

This product has been determined to satisfy NCC Performance Requirement H1P1 for structural resistance of materials and forms of construction in high wind areas

SPECIFICATION

This data sheet covers the use of 6mm Hardie™ Flex, 7.5mm Hardie™ Groove, 6mm Versilux® and 6mm Villaboard® sheet in residential carport and verandah soffit lining applications over light-gauge steel or timber framing and must be read in conjunction with the current product literature: "Eaves & Soffits Technical Specification" available from our website:

https://www.jameshardie.com.au/applications/eaves-soffits

Sheets must be coated in accordance with product literature.

HardieFlex™ Sheet Description:

Sheet thickness nominally 6mm with square edges;

HardieGroove™ Sheet Description:

Sheet thickness nominally 7.5mm with square edges;

Versilux® Sheet Description:

Sheet thickness nominally 6mm (9mm also available);

Villaboard® Sheet Description:

Available in 6mm or 9mm thickness with recessed edges along the two sheet (long) sides for flush jointing.

FRAMING & SHEET INSTALLATION

Install sheets to steel or timber battens as shown in **Figure 1** and in accordance with the batten and fastener spacing given in **Table 1** or **Table 2** depending on the wind load classification or design pressure.

Sheets may be laid parallel to or across the battens.

Framing width at sheet joints must be a minimum of 42mm for timber and 38mm for steel. Where the battens at sheet joints are less than this, provide double 35mm wide battens at sheet joints. Ensure that double battens are fastened together and flush at the outside face.

All intermediate support battens must be a minimum of 64 x 35mm deep for metal framing and 70 x 35mm for timber.

Framing – Steel

The steel wall frame (minimum 64 x 35mm studs) must be in accordance with NCC 2022 Clause H1D6 Item (3). Studs to be rolled steel sections not exceeding 2mm in thickness.

Framing – Timber:

Use of timber framing must be in accordance with AS 1684: 2021 "Residential timber-framed construction" and framing manufacturer's specifications. Use seasoned timber or else unseasoned hardwood minimum F14 grade. LVL timber may be used.

Support at Fascia & Walls:

All longitudinal sheet edges (other than cantilever ends of 150mm permitted against walls or non-grooved fascias) and joints must be supported by framing (see **Figure 2** for butt jointing). A transverse joint is one that crosses the direction of battens and where sheet edges may be butt jointed.

Jointing:

HardieFlex, HardieGroove and Versilux sheets are normally jointed with a PVC straight joint mould, although butt joints may also be used. Villaboard sheets may be tape-set and flush jointed (refer to product technical literature). Sheet joints must coincide with the centre line of the ceiling batten or framing member (see **Figure 2**).

TABLE 1: Maximum Batten & Fastener Spacing for Wind Pressure						
AS 4055 Wind Load Class	General Areas of Building			Within 1200mm of Building Edges		
	ULS Pressure (kPa)	Batten Spacing (mm)	Fastener Spacing (mm)	ULS Pressure (kPa)	Batten Spacing (mm)	Fastener Spacing (mm)
C1	-0.98 +1.05	600 or 450	200	-1.95	450 or 400	200
C2	-1.45 +1.56	600 or 450	200	-2.90	450 or 400	150
C3	-2.14 +2.30	450 or 400	200	-4.27	300	150
C4	-2.88 +3.11	450 or 400	150	-5.77	300	100

TABLE 2: ULS Design Pressure Capacity			
Batten Spacing (mm)	Fastener Spacing (mm)	ULS Capacity (kPa) to Timber Framing	ULS Capacity (kPa) to Steel Framing
600	200	1.69	1.69
	100	1.95	1.95
450	200	2.38	2.44
	150	3.17	3.70
	100	3.98	3.98
400	200	2.68	3.12
	150	3.57	4.16
	100	5.03	5.03
300	200	3.57	4.16
	150	4.76	4.97
	100	7.14	7.14

FIXING / FASTENERS

Fixings and fastener may be minimum Class 3 finish if concealed and/or sealed, but must be Class 4 if exposed to the elements. Use the following fasteners or approved equivalent fasteners:

Fasteners - Steel Framing:

Use 30mm Buildex FibreTeks® screws or 32mm HardieDrive® screws.

Fasteners - Timber Framing:

Use 2.8 x 30mm galvanised fibre cement nails.

