GUIDELINE
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BRANZ

IGUs

Insulating glass units are typically manufactured with dry air or argon gas between the panes. Panes typically have a 12 mm gap. Higher performance can be achieved with the panes closer together if a krypton gas fill is used; however this type of unit is not currently available in New Zealand.

Grade of 140 x 45 top plates

What is the timber grade required where a 140 x 45 top plate is installed over the 90 x 45 top plate?

As the 140 x 45 is a structural member, it must be the same grade as the 90 x 45 top plate member.

Thermal breaks and steel framing

A response to the February Guideline article on thermal breaks and veneer tie fixings has questioned the need for thermal breaks to steel framing with a masonry veneer cladding.

Steel framing members form a thermal bridge through the framed wall structure irrespective of the cladding type. The effectiveness of any insulation installed into external wall steel framing cavities is reduced by up to 50% because of this bridging effect created by the steel studs and dwangs. It is our belief that to meet the H1 insulation requirements of the Building Code, a thermal break installed to the outside face of the framing is required with all steel framing. A brick veneer cladding incorporating a ventilated cavity between the veneer and the framing may restrict heating of the framing from the outside but it does not prevent heat loss through the framing and the veneer tie. For this reason the tie that connects the masonry veneer to the cladding does not form a thermal break.

Building Code compliance document E3/AS1 calls up the BRANZ House Insulation Guide 1st Edition of May 1995 as a means of compliance for Clause E3. Sheet 22 of this document requires a thermal break to meet the Building Code requirements (and it is worth noting that the minimum H1 requirements, with the recent revision of Clause H1, are now much higher).

Specific performance requirements are defined for the thermal beak material (R=0.3) and options currently being used such as strips of hollow (PVC) material do not meet this performance requirement.

Wall cladding weathertightness

NZBC Verification Method E2/VM1 is the test method for verifying the weathertightness performance of cavity-based cladding systems including joints, corners, junctions with windows, doors and meter boxes and other penetrations. Cladding systems NOT generically covered by NZBC Acceptable Solution E2/AS1 or with installation details that differ from those shown within E2/AS1 must be tested to NZBC Verification Method E2/VM1 at an IANZ Accredited facility to verify compliance with the NZBC. The Verification Method also requires that the test sample is 'representative' of the cladding system as it will be installed on site. This means that the test panel must include all relevant details and must be finished as it will be on site. For example, adhering finishes like tile, brick and stone to flat sheet material will void any testing done on a flat sheet material alone. Also, installation details not tested should be verified by expert opinion or they become the responsibility of the designer for compliance with the performance requirements of the NZBC.

Bracing

A number of designers, when referring to bracing elements on drawings, simply use the bracing manufacturer's identification initials and/or numbers, e.g. XYZ 25. Where the bracing element is a commonly used one this may be known to the builder, and they will be able to install it in accordance with the manufacturer's instructions. However, in a number of recent instances the builder was unaware of the bracing element referred to, and there was no explanation of the system contained elsewhere in the documents.

We believe designers must include a bracing schedule that clearly identifies the bracing element type, its abbreviated title and the name of the system manufacturer/proprietor – for example, there are two BRANZ appraised plasterboard bracing systems.

Durability requirement for pergola framing

What is the minimum durability requirement for pergola framing under the Building Code? In most cases we believe there is no specific durability requirement for pergola framing, except where:

- the collapse or failure of the pergola structure could cause damage to an adjacent property
- the failure of the pergola could result in the building it is adjacent to, or attached to, failing to meet specific performance requirements of the Building Code. For example, if the failure has resulted in damage to the weatherskin of the building, the requirements of Building Code Clause E2 may no longer be met.

Laying timber over concrete

There have been a number of reports recently of the problem of movement in timber strip floors, particularly when laid over a concrete slab-on-ground.

The key issue with timber and timber-based flooring boards or panels and composite panels is that they will move in response to changes in moisture conditions.

The main causes of problems, whether adhered, nailed or loose-laid are:

- moisture uptake by the timber from a slab which is too wet when the timber is laid
- wet cleaning methods where the timber absorbs the moisture and swells
- incorrect timber moisture content when the timber is laid. If too wet it swells and boards/panels will cup, and if too dry it shrinks and joints will open.

Drying of concrete floors takes several months rather than a few weeks. The rule of thumb for drying concrete slabs is to allow at least one month for every 25 mm of slab thickness. For most residential slabs, at least four months drying time will be needed when good drying conditions exist. Drying will be slowed considerably by humid weather, low temperatures and reduced ventilation which occurs as the building is closed in and reduces the (drying) airflow across the floor.

Concrete is dry enough to lay timber over it when the relative humidity of the slab (when measured with an Edney gauge) is 70% or less. If the reading is higher, the slab is too wet.

For intermittently-heated buildings BRANZ recommends the moisture content of the flooring should be not more than 10% but this may vary according to the room orientation or window size.

Brick Sill overhang

How much overhang should there be along the front edge of an angled sill brick or a sill tile installed to finish off the masonry veneer along the bottom edge of the window?

NZS 3604 (Figure 11.3) and the BRANZ Good Practice Guide Masonry veneer both specify an overhang dimension for sill bricks and sill tiles of between 30 mm and 50 mm so that a good drip edge is formed. Sill bricks (and sill tiles) should be laid with a minimum of 15º slope to drain water away from the window.

BRANZ Seminars 2008

Windows & Flooring

Registrations will open soon for this seminar which is aimed at architects and designers. It will cover:

1. *Flooring Selection* – using specific situations we will work through the application of selection factors to make decisions on the most appropriate forms of floor covering.
2. *Window Selection* – bringing together selection criteria such as relevant regulations, function, performance, materials and aesthetics, this section of the seminar will work through exercises using sample situations to make window selection decisions.

Venues and dates for July are 21st Dunedin; 22nd Christchurch; 23rd Auckland; 24th Hamilton, and 25th Wellington.

Visit our website for more details and to register online – www.branz.co.nz (click on Seminars).

Webstreaming

Watch this space for details of a new service from BRANZ which will allow you to view our past seminars online on a pay-per-view basis. Registered architects and Licensed Building Practitioners will be able to gain CPD points by taking an online quiz afterwards

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