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Invested in a spa pool lately?

All pools, whether they are in-ground or above-ground swimming pools or spa pools, are required by law to meet the requirements of the Fencing of Swimming Pools Act 1987.

Property owners are required to obtain a building consent for the installation of a new spa pool, no matter how 'portable' it is. Some salespeople may not tell you this. If a spa pool has a 'lockable cover', this does not make it exempt from complying with the Act.

Please contact the Customer Services desk at the Council for an information brochure listing the compliance requirements for pool fencing or visit the Services/Community Support/Building on www.wanganui.govt.nz.

Brick layers

We have had a few issues to deal with lately, with the main one being screw fixed brick ties connected to 7mm plywood and missing the wall framing. These bricks could have fallen off the walls in just a moderate earthquake.



The 'licence' holders must do their job properly including site supervision and supplying a "Memorandum of Work"!

Concrete placing

Over recent months, we have noticed a few foundations and slabs 'boney' to outside edges and garage door rebates.

To overcome some of this, builders have left the garage door rebate timber out and the concrete placers shape the concrete as it goes off or cut the concrete the next day.

Some concrete placers are forming a taper to the garage door opening, sloped to the outside instead of the traditional slightly sloped rebate timber towards the outside.

Another area of concern is an apparent lack of compaction of the concrete by using a vibrator. This becomes very evident when boxing is removed. In the worst case, stones could be picked off by fingertips. Also, the bricklayers have fixed up and levelled the brick rebate with mortar.

You builders don't get off that easily!

Failure to adequately brace the boxing has resulted in the boxing bulging which has required someone to cut off the surplus concrete with concrete saws and "Kango" hammer drills. With hiring equipment and time, costs start adding up very quickly.

Last but not least – polythene damp proofing membrane must be cut off at the bottom outside of the foundation. If we see that it has fallen over reinforcing steel when placing concrete, expensive repairs will be required.

Dave Hall, Building Control



Profiled metal wall claddings and E2/AS1

E2/AS1 places limits on the profiles that can be direct-fixed vertically. Corrugated (curved with a minimum crest height of 16.5mm minimum) can be direct-fixed up to a weathertightness risk matrix score O1 20 while symmetrical trapezoidal profile (with a minimum crest height of 19mm) can only be direct-fixed up to risk score matrix score of 6.

Crest or trough fixings are permitted.

For horizontal installation of corrugate and trapezoidal profile metal claddings:

- A drained and vented cavity is required (For designs to E2/AS1).
- Cavity battens are at maximum 600mm centres – where stud spacings exceed 450mm centres, restraint of the flexible wall underlay is required to prevent insulation bulging into the cavity.
- Fixing is required to each stud and at the ends of sheets to external and internal corners as well as around penetrations.
- Crest or trough fixings are permitted – trough fixings offer some shelter to the head of the fixing.
- A gap of at least 5mm is required at the ends of horizontal sheets to allow for thermal movement – details published by BRANZ typically allow 10mm.

Fixings for metal claddings:

- Are a minimum of AS 3566 Class 4 or Class 5 12-gauge hex-head self-drilling screws for timber studs with a penetration minimum of 30mm into the framing (i.e. for cavity installations, that is 30mm beyond the cavity battens and into the studs).
- Have sealing washers of neoprene (having a carbon black content of 15% or less by weight) or EPDM.
- Are spaced at every second trough/crest for corrugate and for trapezoidal – where the rib centres for trapezoidal exceed 150mm, the fixings are to be through every trough.

E2/AS1 does not give fixing centres for either vertically or horizontally installed profiled metal cladding. Metal cladding must be separated from timber treated with a copper-based treatment.

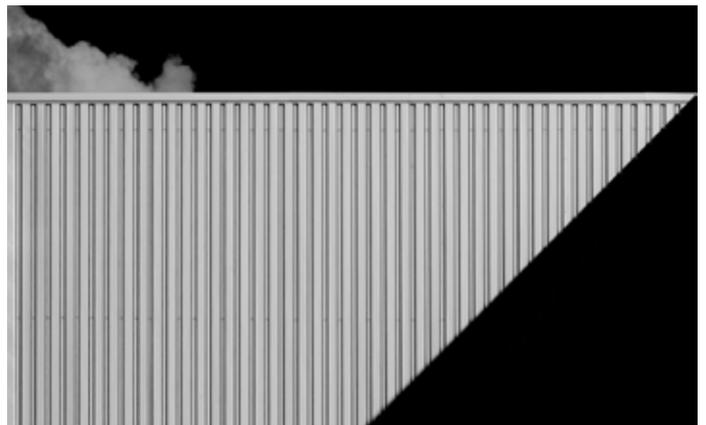
Siting inspections

Something for the builders to look out for in your Building Consent documentation along with the other more recognised and familiar inspections you are used to.

On land subdivisions there will always be some building conditions that transmit on to your building requirements, the building platform and slab height may be required to be a specific height for drainage, flood level and so on. In a lot of these cases, Council will check these heights at first pre-pour inspection. If they are incorrect, you could have quite a big problem on your hands.

In future, if we feel at processing time that an early inspection is required to confirm both siting distances or slab height, we will load an inspection and call it “Siting”. You will need to get the building inspector there at set out time and have a suitable levelling device on hand to confirm requirements.

On the subject of Building Consent documentation, it's worth mentioning that we still find people working on plans that are not the consented issue and have missed important changes that have occurred in the process. Please be mindful of this - we have taken time to make sure your documentation is correct and we don't mind if the plans look well used when we get there; it's better than expensive rework.



