

Concrete tile roofs: Amendment 5 to E2/AS1

In August 2011, E2/AS1 was amended to accommodate an increase in 'design wind speed' and 'design wind pressure'. This guidance describes how these amendments affect concrete tile roof underlays and underlay support.

This information was confirmed as current in February 2016. It originally appeared in Codewords newsletters prior to January 2014.

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Of interest to Homeowners, Building consent authorities, Designers

Amendment 5 to E2/AS1 included several changes to accommodate an increase in the maximum design wind speed.

This aligned E2/AS1 with the increased wind speeds in NZS 3604:2011 (Timber-framed buildings), increasing the maximum design wind speed by 10 percent, and design wind pressure by 20 percent.

These are significant increases. They resulted in the creation of a new wind category of Extra High (EH) for design wind speeds above 50m/s, but not exceeding 55m/s.

Most detailed information throughout E2/AS1 remained unchanged for wind categories up to Very High (VH). However, some special wall and roof cladding requirements were added for cladding materials and installations in the EH wind category.

The amendment affects concrete tile roof underlays and underlay support.

Concrete tile underlays

The majority of roof installations are Type I (double pan) tiles on roofs steeper than 20 degrees, for buildings with Low, Medium or High site wind speeds.

These do not require roof underlays.

However, the tile manufacturer's literature may recommend the inclusion of underlays as good practice, regardless of E2/AS1 minimum requirements.

Note that roof underlays are required for all concrete tile roofs in sites with Very High and Extra High wind conditions, irrespective of roof pitch. This is a new requirement in Amendment 5.

All Type II (single pan) tiles and Type III (flat profile) tiles require roof underlays, irrespective of roof pitch or site wind speed. This is unchanged from the previous amendment. (Refer to E2/AS1 paragraph 8.1.5 for roof underlay type and installation details.)

Roof underlay support

Type R1 underlays require full support, including anti-ponding boards. (Refer to E2/AS1 paragraph 8.1.5.1 for underlay support and paragraph 8.2.5 for anti-ponding boards.)

Type R2 self-supporting roof underlays do not require support. Although E2/AS1 makes no distinction about the type of underlay and the use of

anti-ponding boards, Type R2 self-supporting underlays, if well installed by being pulled taut over the fascia and secured prior to installation of first tiles, will achieve drainage without anti-ponding boards.

Homeowners (or their designers), choosing underlays that exceed the minimum requirements of E2/AS1 are not bound by the details in E2/AS1, and your specific manufacturer's installation details may provide discretion over the use of anti-ponding boards in those situations.

However, it is highly recommended that for concrete tile roofs below 17 degrees, anti-ponding boards should always be used.

All guidance related to E2 External moisture(<https://www.building.govt.nz/building-code-compliance/e-moisture/e2-external-moisture/>)

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