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Careful checks pay dividends

Don't write off houses clad with plastered polystyrene, says engineer MIKE STOCKWELL.



Wet or dry?: Plastered polystyrene clad homes can be be dry and warm.

Houses clad with plaster over polystyrene are often viewed by the public with suspicion. These are called EIFS buildings (EIFS stands for external insulation finishing system).

This bad reputation has been driven mainly by publicity surrounding leaky building syndrome, which is caused by water leaking through defects in the plaster cladding usually due to poor design, or poor construction or poor maintenance. Leaking water raises the moisture content of the timber framing, resulting in the growth of toxic moulds and fungi, often starting when the timber reaches a moisture content of around 17 per cent.

The building industry aggravated the situation by allowing untreated timber with no drainage cavity behind the plaster to be used from 1995-2005, both of which have accelerated the advance of rot in leaking buildings constructed during that period.

Not all buildings of that vintage are leaking or contain rotten framing. The poor reputation of EIFS houses is unfortunate, as these houses with internally insulated walls and external polystyrene have very good insulation ratings, resulting in a warm environments.

Houses that have been well designed, constructed soundly and are well maintained are not likely to ever become a problem. Many, if not most EIFS buildings are in fine condition

characteristics. For example, houses built in 1995 to 2005 without a drainage cavity behind the polystyrene are often absolutely fine, if they are kept watertight with regular home inspections and maintenance. Note that this includes repainting at around eight-year intervals, something often neglected on the misunderstanding that 8mm thick concrete plaster is watertight. It is not, and it requires a good quality paint system to keep it that way.

It is also worth noting that more complex house designs have an increased risk of leaking due to increased complexity of fitting weathertight flashings and the like.

Getting it checked

If you are buying (or selling) an EIFS house and want it checked for watertightness, engage a reputable property inspector to carry out a building inspection and produce a written report identifying any issues and suggested remedies. Such an inspection should include moisture testing for potential leaking into wall cavities and the like.

Moisture testing

Moisture testing during a home inspection is generally carried out in three progressively more comprehensive stages:

Stage 1 moisture testing involves testing to a depth of around 20mm using a moisture test meter in search mode.

Stage 2 involves testing to a greater depth, by drilling holes, inserting probes and measuring moisture content, with a moisture meter in percentage moisture mode.

Stage 3 involves invasive inspection by removing linings for complete visual inspection.

Note that stages 2 and 3 (invasive testing) will only be necessary if stage 1

tests reveal wall framing moisture contents above 17 per cent.

Some property inspectors will include stage 1 moisture testing in their standard pre-purchase or pre-sale house inspection. If stage 1 testing indicates moisture levels above 17 per cent (the trigger point for moulds and fungus to develop) then it will be best to engage a weathertightness expert to proceed with Stage 2 and 3 testing to further gauge the extent of the problems.

Remedial work

If you suspect you have a leaky building then you should:
 » Get a property inspection and report done and ensure that moisture testing is included.

Not all buildings of that vintage are leaking or contain rotten framing.

» Ensure the building inspection report lists issues that require maintenance.

» If at-risk (ie above 17 per cent) moisture contents are flagged in the report, then get a quotation for further moisture testing, including an assessment of the likely extent and cost of repairs. This could include removal of internal linings, removal of rotten wall framing, removal of external cladding and replacement, retrofitting plaster control joints, external painting and the like. Costs will vary from a few hundred dollars to many thousands depending on the problems discovered.

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