

Good Repair Guide

Diagnosing the causes of dampness

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Dampness of one sort or another is the most common problem in housing. It results in visible wetting of walls, ceilings and floors, blistering paint, bulging plaster, sulfate attack on brickwork and mould on surfaces and fabrics, usually accompanied by a musty smell. It can also lead to less obvious problems, eg thermal insulation is reduced in effectiveness or brickwork cracks because metal components embedded in it have corroded. As with all repair work, the first step to solving any damp-related problem is to diagnose the cause correctly. This Good Repair Guide provides advice on how to identify the potential causes of dampness in homes. It is aimed at housing professionals, home owners and occupiers, and replaces the guidance published in 1997. The other guides in the series, Good Repair Guides 6–8^[1, 2, 3], cover specific remedial treatment for the principal causes of dampness.

Introduction

Even in a 'dry' building, there is a surprising amount of water in porous materials, most of which does no harm. A building is only considered to be damp if the moisture becomes visible through discoloration and staining of finishes, or causes mould growth, sulfate attack, frost damage or even drips and puddles. All these signs can lead to deterioration in decorations and the fabric of the building. Damp problems are generally referred to as being of internal or external origin.

Internal dampness: moisture from condensation

Condensation usually disperses fairly quickly and is a source of only minor localised inconvenience. However, in homes that are poorly heated or inadequately ventilated, it can become a serious and persistent problem that causes mould to grow (Figure 1). This is a common situation in rented accommodation, but also occurs quite frequently in owner-occupied property: the households affected tend to be those that cannot afford



Figure 1: Typical example of mould caused by condensation

to heat their homes adequately. Although there is a common assumption that condensation is due to poor hygiene and maintenance, in fact new and refurbished homes that are more airtight and thermally efficient can also suffer with condensation problems.

It can be a complex task to determine the precise cause of condensation, but there are some distinctive features to look for when making an initial diagnosis:

- Condensation normally occurs only from autumn to early spring.
- Problems start on the coldest internal surfaces: external walls (particularly corners), single-glazed windows, wall-to-floor junctions, lintels and window reveals.
- Condensation occurs most often in rooms where lots of moisture is produced, eg kitchens and bathrooms, and also unheated rooms into which moisture can drift if doors are left open and washing is dried indoors.
- Condensation often concentrates in areas where air movement is restricted, eg behind furniture or inside cupboards on outside walls.
- Condensation is a common problem where flueless paraffin or butane heaters or unvented tumble driers are used, or where clothes are dried indoors.