

2nd May 2025

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ENGINEERING EVALUATION CERTIFICATE: BRITE DECKING HD PRO DECKING BOARDS, 138MM x 23MM

This certificate is issued by: Acronem Consulting Australia Pty Ltd

This certificate is issued to: BRITE DECKING (PTY) PTY LTD
2/260 MUSGRAVE RD
COOPERS PLAINS QLD 4180
AUSTRALIA

This document serves as a report from a professional engineer in accordance with Clause A5G3(1)(e) of the National Construction Code 2022(Amdt.1) Volumes One, Two & Housing Provisions pursuant to demonstrating that *Brite Decking HD Pro*, installed in accordance with the requirements detailed below contributes to a building or structure achieving NCC 2022(Amdt.1) B1P1(2)(b) & H1P1(2)(b).

Deemed-to Satisfy clauses B1D3(b)(iii) and H1D2, 2.2.3(b)(iii) reference AS/NZS 1170.1 for the determination of imposed actions. AS/NZS 1170.1 Table 3.1 provides reference values of imposed floor actions.

In all cases the design and use of *Brite Decking HD Pro* must be independently verified, accounting for all relevant performance requirements, including, but not limited to, suitability for the particular application and strength of the supporting structure.

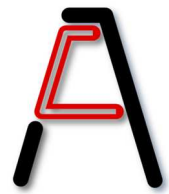
The Ultimate Limit State (ULS) & Serviceability Limit State (SLS) performance of *Brite Decking HD Pro* has been verified based on:

- Testing in accordance with the principles of AS/NZS 1170 series at Accredited Testing Laboratories (Reports 230322002SHF-001 & GZHH00569267); and,
- Calculation of design capacities of the *Brite Decking HD Pro* by a professional engineer in accordance with AS/NZS 1170.0, Appendix B; and,
- Comparison with the design action effects based on combinations of actions for strength and serviceability for the imposed floor actions provided in AS/NZS 1170.1, Table 3.1.

Brite Decking HD Pro shall be installed in accordance with *Installation Guide, V062022* onto supports;

- with minimum bearing width of 45mm; and,
- with maximum support spacing / design concentrated action combinations, of;
 - o 450mm/1.8 kN, 1.5kN/m & 2.0kPa, and
- with each board installed over at least two (2) spans.

Brite Decking HD Pro is suitable for external decking applications in accordance with the following AS/NZS 1170.1 Table 3.1 imposed floor actions and maximum support spacings.



BRITE DECKING HD PRO SYSTEM Performance to AS/NZS 1170.1:2002, T.3.1

Type of activity / occupancy for part of building or structure	Specific uses	Uniformly distributed actions (kPa)	Concentrated actions (kN)	Max. Joist Spacing c/c (mm)
A Domestic & residential activities				
A1 Self-contained dwellings	Balconies used for floor type activities in self-contained dwellings:	1.5	1.5kN/m run along edge	450
	(a) less than 1m above ground level (b) other ⁽²⁾	2.0	1.8 ⁽¹⁾	450

AS/NZS 1170.1, Table 3.1 Notes - Design and Installation:

(1) For AS/NZS 1170.1 T3.1 domestic & residential activities, 1.8kN concentrated action shall be applied over an area not less than 350mm² (Refer to Note 1, AS/NZS 1170.1:2002, Table 3.1).

(2) Where a stair tread or landing is structurally independent of the adjoining elements, it shall be capable of withstanding a line load of 2.2kN/m of span of tread or landing. **Boards shall be fully supported at stair treads or landings.**

Analysis Notes:

- ULS strength combination 1.2G+1.5Q.
- Design governed by serviceability deflection from concentrated action on a single board.
- SLS deflections for distributed & concentrated actions $G + \psi Q$ ($\psi=0.7$).
- Recognition & acceptance of deflections is at the discretion of the designer/user.
Deflections limited to; 2.9mm, SPAN/136 for 1.8kN action.
- Floor vibration deflection limited to 2mm for 1.0kN point load & max. support spacing 450mm.
- Modelled as 2-span continuous beam, each board supported on 3-joists.
- Mean tested values of MOE and MOR with Material Reduction Factor = 1.1.
- A Creep Factor of 4.0 is assumed. The long-term deflection from a significant concentrated action can be up to 4-times the short-term deflection and are best located over supports rather than at mid-span of the boards.

The analysis performed covers only those matters and products listed and excludes any other matter or product. The information presented in this report is valid for the shortest of the following periods:

- Until the product/system becomes modified in any way; or
- Until superseded by more recent technical information or by other certification; or
- Until *Installation Guide, V062022* is superseded; or
- Until the particular referenced parts of the NCC are superseded in the NCC or in State or Territory Building Regulations; or
- Until the particular referenced Standards are superseded.

Cameron Chick BE(Hons), Ph.D, GC.Com.(Mktg), M.AIRAH, RPEQ
for and on behalf of ACRONEM CONSULTING AUSTRALIA PTY LTD
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