

IDENTIFICATION AND RECOMMENDATIONS FOR REMOVAL OF LICHEN



COLORSTEEL® prepainted steel is used in many environments throughout New Zealand. It is widely used for both roofing and cladding in a range of colours.

COLORSTEEL® prepainted steel paint coating may be subject to lichen growth in certain micro-environments. The temperature, dust and rainfall can create a suitable environment for the lichens to flourish.

Lichens are found almost everywhere with their spores being dispersed by wind. They are a naturally occurring phenomenon and have adapted to grow on almost every surface, from wood, brick, tiles and painted surfaces to glass and plastic. Some prefer flat to low angled surfaces, while others grow only on vertical surfaces.

The level of light, rainfall and the heat intensity of the surface all influence the type of lichen and its growth rate.

Each lichen is formed of a fungus and an alga living together so intimately as to seem a single plant. The lichens are one of the best illustrations of symbiosis, the intimate living together of two different kinds of organisms. The fungus makes the bulk of the body with its interwoven threads, and in the meshes of the threads lives the algae. The special fungi that take part in this arrangement are almost never found growing separately, but the algae are found growing free.

REMOVAL

It is possible to physically remove lichen, but it is almost impossible to remove it completely, as the paint film can be damaged and recolonisation is usually rapid.

If lichen or fungus is suspected, it is recommended that a spot test with sodium hypochlorite solution be carried out for identification purposes. The most convenient source of sodium hypochlorite is household bleach. The bleach should be as fresh as possible and the concentration of available chlorine in the hypochlorite should preferably be above 3%. Care should be taken in handling the solution, which is quite alkaline. (i.e. wear the appropriate safety equipment: safety glasses, protective gloves etc). Any tested areas should be thoroughly rinsed with fresh water afterwards.

The test procedure is basically to apply a drop of the bleach solution to a suspected area, mark the extent of the drop (unobtrusively) and wait a few minutes. If fungus is present, the dark material will be destroyed by the bleach and a clean drop area will result.

Please note: this is not a foolproof test for identifying fungus or lichen as the bleach can also affect organisms such as algae and bleachable organic matter. However, it is a valuable test as it will distinguish between lichen or fungus and normal inorganic dirt, which will not be bleached.

To restore a roof affected by lichen or fungus, it is recommended that the roof be washed down with a 2% sodium hypochlorite solution. The sodium hypochlorite solution can be made up from commercially available bleaches.

To assist in making up the solution, Table 1 below shows the dilution required for different strength bleaches to give a 2% solution. The bleach should be applied with a soft bristle broom, left for 3-5 minutes, and washed off with copious amounts of water. A small amount of household detergent may be added to the bleach if necessary to improve wetting.

It is important to note that the use of higher than recommended concentrations of sodium hypochlorite solution may be detrimental to the long term performance of the coating.

As fungal growth observed is not a result of any material fault, restoration remains the responsibility of the owner.

Important – If you collect rainwater from your roof, it is recommended the line between your gutters and the collection tank be disconnected before commencing cleaning to avoid contamination of the water supply.

The use of commercially available fungicides is not recommended as they may be detrimental to the long-term performance of COLORSTEEL® prepainted steel.

Table 1: Sodium Hypochlorite Solution Dilution Guide

% sodium hypochlorite or % available chlorine in bleach (by weight) (NB: 10g/L = 1%)	Dilution to give 1L of 2% sodium hypochlorite solution
10%	200mL bleach + 800mL water
5%	400mL bleach + 600mL water
4%	500mL bleach + 500mL water
3%	670mL bleach + 330mL water
2%	No dilution required

FURTHER INFORMATION

For additional information, literature or technical assistance, please contact:

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