



Hints and tips from the Technical Department

DARK COLOURS

Dark colours absorb heat and energy causing stress on substrates and premature failure of the coating on these substrates.

This is well recognised, and numerous Standards, Codes and Guides highlight the problems that result in painting exterior substrates in dark colours.

For Example;

AS/NZS 2311:2000 Guide to the Painting of Buildings §1.9.4 Exterior Colours: “The application of very dark coloured paints may result in a more rapid deterioration due to the extra heat absorbed; for example, blistering of coating systems on timber or more rapid chalking. In addition, degradation of brightly coloured or dark paints is usually more apparent than that of pastel shades.”

Building Code Acceptable Solutions E2/AS1 §2.4: “Dark colours cause claddings to reach higher temperatures, which results in more thermal expansion and a greater risk of cracking of joints in monolithic wall claddings. Risks of cracking are also associated with dark colours on painted timber wall claddings and trim.”

NZS 3602:2003 §C111.7: “The type and colour of protective finish influences the rate and amount of moisture that will be absorbed or lost from timber. Dark coloured finishes on exterior cladding can result in high surface temperatures and the moisture content of the cladding can fall to well below that expected of similar cladding with a light coloured finish resulting in excessive shrinkage, checking and failure of the finishing material.”

BRANZ Good Practice Guide – Exterior Coating §4.2.1: “When choosing the finish colours, factors to consider are: Lighter colours tend to last longer than darker colours on less stable substrates such as timber because the movement that occurs in the substrate is reduced. Darker colours can also cause excessive drying and shrinkage in timber which can accelerate cracking and coating failure. For painted steel roofing lighter colours significantly reduce the surface temperatures so there will be less thermal movement. All coatings fade and chalk but will usually be less noticeable with lighter colours.”

BRANZ Good Practice Guide – Texture Coated Fibre-Cement §2.14.5 Table 1:

Colour	Maximum °C	Minimum °C
Dark colour on north or west wall	70-75	-5 to 5
Light colour on north or west wall	55-65	-5 to 5

James Hardies Soffits Technical Information: “When using PVC moulds avoid dark colours (light reflection below 40%) as excessive movement may cause buckling of the PVC when exposed to direct sunlight.”

Building Code Acceptable Solutions E2/AS1 §4.3.1: “uPVC flashings shall have a finish colour with a reflectance of 40% or more”

Accordingly Wattyl (NZ) Ltd recommends that light colours be chosen for all Exterior Painting to ensure maximum coating and substrate life. As a guide try and restrict colour choice to colours with a Light Reflectance Value of 40% or greater.

Furthermore if PVC components are present in the cladding system or PVC is being painted it is a requirement of the building code that colours with an LRV of 40% or greater are chosen and difficulty in obtaining code of compliance may be encountered if this colour choice guideline is not followed.

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