

Build Back Smarter Info Sheet

Ground moisture barrier

The opportunity to build back smarter

Disaster repairs: Foundation repairs to suspended floors especially where the house is being lifted. Areas where liquefaction or flooding has led to increased dampness under the house.

Opportunity to upgrade: Install ground moisture barrier under normally inaccessible suspended floors. Some floors have no crawl space so this may be the only opportunity to install a polythene moisture barrier.



An older house lifted for pile replacement. You can see the original piles offered little space for installing either underfloor insulation or a ground moisture barrier.



While lifted, both underfloor insulation and a moisture barrier were installed.

What is a ground moisture barrier?

Ground moisture barriers are a polythene sheet laid over the ground which prevents moisture rising from the soil underneath the floor up into the main body of the house through suspended timber floors. This phenomenon, known as rising damp, can contribute to over half the total moisture in a home. Rising damp is often the cause of mould on ceilings and walls, and even in roofs. Ground moisture barriers may also be referred to as “vapour barrier”, “damp course” and “damp proof membranes”.

Even when the soil under the floor is apparently dry, some evaporation may occur. It is estimated that about 45 litres of water per day comes out of the ground under a 93 m² house – and 90 litres per day under a 186m² house. There can be even more moisture if there is poor drainage, water lying around on the subfloor or plumbing leaks.

The Christchurch area is known to have a high water table, and mould caused by dampness underneath homes is a common problem in Christchurch. A BRANZ survey found that a quarter of



houses had very damp soil under the floor and two thirds of houses don't have enough ventilation for this area. A ground moisture barrier is very useful in these situations.

Why moisture barriers are important

High levels of moisture inside your house can be harmful to your health and make your home harder to heat. Moisture shows up in condensation, settling on windows, window sills, wall linings, ceilings, carpet and curtains. Condensation leads to mould growth. Even in the cleanest homes, there are always sufficient nutrients and viable spores for mould to grow. The only real way to slow or stop mould growth is to control the indoor moisture levels, including condensation.

High indoor moisture levels can cause a range of health problems, particularly respiratory problems, such as asthma, infections, bronchitis and allergic rhinitis.

Build Back Smarter recommendations

If your under-floor is damp or there are signs of mould and moisture damage, install a polythene moisture barrier over the soil under your suspended floor. In houses with a limited crawl space, foundation repairs can be a perfect opportunity to access this area while the house is lifted or piles are being replaced.

If you have an existing moisture barrier but it needs maintenance, is incorrectly installed or does not cover the full floor area, this is a good time to fix this.

Install your own moisture barrier

Remove any soil in contact with the cladding and remove anything blocking under-floor vents.

Available from most hardware stores, about \$120 will cover the cost of polythene and tape needed for a medium-sized house or flat. Here's how to do it:

- Fold it out away from you to provide a smooth clean surface.
- Lap and tape joints.
- Tape around piles.
- Run a few centimetres up the edge of the walls.
- Weigh down with bricks or stones.