Stair design and handrail requirements

The key design reference for the provision of handrails to stairs is D1/AS1. In Table 6, it categorises four types of stair design based on the use the stair will be put to:

- Accessible – with a maximum 180mm riser, minimum 310mm tread and a 32° maximum slope.
- Common and main private – with a maximum 190mm riser, minimum 280mm tread and a 37° maximum slope.
- Secondary private – with a maximum 200mm riser, minimum 250mm tread and a 41° maximum slope.
- Service and minor private – with a maximum 220mm riser, minimum 220mm tread and a 47° maximum slope.

While the above are maximum and minimum tread and riser dimensions, each stair type must be within the appropriate band in the graph in E2/AS1 Figure 11.

All accessible stairways require handrails on both sides and are required to be continuous except where there are doors on landings (D1/AS1 6.0.3).

Stairs other than accessible stairs that have two or more risers and are up to 2 metres wide require a single handrail. Where the width is more than 2 metres, a handrail is required on each side of the stair. For stair widths over 4 metres, an intermediate handrail is required along the centre line of the stair. The handrail must be installed at the same angle or pitch line as the stairs.



The key design reference for the provision of handrails to stairs is D1/AS1.

Handrails are required to be positioned between 900mm and 1000mm (measured vertically from the tread) above the pitch line (the pitch line is an imaginary angled line (expressed in degrees) that touches the nosing of each stair tread).

Handrails for accessible stairs must begin 300mm forward of where the pitch line intersects the floor. This means, for accessible stairs, the handrail must start one tread width plus 300 in front of a vertical line projected from the face of the first riser.

At the top and bottom of accessible stairs, D1/AS1 clause 6.0.4 specifies the distance the handrail projects beyond the top and bottom risers so that users can continue to grasp the handrail as they exit the stair. A handrail should continue on the pitch line past the top and bottom risers then continue horizontally within the 900-1000mm height restriction for at least 300mm.

Short stairs that contain no more than three risers that provide access to or within a household unit are not required to have a handrail. For other than accessible stairs, D1/AS1 requires that “handrails shall have the same slope as the pitch line, begin no further than the second riser from the lower end of the stairway, and extend the full length of the stairway”. Continuing the handrail past the top and bottom risers is considered to give a safer stair for users. Suitable graspable handrails for accessible stairway handrails (refer E2/AS1 Figure 26 (b)) are:

- 32-50mm diameter round.
- Solid timber with a machined 32-50mm diameter rounded top.
- A 45-50mm wide section with rounded edges.
- 60mm maximum and 45mm minimum clearances from an adjacent vertical surface.

For private and common stairways (refer E2/AS1 Figure 26 (a)), a machined shape that has a maximum relevant width (RW) of 80mm – the relevant width is measured around the upper surface perimeter between the vertical tangent contact point on each side.



Imported plywoods

Imported plywoods which have been manufactured using timber species that are unusual for New Zealand are readily available. However, when proposing to specify imported plywood, be aware it may:

- Not meet New Zealand Building Code requirements for treatment (where treatment is required).
- Not comply with the standard AS/NZS 2269:2012 Plywood – Structural when used in structural applications such as flooring or bracing (has bracing performance been verified using the BRANZ P21 bracing test?).
- Not be manufactured from timbers that are sourced from a sustainable resource.
- Not have a verified durability, particularly for external applications such as cladding.
- Incorporate glues of unknown performance.
- Not be timber that is commonly used for plywood in New Zealand (such as willow-faced plywood).
- Not perform as expected.

It has been brought to BRANZ's notice that these imported products may not be suitable for use under roofing membranes or asphaltic shingles. Reported problems have included extensive surface checking (veneer splitting) and excessive movement. They may also perform poorly when used behind plasterboard linings.

It is also worth satisfying yourself that:

- The supplier is reputable – there is an advantage in staying with suppliers who are known and who back their products.
- There is adequate and competent technical information and support for the product.
- Fixing and installation instructions are available and applicable to the end use and New Zealand conditions.
- The product will be compatible with, or suitable for, use with adjacent building materials.
- A warranty is available.

While these comments cover plywood, in essence it is a cautionary tale for all imported products. Being aware of a product's provenance is critical before the product is specified and/or installed. In the plywood example, replacement of a complete roof cladding system to address the performance issues reported with the plywood will be an expensive process.

Remember the saying: "Nobody ever made any money doing a job twice and being paid for it once."

Calculating thermal mass from NZS 4218:2009

As NZS 4218:2009 Thermal insulation – Housing and small buildings is not cited in the H1 compliance documents, designers using it as a means of compliance must submit their thermal calculations in their consent documentation as an alternative method – currently the H1 cited standard is NZS 4218:2004. Design rules in the 2009 version of NZS 4218 are more definitive than the 2004 version. When using the 'buildings with high thermal mass' provisions of Table 4 of NZS 4218:2009, calculations for the thermal mass can only be used where:

- The thermal mass is exposed to the interior.
- The thermal mass material has a surface density of at least 215 kg/m².

For wall construction, this means that the wall insulation must be located on the external surface of the wall. This means that heavy mass walls that are strapped and lined with insulation on the inside cannot be used to provide a thermal mass. The thermal performance required of such walls must be determined using Table 2 of NZS 4218:2009 'any wall type'. When using a bulk insulation such as glass fibre, wool or polyester with strapping, the strapping will need to be at least 75mm deep to meet the 'any wall type' schedule method requirements.