

IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1), THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENT P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA

SPECIFICATION

This data sheet covers the use of Primeline™ Summit™ weatherboard in residential façade applications over a light-gauge steel frame or a timber wall frame and must be read in conjunction with current James Hardie product literature (currently "External Cladding Technical Specification").

Primeline™ Summit™ Cladding Description:

Sheet thickness nominally 9mm; Milled smooth pre-primed surface finish; Final surface finish (coating, painting etc) must be in accordance with the James Hardie product literature.

Available in 230mm width only; fixed with a max overlap of 33mm, the effective cover per board is approximately 197mm. Stock length 4200mm; Cladding weighs approx 2.8kg/lineal m.

FRAMING & SHEET INSTALLATION

Install weatherboards to steel or timber stud-frames as shown in Figures 1 and 2 and product literature with the stud spacing taken from **Table 1**, or **Table 2** depending on the wind load design, noting that the capacity on timber framing is lower than on steel framing because of the tendency for the nails to withdraw from the timber.

All intermediate support studs 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 2019 Clause 3.4.2.0. Studs to be rolled steel sections not exceeding 2mm in thickness.

Framing – Timber:

Use of timber framing must be in accordance with AS 1684: 2010 "Residential timber-framed construction" and framing manufacturer's specifications. Use seasoned timber or else unseasoned hardwood minimum F14 grade. LVL timber may be used.

FIXING / FASTENERS

The concealed back-fixed HardieLock™ system ("spline") must be used in the fixing of this product, but refer to the Structural Bracing section for a potential variation.

Drive screw head flush with plank surface. Locate fastener as shown in the diagrams, but never less than 20mm from top, bottom or vertical edges of the weatherboard.

Fixings and fastener may be 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:

Steel-Framed Construction:

Use 40mm HardieDrive™ self-embedding head screw or 30mm Buildex 'FibreTek's' screw.

Timber-Framed Construction:

The same stud spacing designs may be applied equally using 40mm long Ø 2.8mm fibre-cement (FC) nails. The racking capacities quoted below may be claimed provided that steel anchor ("cyclone") rods are used.

Joining:

The ends of the weatherboards can be jointed on-stud, or off-stud using the HardieLock spline (refer to product literature).

TABLE 1: Maximum Stud Spacing (mm) for Wind Load				
AS 4055 Wind Load Classification	General Areas Of Building		Within 1200mm of Building Edges	
	ULS Pressure (kPa)	Stud Spacing (mm)	ULS Pressure (kPa)	Stud Spacing (mm)
C1	-0.98 +1.05	600	-1.95	600
C2	-1.45 +1.56	450	-2.90	450
C3	-2.14 +2.30	450	-4.27	steel: 450 timber: 300
C4	-2.88 +3.11	450	-5.77	

TABLE 2: Test-Proven ULS Design Pressure Capacity (kPa)			
Stud Spacing (mm)	With Spline		Without Spline
	Steel	Timber	Steel or Timber
600	4.9	2.7	2.5
450	6.8	5.0	3.3
300	n/t	6.2	4.9

On-Stud Jointing:

On-stud jointing must be done on a minimum 45mm width single stud or double 35mm width studs.

STRUCTURAL BRACING

Bracing capacity may be not be claimed when concealed fixing with the HardieLock spline is used as required by the current James Hardie product literature. However, the fasteners may be installed to pass through both planks, in which case the pressure capacity reduces as in **Table 2** and the bracing capacities are as follows:

For wall heights of both 2400mm and 2700mm, the ULS racking capacity for 1.6mm gauge steel framing is 2.4kN/m for 600mm or 450mm stud spacing and 3.6kN/m for 300mm stud spacing.

For timber framing the racking capacity is 2.4kN/m for stud centres 300mm to 600mm, provided that M12 steel anchor rods are used with their spacing determined from AS 1684.3: 2010, but never more than 2.4m apart if bracing capacity is claimed.

These capacities are achieved via the framing and external lining and thus provided regardless of whether the required internal lining has been installed. Where a 6mm JHFC (James Hardie fibre cement) internal lining is added, the capacity rises to 6.6kN/m for timber and steel framing for stud centres 300mm to 600mm (refer to the James Hardie DTC sheet for bracing).

