

The Product Technical Statement is a form of documentary evidence stating that the properties and performance of a building material, product or form of construction fulfill specific requirements from the National Construction Code (NCC) 2019. This Product Technical Statement describes the application and intended use of the construction material, how the building material complies with NCC Volume 1 and 2 and specifies any limitations of the building material in question.

Material, product or form of construction: *Concrete Roof Tile*

Issued by: *Australian Roofing Tile Association (ARTA) representing the concrete and terracotta roofing tile manufacturers of Australia.*

Version and date of issue: *20/08/2019*

PRODUCT DESCRIPTION

Colour: *Any*

Material/Composition: *Concrete (sand, cement, aggregate), colouring.*

Dimensions (tile type): *Any*

Finish/Coating: *Any*

Unit features: *Consult manufacturer documentation for details.*

Additional Features (Not required for compliance but noteworthy): *Any features contributing to the performance of the building other than what is listed within this document e.g. in-built ventilation.*

Other descriptions: *See manufacturers for more details.*

Unit specification comply in accordance with Australian Standards (AS) 2049 - 2002 "Roof Tiles".

Units are tested to methods listed in AS 4046.1 - 2002 "Methods of Testing Roof Tiles - Determination of Distortion".

For any information not listed, e.g. product life and sustainability, sound insulation, durability, or testing reports, refer to the manufacturer's documents.

APPLICATION AND INTENDED USE *A statement of how and where the material, product or form of construction can be used within a building.*

Applicable building class: *Building Classes 1-10.*

Building element: *Any*

Tiles/Ancillaries: *List all relevant tile types to be used in building construction.*

Tiled area: *Specify the area to be tiled and/or the number of tiles to be used in the project.*

Building class in accordance with the Australian Building Codes Board (ABCB) classifications (e.g. Class 1 and 10a building - residential house and connecting carport).

Further information for application can be found in AS 2050 - 2018 "Installation of Roof Tiles" .

For load bearing purposes use wording from AS 2050 - 2018 Clause 1.5.1 to specify required loading.

For tiling within building elements, see AS 2050 - 2018 Clause 1.4.11.

Warranty: *See Manufacturer's document for more details*

COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE (A statement of the Performance Requirements and/or Deemed-to-Satisfy Provisions within NCC 2019 which the Product Technical Statement asserts compliance with.)

Compliance achieved by constructing to Acceptable Construction Practices (ACP's) under NCC 2019, sections 3.5.2 for Volume 2 or Part F1.5 for Volume 1 for buildings subjected to wind speeds of classification N3 or lower.

For wind speeds of classification higher than N3, are calculated in accordance with AS 4055 - 2012 "Wind loads for Housing" or AS 1170.2 - 2011 - "Structural Design Actions - Wind Actions", see AS 2050 - 2018.

Roof tiles are manufactured in accordance to AS 2049 - 2002.

LIMITATIONS OF USE

To be used as a structural building element or decorative unit. Use and design of roof tiles limited by pitch of roof, rafter/batten span, need for sarking.

CONDITIONS OF USE

For building classes 1 - 10: Tiles are to be mechanically fastened (e.g. by the appropriate nails) by meeting the compliancy requirements of NCC

Volume 1 - Section F1 using AS 2050 - 2018 as an Acceptable Construction Manual (ACM). Alternatively tiles are to be mechanically fastened by meeting the compliancy requirements of NCC Volume 2 - Section 3.5.2 by using AS 2050 - 2018 as an ACM.

Mortar mixes used for bedding should be 1 part cement to 4 parts sand (± 0.4 for sand) and 1 part cement to 3 parts sand (± 0.3 for sand) for pointing.

Concrete tiles are designed to exert a force of 0.57 kN/m^2 in accordance with AS 1170.1 - 2002.

INSTRUCTIONS FOR DESIGN, CONSTRUCTION OR INSTALLATION

SERVICEABILITY

Specify the need for durability, waterproofing, fire, acoustic and energy efficiency design.

Specify breaking load as tested and supplied by the manufacturer. (Minimum 4 N/mm of exposed width for all tiles in a group of 6 tiles and minimum 3.325 N/mm of exposed width for individual tiles) .

Specify wind loading, any planned imposed loading from people walking on tiles. E.g. Design wind load 50 m/s (N3 classification) with additional 1 kPa allowance for imposed loads.

Water absorption values tested in accordance with AS 4046.4.

Permeability tested in accordance with AS 4046.5.

Freeze/thaw cycles tests in accordance with AS 4046.6.

WORK HEALTH AND SAFETY CONCERN

Management of silica dust from concrete roof tile cutting to be in accordance with ARTA's Management of Silica Dust On Site Safety Factsheet. Additional guidance for safe work on an elevated surface can be found in ARTA's Safe Propping factsheets and videos.

MAINTENANCE INSTRUCTIONS

Refer to engineering specifications and manufacturer's instructions. NOTE: Not all chemicals are suitable for the cleaning of roof tiles, refer to manufacturer instructions. Tiles will be checked for defects as soon as possible after any signs of water ingress.

Warranties to be specified by the manufacturer. Guidance is also available through ARTA's Technical Manuals, Factsheets and Guides.

SUPPORT

Additional Documents:

Refer to ARTA's technical manuals for further guidance as they industry recognised and may be used with engineering judgement as performance solutions. ARTA's manuals are not recognised as ACP's within the NCC 2019.

Please contact ARTA for any enquiries relating to this Product Technical Statement and its application

DISCLAIMER: The information provided within this product Technical Statement is intended to encompass conventional Australian roof tiles, as evidence of their compliance with the NCC 2019. The manufacturers of the roof tiles must always be consulted to check that this Product Technical Statement reflects the unit that is intended on being used in the project. Design and or construction information is provided only to assist the use of the product in regards to relevant regulation, but each unit is not defaulted to be in compliance with certain design loads.

Warranty: See Manufacturer's document for more details