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Welcome to the first revamped Guideline e-newsletter. You can now view the information in an easy-to-read email format.

Guideline is a free monthly update on building issues prepared by BRANZ and funded by the Building Research Levy.

H1 and masonry thermal mass

For H1 compliance, designers using concrete or concrete masonry construction must decide if:

- the masonry wall is providing thermal mass by being directly exposed to the interior, which allows the R-value of the wall to be lower, or
- if the thermal mass of the masonry is isolated from the interior where a wall is strapped and lined.

If the wall is strapped and lined, the insulation provided must meet the requirements for a framed wall as the benefit of the thermal mass is negated by the strapping and lining.

The question has arisen regarding the situation where a plasterboard lining is glued directly to the masonry and its effect on H1 compliance.

When plasterboard is glued directly to masonry:

1. the plasterboard when compared to the masonry is more insulating thus slowing the heat transfer to the masonry, plus
2. the air gap between the plasterboard and the masonry (that is created because the adhesive used, in effect, spaces the plasterboard off the masonry) creates a small insulating layer between the two materials further reducing the effectiveness of the thermal mass.

masonry, but there is currently no generic performance data available defining the decrease in performance that occurs. The actual performance will depend on the way the building is heated and the amount of thermal mass actually provided.

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More on stone veneers

Following on from last month's article on stone veneers, it should also be noted that, for stone veneers to be built in accordance with NZS 3604 and NZS 4210, the maximum weight of the stone must be no more than 220 kg/m². Veneers heavier than this will require specific design, specifically with respect to stud and tie spacing and any lintel design.

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Plywood flooring

It is likely that pre-laid flooring will get wet during construction and one of the potential issues with pre-laid plywood flooring is the restriction on drying created by the glue-lines where the inner plies have got wet.

The solution is allowing time after the building has been closed in - the amount depending on how wet the plywood is. Moisture content readings will need to be taken from the near the edges of the sheets where most absorption is likely to have occurred (through the edges of the sheets) with the probes of the moisture meter driven into the centre ply.

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Recladding walls and Building Code insulation requirements

When recladding a building, after the cladding has come to the end of its serviceable life and met minimum durability requirements in doing so, what is the level of upgrading of insulation that is required to be carried out under the Building Code?

To comply with the Building Code the reclad wall must have a thermal performance not worse than that existing before the recladding was undertaken. If the recladding results in a lower R-value, e.g. replacing a direct fixed EIFS with bevelback weatherboards on a cavity then the insulation provided in the wall must be upgraded as the new cladding has a lower R-value than the old.

In situations where the original wall was not insulated or not insulated very well it is considered prudent to insulate the wall to the maximum possible for the wall thickness while the cladding is removed. The cost of doing so while the wall framing is exposed is relatively small while the performance benefits are considerable.

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Insulating walls where there is no wall underlay

In a number of older buildings, the existing wall cladding has been fixed to the wall framing without the use of a wall underlay. Where cladding is being replaced, new underlay can be installed but where the internal linings have been removed and the cladding is in good condition, there are two options:

- The first is to cut and fold wall underlay into each of the framing cavities and staple the sides to the framing - foil insulation must not be used to do this.
- The second is to install rigid sheets of polystyrene (or other rigid insulation material) firmly fitted (so they stay in place) to each framing cavity leaving a 10 mm gap between the insulation and the back of the cladding. ,

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Edge detailing to timber flooring in a wet area splash zone

For designs following Acceptable Solution E3/AS1, timber finished with an impervious coating is allowed in wet area splash zones. To provide a barrier to moisture movement into concealed spaces or adjacent tenancies, it is BRANZ's view that skirting must also be sealed to the floor and finished with an impervious coating system as there is no detail for these finishes in the Acceptable Solution.

It is BRANZ's view that any timber used in a splash zone must be carefully considered by the designer to ensure that any moisture that will get onto the floor does not affect the performance of the floor nor be allowed to migrate into adjacent concealed spaces or other tenancies.

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Subfloor ventilation requirements

There are a number of instances where a suspended concrete ground floor is being used in residential construction. The question is, should the space below these floors be ventilated?

While there is no specific mention of ventilation of the subfloor space of concrete floors in NZS 3604, NZS 4229 or E2/AS1, BRANZ considers it to be good practice to provide ventilation that meets the requirements for a suspended timber floor.

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Another tool for designers

BRANZ has launched a web-based tool to allow designers to easily use the calculation method of NZS 4218:2009. To access the tool visit www.branz.co.nz/calcmethod2009 (or go to the BRANZ website and click on Toolbox at the top of the page, then click on the NZS 4218 Calculation method tool in the list).

Before using, please read the instructions and have a copy of NZS 4218:2009 for reference.

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BRANZ seminars 2009

Two years on from our H1 Insulation Changes seminar, it's clear from the calls to the BRANZ Helpline that many people in our industry are still coming to grips with the requirements these Building Code changes have brought about. Our current H1 Energy Efficiency seminar will:

- help you apply H1 more easily in your everyday work
- explain the changes in the new version of NZS 4218
- clarify how H1 and NZS 4218:2009 fit together as a compliance route
- enable you to better produce or inspect consent documentation relating to H1.

Dates and locations are below. Registration is available now on our website (www.branz.co.nz/seminar_register).

Tuesday 1 December - Kapiti
Wednesday 2 December - Wellington
Thursday 3 December - Masterton
Friday 4 December - Trentham

To access a printable PDF version, [click here](#).

We welcome feedback on the new Guideline e-newsletter format. Please send to branz@branz.co.nz.

www.branz.co.nz

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