

ARDEX SOURCES OF MOISTURE AND DAMP SLAB PROBLEMS



CPD SUMMARY INFORMATION

Moisture in concrete creates floor covering issues such as:

- Blistering and bubbling of the covering
- Softening and decomposition of adhesives
- Mould and odour
- Warping
- Degradation of the underlayment



Moisture:

- Construction moisture: excess water that is added to concrete mix to make it workable
- Rising damp: Rising ground water, water migrating horizontally from other places and damaged plumbing
- Water from above floor: as showers, baths, kitchens, or areas washed down constantly such as balconies

Moisture and pH Testing:

All substrates must be assessed and tested for moisture – new and aged, even if they appear dry. Where moisture exceeds the recommended levels of %RH (relative humidity) (75%) a moisture barrier must first be applied. Due to problems with certain adhesives and floor coverings decomposing at ‘elevated’ pH, a pH testing regime is also required.



Moisture Barriers Vs Waterproofing Membranes:

Waterproofing is just that, it stops liquid water from moving from one space to another; it does not stop water in a vapour form completely. Waterproofing and moisture barriers are completely different products with different jobs. You would use a waterproofing membrane to contain water in a certain area, like a shower recess.

Moisture barriers control moisture in a vapour state. These membranes fill the pores of the substrate, typically with epoxy or a polymer modified moisture membrane, and keep virtually all vapours from passing through within the specific products limits. These types of products are well-suited for treating high-moisture slabs, or where a concern of high moisture conditions in the future exists.

Most moisture barriers are class one products (less than 99% elongation) therefore attention must be paid to detailing at upstands and if there are cracks present, these must be repaired first. Dry film thickness must be adhered to - this is a requirement of all manufacturers to ensure long term performance.

The use of a moisture barrier is typically to protect the covering above, a post applied moisture barrier does not replace a more conventional DPM/Tanking membrane that should be used at time of construction. Unless the entire area is treated continuously, it may move the problem to another area.

If you have any questions, please contact one of your nationwide ARDEX specification team members or email info@ardexnz.com

Dave Stephenson
0275 330 085
Auckland and Northland
dave.stephenson@ardexnz.com

Steve Miles
0272 227 825
Auckland, Bay of Plenty and Waikato
steve.miles@ardexnz.com

Andrew Smith
0226 573 247
South Island
andrew.smith@ardexnz.com

Anthony Howell
0274 850 490
Wellington and lower North Island
anthony.howell@ardexnz.com

Treating construction moisture:

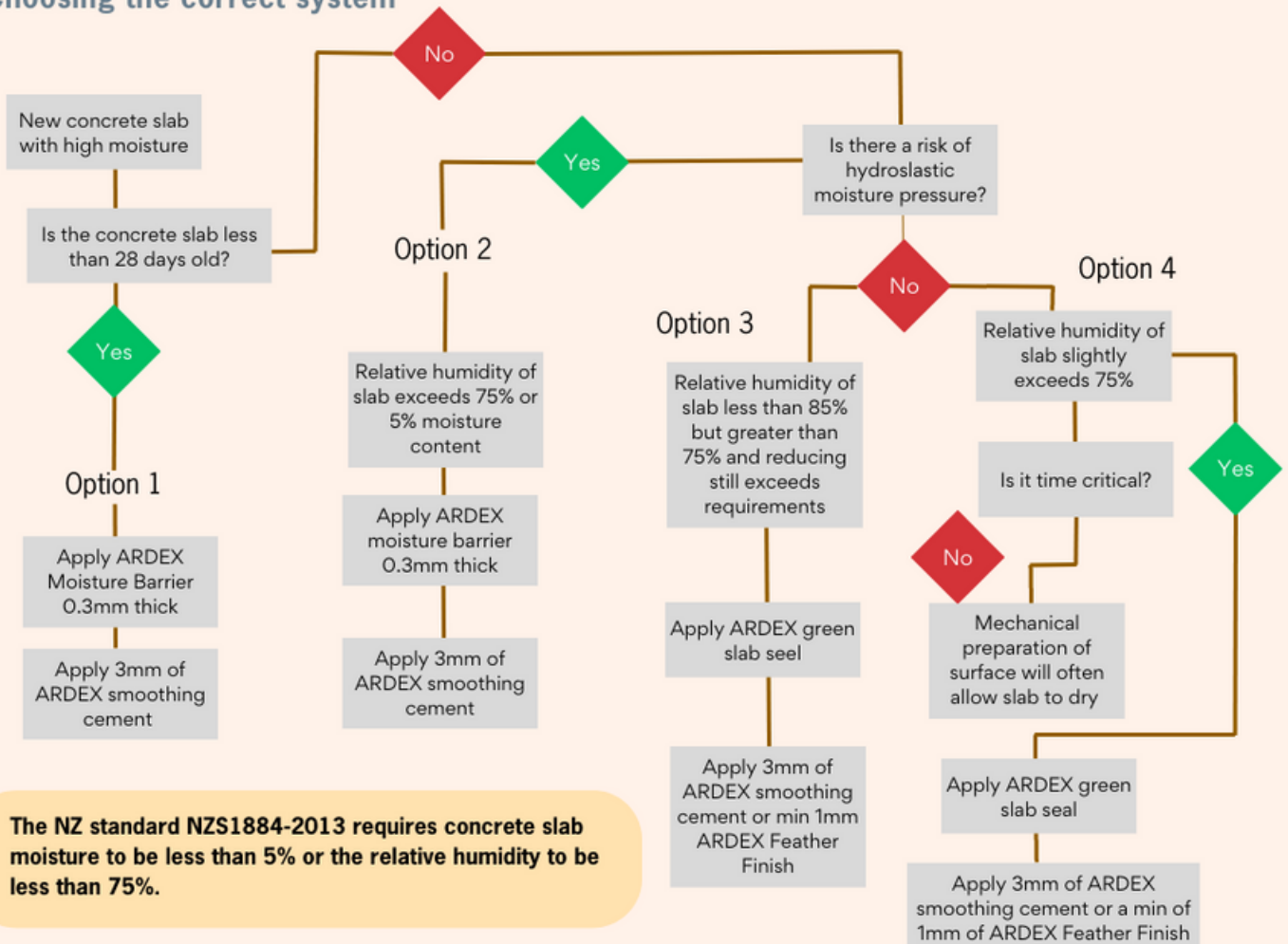
- The simplest method of drying a new slab is to allow it to dry by natural evaporation, however unless 4-6 months is available this is rarely an option.
- Use a sealer which acts to prevent the moisture penetrating through to the covering.
- The most secure method is to use a moisture barrier material, and these are commonly epoxy based.
- AS1884-2021 also states that if a moisture barrier is to be used the moisture barrier must now achieve a performance criteria of 10gms/sqm/24hrs of water vapour transmission when tested to ASTM E96. Make sure that the moisture barrier you specify, use or recommend achieves this figure. Both the WPM300 and MC Rapid achieves this.
- AS 3958:2023 now requires moisture testing to be undertaken prior to the commencement of tiling systems.

Rising damp will be an ongoing problem where remedial methods of removing the source of that moisture cannot be applied. Even so, below grade slabs and slabs on wet ground would still be moisture risks.

A suitable barrier needs to be applied to the subfloor to prevent moisture penetrating through the underlayment and causing problems with the floor coverings.

Which Subfloor Barrier is needed?

Choosing the correct system



ARDEX information such as technical data sheets, safety data sheets and certifications available [here](#).

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