

Good Building Guide

Building damp-free cavity walls

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Cavity walls should be built so that the inner leaf stays dry. Many building details are designed with this express purpose and are long-established. However, dampness is still a common problem in modern buildings, due to the faulty design or construction of damp-proofing measures or the wrong choice of material. This Good Building Guide gives guidance on how to ensure that new cavity walls do not suffer from dampness problems. It is aimed at architects and designers, engineers, site managers, house builders and masonry contractors, and replaces the guidance published in 1999.

Introduction

Several Good Repair Guides deal with rain penetration and rising damp in existing buildings. This Good Building Guide looks at ways of preventing the problems occurring in new cavity wall construction. In driving rain, water leaks through the outer leaf of most cavity walls, often in quite large quantities. Provided the damp-proofing measures are correctly designed and installed and the wall itself is reasonably free from defects, the water does not reach the inner leaf, but flows harmlessly down the cavity face of the outer leaf until it reaches the footings or is directed out of the cavity via cavity trays or window/door lintels.

Defects in the outer leaf

Most of the leakage through the outer leaf is at fully or partly filled joints between the bricks and the mortar. Good workmanship can help to prevent this; it is especially important to fill the perpends properly, although this is frequently not achieved in practice. This is particularly pertinent in areas of high exposure, where driving rain can be blown through wide joints and across the cavity via bridging features such as wall ties, mortar, displaced insulation batts or brick fragments to wet the inner leaf. The type of pointing also has an effect: 'bucket handle', weathered or struck pointing have the best resistance to driving rain (Figure 2). Recessed pointing, which allows water to



Figure 1: Damage to a ground-floor flat caused by rain penetrating the inner leaf of a cavity wall via a torn and debris-filled cavity tray to a cavity wall of a flat upstairs