



Placement, curing and finishing of residential concrete floor slabs

This technical note provides builders with information on how to comply with the minimum requirements for reducing concrete slab cracking and unevenness. This is in response to the Building Commission receiving an increasing number of complaints from home owners about cracking and unevenness of floor slabs in their new home or addition.

Cracking and uneven floor slabs can result in significant remedial work being required of the builder. Proactive audits by Building Commission inspectors regularly note that house slabs have cracks and unevenness that are considered to be outside acceptable tolerances, or in locations that could have a detrimental effect on floors that are to be tiled.

When is a crack deemed faulty and unsatisfactory?

The Building Code of Australia requires residential concrete slabs to be constructed in accordance with Australian Standard *AS 2870-2011 Residential slabs and footings*. In addition to detailing how concrete slabs are to be constructed, Table C2 of the Standard classifies damage in reference to concrete floors. The Building Commission generally regards cracks as being faulty or unsatisfactory when they exceed the crack category of 2 from this table.

How can the likelihood of cracking be prevented?

AS2870-2011 acknowledges that cracks to concrete slabs cannot be entirely prevented but they can be controlled and reduced through measures such as the correct location of the steel mesh and adequate curing (refer to Part 3.2.3 of Volume 2 of the Building Code of Australia).

What are the tolerances relating to flatness?

The flatness of finished concrete floors can be controlled through good supervision and site practices. Areas of concern are generally dips or bumps in floor finishes and excessive ramping at thresholds to wet areas. When assessing the flatness of concrete slabs, the Building Commission refers to Clause 17.5.2.4 of *AS 3600-2009 Concrete structures* which states:

“The deviation of any point on a surface of a member, from a straight line joining any two points on the surface, shall not exceed 1/250 times the length of the line.”

When assessing tolerances relating to the flatness or cracking in concrete slabs, consideration is also given to the defect's location, serviceability of the floor for its intended use and if the floor finish is not suitable for the documented applied finishes.

Further information

More information on the placement, curing and finishing of concrete can be sourced from data sheets on the Cement Concrete & Aggregates Australia website. Copies of Australian Standards can be purchased from the SaiGlobal website. If you have any questions regarding inspection procedures contact the Building Commission Technical Services Manager on 1300 489 099.

Disclaimer: The information in this technical note may not represent all regulations, standards and codes that apply to this topic. As regulations, standards and codes are referred to in part, practitioners need to consider these requirements in full to ensure you meet the applicable building standards.

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