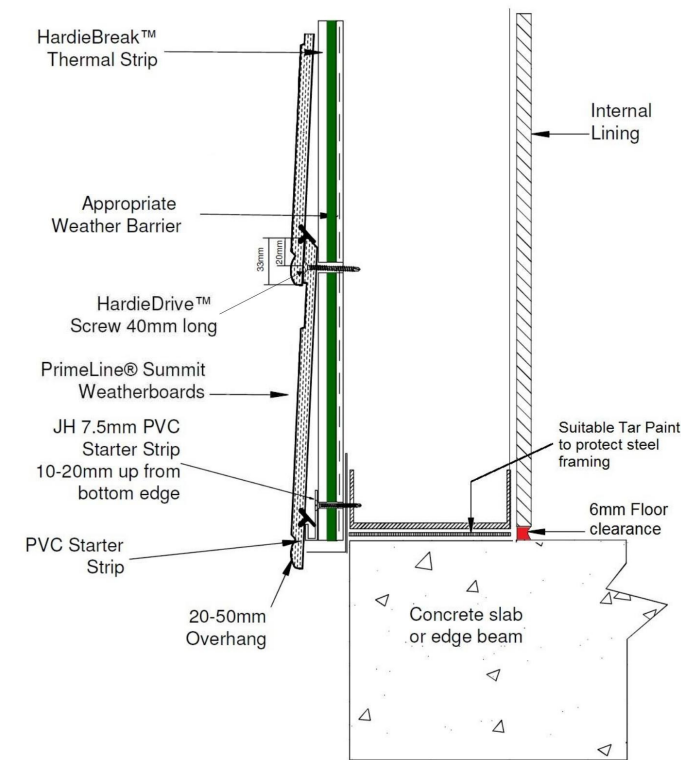


Figure 1: Installing the First Weatherboard

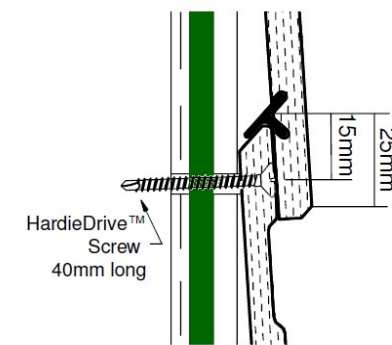


Figure 2: Nail (or Screw) Spacing for Summit Weatherboard

DETAILS & OTHER MATTERS

More extensive construction details and jointing details are provided in current James Hardie literature for Primeline Summit™ weatherboard cladding. Refer also to the Warranty for the system in that literature.

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

Product Name:

PRIMELINE™ SUMMIT™ WEATHERBOARD

Product Description:

9mm Pre-Primed External Wall Cladding

Manufacturer's Name:

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 weatherboards must be fastened to the timber or steel frame in accordance with **Table 1** for the different wind classifications, which are taken from AS 4055: 2012 "Wind Loads for Housing". The effective design wind speeds are given in Table 2.1 of AS 4055.

For design to AS/NZS 1170: 2011 Part 2 "Wind Actions", the test-proven Ultimate Limit State (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] Primeline™ Summit™ 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 geometric limits given at Clause 1.2 of AS 4055: 2012 (eg max eaves height = 6m and max building width = 16m), except as varied by the design engineer.

[3] Gun nailing must not be used for bracing systems.

Accepted for Inclusion

DTCM ref: M/730

Chairman's Signature:

Chairman's Name: Paul Nowland

Date of Approval:

18/12/2020

Expiry Date:

18/12/2025

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 Advice Note dated 25 September 2001 "The Fixing of Planks & Weatherboards in Australian Wind Conditions".
- [2] James Hardie Advice Note dated 13 December 2006 "The Fixing of PrimeLine Weatherboards in Australian Wind Conditions", which establishes the quoted ULS pressure capacities.
- [3] James Hardie Test Report TS017-03 "Uniform Load Testing to ASTM E72- 80..." dated 14 July 1998.
- [4] "Summary of Uniform Pressure Testing of 9mm Thick PrimeLine Summit Weatherboard", Clayton Frick, 31 May 1999, revised 29 August 2005.

***Design Engineers Certification**

Name: PRAVEEL PRASAD
Cardno (NSW/ACT) Pty Ltd
Rego Number: IEAUST 923657
Date: 14 October 2020
Signature:

*registered as a structural engineer in Australia

****Certifying Engineers Certification**

Name: DAVID BENEKE
NT Rego Number: 58478 ES
Date: 15 October 2020
Signature:

**registered as a structural engineer in Northern Territory