

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 the range of 7.5mm thick Hardie™Plank “Smooth” and “Woodgrain” weatherboards in residential façade applications over a light-gauge steel frame or a timber wall frame and must be read in conjunction with the product literature, currently “External Cladding Technical Specification” available from our website at: <https://www.jameshardie.com.au/productrange/hardieplank-weatherboard>

Available in 230mm and 300mm widths and stock length 4200mm, all weatherboards are pre-primed, however, the final surface finish (coating, painting etc) must be in accordance with James Hardie product literature. They are fixed with an overlap of 25mm as seen in **Figure 1**.

**FRAMING & SHEET INSTALLATION**

Install weatherboards to steel or timber stud-frames as shown in **Figure 1** and/or **Figure 2** with the stud spacing taken from **Table 1** or **Table 2**, noting that there are limitations with respect to the width of the weatherboard that may be used in the particular wind classification.

All intermediate support studs must be at least 64mm wide 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.

**Jointing:**

In non-coastal areas, the ends of HardiePlank weatherboards may be jointed off-stud by means of metal soakers (see Figure 26 of product literature). In coastal areas (ie within 1km of the shoreline or a large body of salt water) the boards must be jointed on-stud.

**FIXING / FASTENERS**

All fixings and fasteners may be minimum Class 3 finish if concealed and/or sealed, but must be Class 4 if exposed to the elements. Fasten through both thicknesses of plank, two fasteners per plank per stud. The minimum edge distance at the ends of the boards is 25mm.

**Steel-Framed Construction:**

For steel framing, use 30mm ITW Buildex ‘Fibre Tek’s screw or 8g – 32mm or 40mm HardieDrive™ self-embedding head screw. Use longer Buildex CSK ribbed head wing-tip screws, if needed, with thermal break.

**Timber-Framed Construction:**

Use preferentially 50mm ring-shank gun nails to achieve the capacities given in **Table 1** because the lesser capacity of 50mm long Ø 2.8mm fibre-cement (FC) hand-driven nails as seen in **Table 2**. The racking capacities quoted below may be claimed provided that cyclone rods are used.

**TABLE 1: Maximum Plank Width & Stud Spacing for Wind Load**

AS 4055 Wind Load Classification	Max Allowed Plank Width (mm)	General Areas of Building		Within 1200mm of Building Edges	
		ULS Pressure (kPa)	Stud / Batten Spacing (mm)	ULS Pressure (kPa)	Stud / Batten Spacing (mm)
C1	300	-0.98 +1.05	600	-1.95	600 (for timber: use coil nail only)
C2	300	-1.45 +1.56	600 (for timber: use coil nail only)	-2.90*	450 (for timber: use coil nail only)
C3	230	-2.14 +2.30	steel: 600 timber: 450	-4.27	450 (for timber: use coil nail only)
C4	230	-2.88 +3.11	450 (for timber: use coil nail only)	-5.77	300 (steel only, not for timber framing)

\*Note: Cavity battens may be fixed on-stud in all cases, but fixed off-stud up to 2.9kPa (C2 classification) only – refer to cavity fixing specification below on this sheet.

**Table 2: ULS Design Pressure Capacity**

Stud or Cavity Batten Spacing (mm)	STEEL FRAMING (kPa)		TIMBER FRAMING (kPa)			
	Fixing with Screws (see specification)		Fixing with 50mm Ring-Shank Coil Gun Nails		Fixing with 2.8 x 50mm FC Hand Nails	
	*W = 300	*W = 230	*W = 300	*W = 230	*W = 300	*W = 230
600	2.62	3.51	1.96	2.63	1.25	1.68
450	4.0	5.4	3.3	4.4	2.0	2.7
	3.0 with stud clips		2.0 with stud clips		1.45 with stud clips	
300	4.6	6.0	3.3	4.4	2.6	4.0

\*Note: W denotes width of plank in millimetres

**Cavity Fixing:**

James Hardie claddings may be fixed onto cavity battens in accordance with James Hardie’s DTCM Sheet M/446/01 for cavity battens where the required batten fasteners are specified. Battens may be fixed off-stud up to an ULS design pressure of 2.9kPa (ie C2 wind classification) only.