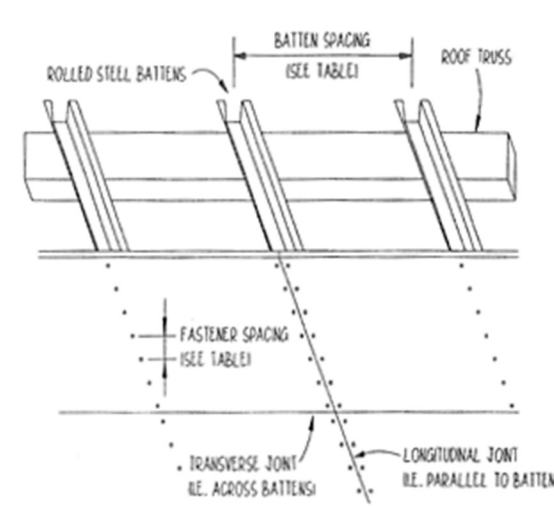


Figure 1: Carport & Verandah Lining Layout
(timber framing similar)

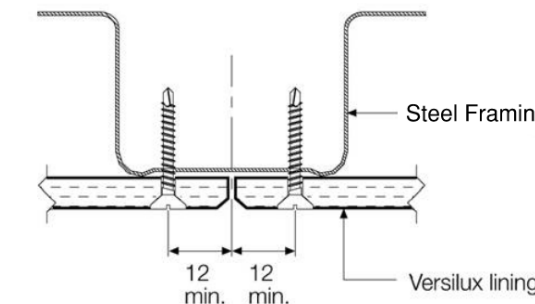


Figure 2: Butt Joint Fixing
(timber framing similar)

DETAILS & OTHER MATTERS

More extensive construction details and jointing details are provided in current James Hardie literature for HardieFlex, HardieGroove, Versilux and Villaboard cladding and the "Eaves & Soffits Technical Specification" (see link to website above). Refer also to the Warranty in that literature.

For further details on matters such as a thermal break, an appropriate weather barrier, flashing, system accessories and finishing, refer to current James Hardie technical literature for HardieFlex, HardieGroove, Versilux and Villaboard cladding, the NCC or relevant Australian Standards.

Product Name

CARPORT & VERANDAH SOFFIT LINING WITH HARDIEFLEX™, HARDIEGROOVE™, VERSILUX® & VILLABOARD® SHEET

Product Description

External Cladding for Soffit Linings

Manufacturer's Details

James Hardie Australia Pty Ltd
10 Colquhoun Street, Rosehill NSW 2142



Design Criteria

[1] General

All design and construction must comply with the appropriate requirements of the current National Construction Code (NCC) and other applicable regulations and standards.

[2] Wind Loading

The cladding sheet must be fastened to the frame in accordance with **Table 1** for the different wind classifications, which are taken from AS 4055: 2021 "Wind Loads for Housing". The effective design wind speeds are given in Table 2.1 of AS 4055: 2021.

For design to AS/NZS 1170.2: 2021 "Part 2: Wind Actions", the ULS design capacity of the system is given in **Table 2**, noting that an ULS material capacity reduction factor ('phi') is implicitly included and no further factoring of the design capacity is needed.

Limitations

[1] Hardie™ Flex, Hardie™ Groove, Versilux® and Villaboard® soffit lining sheets are designed as external cladding for residential use only. This cladding has been designed for external pressure and suction loadings only. **The designer must ensure that no internal pressure or suction arises from within the enclosed carport or roof spaces otherwise an internal lining is required.**

[2] To use **Table 1**, the design must comply with the geometric limits given at Clause 1.2 of AS 4055: 2021 (eg max eaves height = 6m and maximum building width = 16m), except as varied by the design engineer.

[3] Fastening: All fasteners specified must be driven flush. Do not fix fasteners closer than 12mm from panel edges, or closer than 50mm from sheet corners.

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/450/01

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 30/04/2026 Expiry Date: 30/04/2031

Notes covering basis of DTC (Relevant test reports etc)

The nominated structural capacity of the system is based on the following documentation:

[1] James Hardie "Technical Submission for the Structural Certification of 6mm HardieFlex Sheet Used as External Cladding" Version 5 dated 2 June 2025, which references various test reports including Test Report TS004-20 dated 6 March 2020 and reports by Danenbergsons dated 13 April 1995 and Frick dated 30 June 1995.

[2] David Beneke Consulting letter of certification 2024-35-LO-57 (Revision 3) dated 2 June 2025.

[3] Cyclone Structural Testing Station Report No.TS 471 dated 23 July 1996 "Static and Cyclic Uniform Loading of Hardiflex Cladding" and James Hardie letter to NT BASB dated 7 August 1996 regarding the outcome of testing cyclic versus static loading.

Checking Engineer

Name: DAVID BENEKE
Registration Number: IEAUST 62658
Date: 30 June 2025

Signature:

Must be an Australian registered structural engineer

Certifying Engineer

Name: NAVID NIKJOO
NT Registration Number: 341218 ES
Date: 3 December 2025

Signature:

Must be a registered structural engineer in the Northern Territory