm air from the roof via negative pressure. (www.vent.nz)
2) Gable vents installed to 4 gable walls. This will provide cross ventilation at high roof level covering a large area of the roof but not all.

Both methods will be uncalculated but will provide air release and permanently reduce the temperature and humidity in the roof void. This in turn will eliminate the mould problem.

If ventilation is not applied, there are no guarantees that the moisture content will ever drop to <15% as humidity generated from occupancy behaviour below will still remain trapped within the roof void. The property has no mechanical ventilation system but does have a log burner which can generate intense heat when in use. This heat will find its way into the roof void and create a dewpoint on the underside of the roofing membrane which in this case is not vapour permeable. In colder months, this cycle will generally result in condensation and mould issues as already experienced.

Additional Information and photos

Disclaimer: This report is based on a non-invasive visual inspection only and reflects the condition of the property at the time of the investigation. The report is designed to provide a summary of the problem source and a solution. It is not to be considered a structural integrity report of the property. MINZ Ltd accepts no liability to third parties who may act upon the contents of this report.

MINZ
Mould Inspections NZ

ASSESSOR REPORT

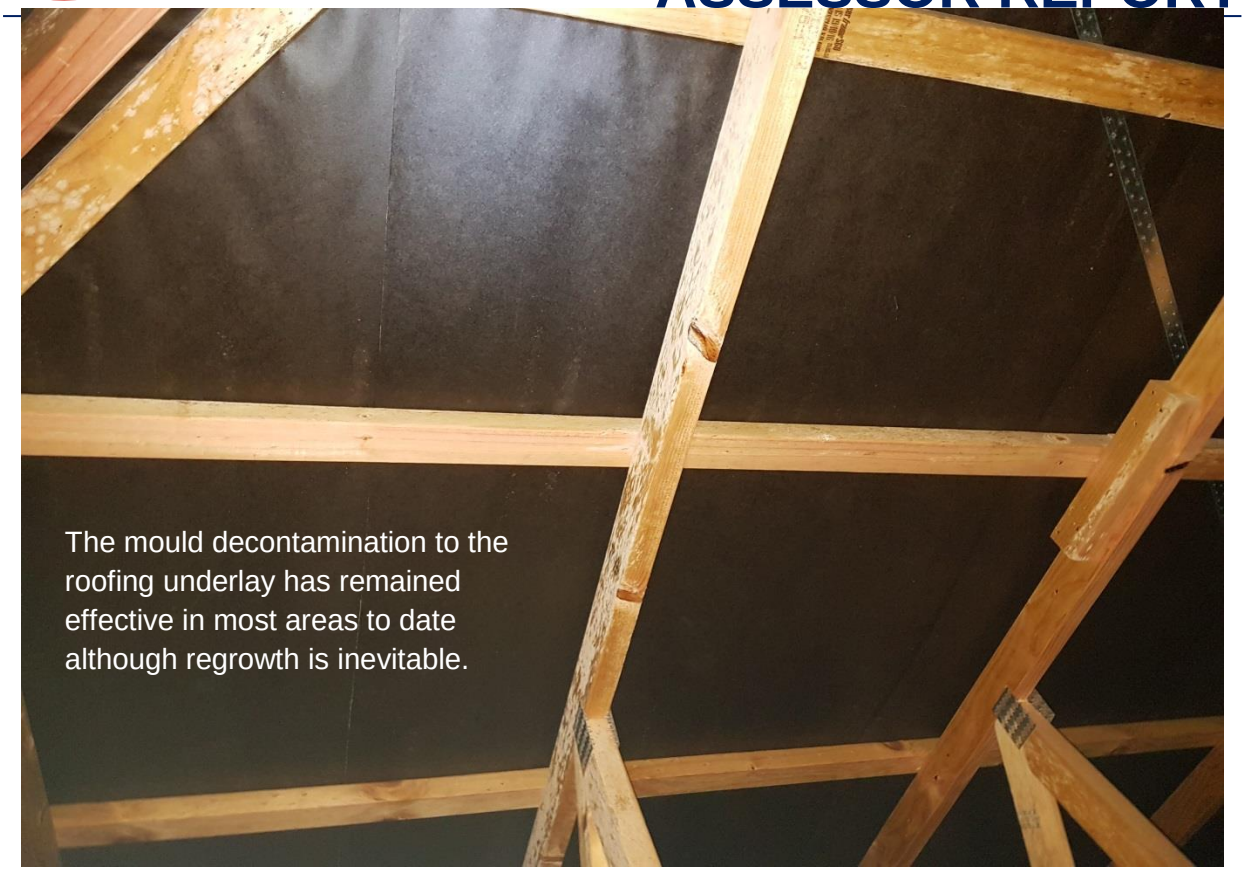
Areas of mould re-growth, especially to the timber. The mould on the roofing underlay is developing at a slower growth rate but still apparent in areas in contact with the roof purlins

Mould re-growth to timber

Disclaimer: This report is based on a non-invasive visual inspection only and reflects the condition of the property at the time of the investigation. The report is designed to provide a summary of the problem source and a solution. It is not to be considered a structural integrity report of the property. MINZ Ltd accepts no liability to third parties who may act upon the contents of this report.

MINZ
Mould Inspections NZ

ASSESSOR REPORT



The mould decontamination to the roofing underlay has remained effective in most areas to date although regrowth is inevitable.

The mould regrowth to timber is already well established in certain areas

Disclaimer: This report is based on a non-invasive visual inspection only and reflects the condition of the property at the time of the investigation. The report is designed to provide a summary of the problem source and a solution. It is not to be considered a structural integrity report of the property. MINZ Ltd accepts no liability to third parties who may act upon the contents of this report.

MINZ
Mould Inspections NZ

ASSESSOR REPORT

Summary/Recommendation – From a health perspective, this property fortunately does not have a mechanical heating/ventilation system suspended in the roof void and the choice of lighting is LED making the roof void relatively sealed, safe and isolated from the living area. It would be advisable to provide a roof ventilation solution asap to reduce the moisture and humidity levels. When this is achieved, the mould can be decontaminated and should not return as it requires moisture to survive. The current mould growth is re-establishing too fast to warrant decontaminating at this time.

In this case I would recommend undertaking another Assessment Report in 4 weeks to test/monitor the temperature, relative humidity and moisture levels again. If the readings are reduced to an acceptable level, the mould can then be decontaminated with confidence.

Tim Dorrington

Technical Manager

Mould Inspections NZ Ltd
A: 63 Hull Rd, Mount Maunganui, Tauranga
M: 0211368444| E: tim@nzmouldinspections.com

Disclaimer: This report is based on a non-invasive visual inspection only and reflects the condition of the property at the time of the investigation. The report is designed to provide a summary of the problem source and a solution. It is not to be considered a structural integrity report of the property. MINZ Ltd accepts no liability to third parties who may act upon the contents of this report.