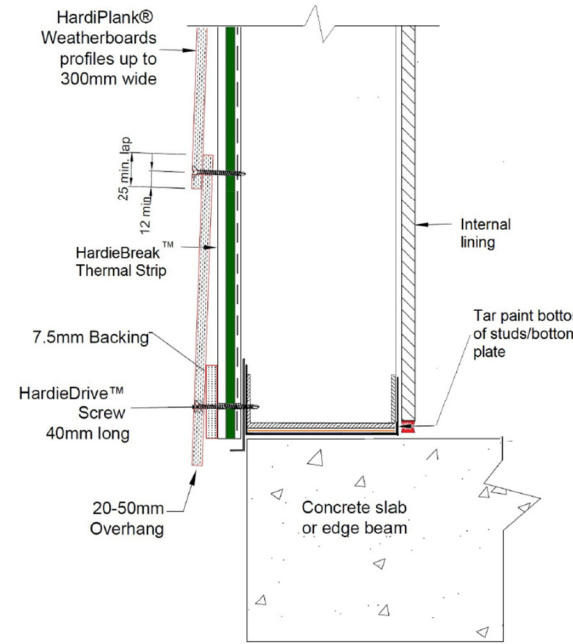
**STRUCTURAL BRACING**

When fasteners pass through both planks as in **Figure 1** (as opposed to concealed fixing in **Figure 2**), bracing capacity may be claimed. For wall heights of both 2400mm and 2700mm, the ULS racking capacity for 1.6mm gauge welded steel framing is 2.0kN/m for 600mm stud spacing, 2.4kN/m for 450mm stud spacing and 3.6kN/m for 300mm stud spacing.

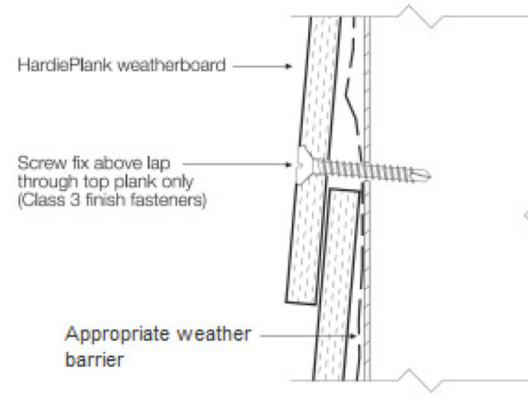
For timber framing the capacity is 2.4kN/m for stud spacing up to 600mm provided that M12 cyclone rods are used with a spacing to be determined from AS 1684.3: 2021, but never more than 2.4m apart if bracing capacity is claimed.

These capacities are provided regardless of whether the required internal lining has been installed. If a 6mm JHFC internal lining is added (refer to the James Hardie DTCM sheet for structural bracing capacity of fibre-cement cladding), the capacity rises to 6.6kN/m for timber and steel framing.

Bracing capacity cannot be claimed with the cavity-fixed construction method except for any FC layer that is fixed directly to the wall framing.



**Figure 1: Exposed Fixing Detail**  
(when bracing capacity is required)



**Figure 2: Concealed Fixing Detail**  
(when no bracing capacity is required)

**DETAILS & OTHER MATTERS**

More extensive construction details and jointing details are provided in current James Hardie literature for HardiePlank weatherboard cladding available from our website. Refer also to the system Warranty in that literature.

For further details on matters such as an appropriate weather barrier (eg vapour permeable sarking), flashing, system accessories and finishing, refer to current James Hardie technical literature for HardiePlank weatherboards, the NCC or relevant Australian Standards.

Product Name  
**HARDIE™ PLANK WEATHERBOARDS**

Product Description  
**7.5mm Pre-Primed External Wall Cladding**

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™Plank weatherboard is an external wall cladding for residential use only. This cladding has been designed for external pressure and suction loadings only. **The designer must ensure that the framing is capable of resisting simultaneously the internal and external design pressures (ie 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] Stud clips may be used only in wind classifications up to C2 for steel framing and C1 for timber framing. Fasten stud clips with short 5mm diameter hex head Tek screws or equivalent. One stud clip per plank per stud.

[4] Fastening: Drive screw head flush with plank surface. Locate fastener as shown in the diagrams, but never less than 12mm from top or bottom edges of the weatherboard.

**Accepted for inclusion in Deemed to Comply Manual**

DTCM drawing number: M/455/01

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 Structural Certification of 7.5mm HardiePlank Weatherboards Used as External Cladding” (Third Edition) dated 11 June 2025, which references various test reports including Danenbergsons dated 13 April 1995, TS019A-22 (FC nails) and TS019B-22 (coil nails).

[2] David Beneke Consulting letter of certification 2024-36-LO-46 (Revision 2) dated 16 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**

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Signature:   
Must be an Australian registered structural engineer

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