

Revised code of practice

E2/AS3, the third Acceptable Solution for Building Code clause E2 *External moisture*, has been revised. We look at some of the main changes.

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THE REVISED Cement & Concrete Association of New Zealand's CCANZ CP 01:2014 *Code of practice for weathertight concrete and concrete masonry construction* has been reconfirmed as E2/AS3 in the Building Code.

This provides architects, product suppliers, builders and consenting authorities with the details and methodologies required to achieve weathertight concrete and concrete masonry buildings.

Four significant changes

The revised code of practice includes four significant changes to the original 2011 version:

- Standard high-build acrylic coatings have been added to the weathertight wall solutions for concrete walls. No less than two coats must be applied, and the dry film thickness must be at least 180 microns, the same as for elastomeric high-build acrylic coatings.
- The requirements for weathertight concrete have been modified. The concrete strength requirements have been reduced from 50 MPa to 30 MPa.
- The procedure for testing the permeability of clear coating systems has been better defined. The conditioning of masonry blocks prior to testing and the application of the clear coat are now detailed. Another type of clear coating system has been added that allows the use of clear coat impregnations that comply with EN 1504-2:2004 *Products and systems for the protection and repair of concrete structures. Definitions, requirements, quality control and evaluation of conformity. Part 2: Surface protection systems for concrete.*

- A section for weathertight systems for walls has been added. This sets out the specification and construction of masonry veneer wall construction, including specification of the drainage cavity, brick ties, tie spacing and veneer lintels. It is based on and intended to ultimately replace Appendix E of NZS 4229:2013 *Concrete masonry buildings not requiring specific engineering design.*

Document scope

The document follows the same format as existing weathertightness solutions but with larger detail drawings. It covers the weathertightness of the building envelope for:

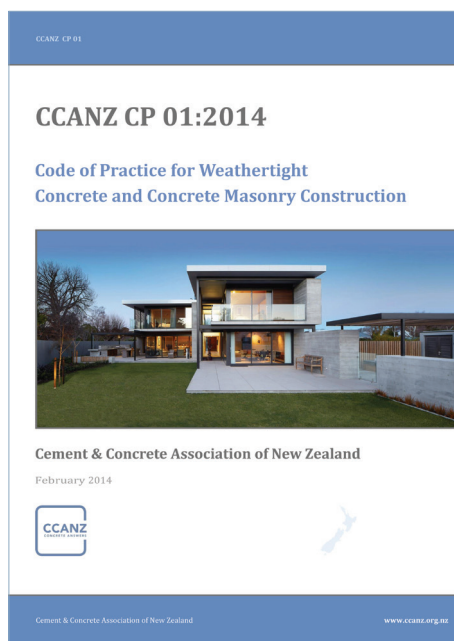
- concrete and concrete masonry wall types
- concrete slab-on-ground floors
- concrete flat roofs and decks
- concrete to timber construction junctions.

Outbuildings, such as detached garages, are outside the scope of the document, as are retaining walls, such as those used in a basement.

Three wall types covered

Three types of concrete walls are covered - concrete masonry, in situ concrete construction and precast concrete construction.

The weathertightness systems for the masonry, in situ and precast wall types are EIFS systems, plaster systems, masonry veneer, coating systems and weathertight concrete, as well as masonry veneer for masonry walls.



Weathertightness details showing various positions for the insulation are provided for each wall type. These include insulation on the inner face of the wall, on the outside face of the wall, integral within the wall itself, within a ventilated cavity or in the form of an EIFS.

Insulation in positions such as internal, integral or cavity is shown for illustrative purposes only and is not part of the weathertightness system.

Thermal insulation determined from the requirements of Building Code clause H1 *Energy efficiency* and clause E3 *Internal moisture* are outside the scope of the document.

Slab-on-ground floors

The scope of the document limits floors to those that are concrete slabs on ground.

Footings and footing walls and concrete slabs on ground must comply with NZS 4229:2013 Sections 6 and 7 or be specifically designed by a chartered professional engineer.

Roofs and decks

A range of concrete flat roof and deck types are included, which must be designed in accordance with AS/NZS 1170 *Structural design actions* and NZS 3101:2006 *Concrete structures standard* and constructed in accordance with NZS 3109:1997 *Concrete construction*.

Clause E2/AS1 of the Building Code provides weathertight details for timber roof constructions, which can be used with the wall construction covered by this code of practice. Roof junction details at the eaves, verge connections to concrete walls and concrete to timber walls are also specified. ◀

For more ▶ Download a free copy of the *Code of practice for weathertight concrete and concrete masonry construction* from www.ccanz.org.nz.