

# Energy Efficiency Housing Provision

NCC2022 Housing Provisions Standard  
Building Fabric 13.2.3 Roofs and ceilings

How to comply with **Section 13.2.3**

The National Construction Code 2022 Housing Provisions Standard, Energy Efficiency has been amended. This document highlights the key changes and how to improve 7-Star performance using roof tiles.

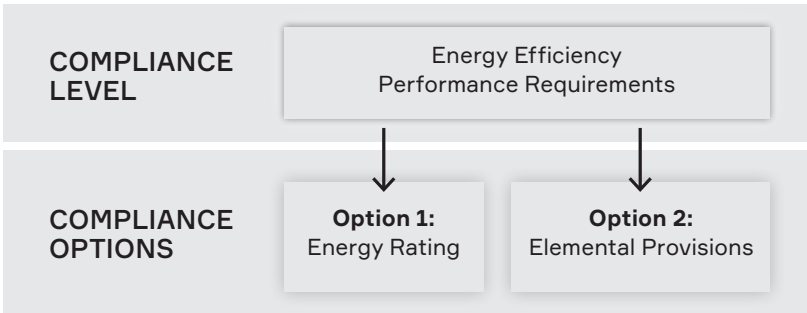
The NCC 2022 recognises that the colour of a roof will contribute to thermal gain or loss of a house, and therefore impact the energy efficiency of that house, depending on which climate zone it is in.

For climate zones 1-5: the NCC recognises that a light colour roof will offer a lower thermal gain than a dark coloured roof and therefore give a higher star rating.

For climate zones 6-8: the NCC recognises that a dark colour roof will offer a higher thermal gain than a light-coloured roof and therefore give a higher star rating.

NCC2022 Housing Provision Standards References

NCC2022 Vol. 2 [(Deemed to satisfy (DTS) H6D2 (1) (a) & (b))] recognises two pathways to meet energy efficiency requirements via Energy rating and Elemental provisions.



Please refer to the NCC for the complete requirements concerning Energy Efficiency.

Compliance Interpretation

Compliance Option 1: Energy Rating

DTS H6D2 (1) (a) recognises a software-based approach that uses computer modelling to simulate the thermal performance of each building individually.

This compliance pathway utilises Nationwide House Energy Rating Scheme (NatHERS) software which takes into consideration factors such as building materials, shading, orientation, and other building elements to calculate a star rating, representing the energy efficiency of the building. This offers more flexibility when selecting a roof colour of your choice, even if its a light colour in climate zone 6-8, by altering other building elements you can still achieve the same star rating.

The advantage

Offers more flexibility and allows the selection of any colour roof regardless of climate zone.

Compliance Interpretation

Compliance Option 2: Elemental Provisions

DTS H6D2 (1) (b) follows the ABCB Housing Provisions which outline specific requirements for various building elements. For climate zones 1 to 5, Monier has five colours with solar absorptance (SA) value not greater than 0.64 that satisfies the requirement of the elemental provisions.

The advantage

Although design flexibility is limited, the elemental provisions offer straightforward solutions to meet energy efficiency.

Summary of compliance solutions

Climate Zone	Solar Absorptance (SA value	Monier roof colours	Deemed-to-Satisfy (DTS) solution (NCC2022 Vol.. 2)
1 to 5	*Roof SA ≤0.64	Light colours	Energy Rating or Elemental Provisions
1 to 5	Roof SA >0.64	Dark colours	Energy Rating
6	0.23≤ Roof SA ≤0.96	All colours	Energy Rating or Elemental Provisions
7 to 8	Roof SA ≤0.96	All colours	Energy Rating or Elemental Provisions

\* Whether the full solar absorptance range is available in the elemental provisions will also depend on other elements of the construction. Refer to the elemental provisions for specifics.

Additional key changes for roof tiles



Concrete and terracotta tiles are recognised as non-combustible material.

NCC2022 Vol.1 clause – C2D10(5) acknowledges concrete and terracotta materials are deemed as non-combustible.

The advantage

Monier concrete and terracotta roof tiles may be used wherever a non-combustible building element is required without a need for test reports or certificates.



Tiles meet the DTS Solution for Weatherproofing Provisions.

NCC2022 Vol.1 clause F3D2(a) and Vol 2. H1D7(3)(b) established a clear pathway for designers to meet the weatherproofing requirement in all wind categories by meeting the requirements of AS2050 – Installation of Roof Tiles when designing a building with tiled roofing.

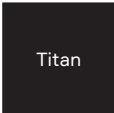

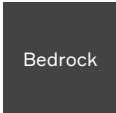

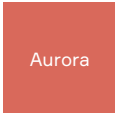
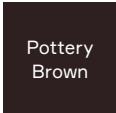
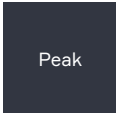
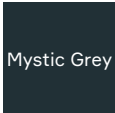

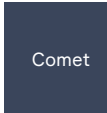
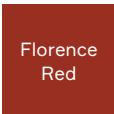
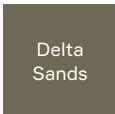
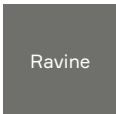
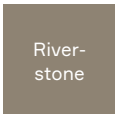
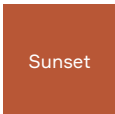
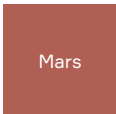
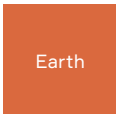
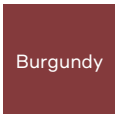
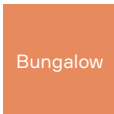
The advantage

This simplifies the design process by offering clearly defined and accepted solutions.

# Monier Roofing Colour Solutions

## TERRACOTTA TILE COLOURS

### LUXE COLLECTION



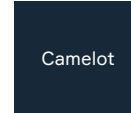
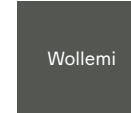

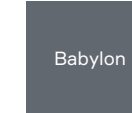







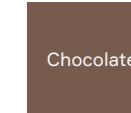
 Titan	 Titan Gloss	 Bedrock	 Tanbark	 Aurora	 Pottery Brown	 Peak	 Mystic Grey	 Cottage Red	 Comet
SA: 0.88 U & N	SA: 0.88 M	SA: 0.87 U, N & M	SA: 0.85 M	SA: 0.85 M	SA: 0.84 M	SA: 0.83 U, N & M	SA: 0.83 M	SA: 0.82 M	SA: 0.79 N & M
 Florence Red	 Delta Sands	 Ravine	 Riverstone	 Sunset	 Mars	 Earth	 Burgundy	 Bungalow	
SA: 0.78 M	SA: 0.74 M	SA: 0.73 U & N	SA: 0.67 N & M	SA: 0.65 M	SA: 0.57 N & M	SA: 0.57 U, N & M	SA: n/a M	SA: n/a M	

SA = Monier tiles were assessed through Solar Absorptance test to ASTM E903-20 Standard Test Method for Solar Absorptance, reflectance and Transmittance of materials using integrating spheres.

Not all colours are available in all profiles. Please refer to key: **U** Urban Shingle **N** Nouveau **M** Marseille

## CONCRETE TILE COLOURS

### PREMIUM & CLASSIC COLLECTION

 Sambuca	 Barramundi	 Soho Night	 Camelot	 Wollemi	 Caraway	 Babylon	 Chilli
SA: 0.96 H, A, E, T & CT	SA: 0.93 H, A, E, T & CT	SA: 0.93 C & M	SA: 0.92 H & A	SA: 0.90 H & A	SA: 0.89 H & A	SA: 0.88 H, A & E	SA: 0.88 H, A & E
 Aniseed	 Silver Perch	 Saffron	 Wild Rice	 Mist Grey	 Seashell	 Salt Spray	 Chocolate
SA: 0.85 H, A, E & T	SA: 0.79 H & A	SA: 0.69 E, T & CT	SA: 0.68 H, A & E	SA: 0.48 H, A & E	SA: 0.43 H, A & E	SA: 0.42 H, A, E & CT	SA: n/a T & CT

SA = Monier tiles were assessed through Solar Absorptance test to ASTM E903-20 Standard Test Method for Solar Absorptance, reflectance and Transmittance of materials using integrating spheres.

Not all colours are available in all profiles. Please refer to key: **M** Madison **C** Cambridge **H** Horizon **A** Atura **E** Elabana **T** Tudor **CT** Centurion

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