

**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 4.5mm HardieFlex™, HardieFlex Eaves Lining and/or Versilux® sheet in residential “boxed” eaves and soffit lining applications over light-gauge steel or timber framing and must be read in conjunction with current James Hardie product literature, namely the “Eaves & Soffits Technical Specification”. The sheets must be coated in accordance with the product literature.

Note: **Boxed eaves** are where trimmers or battens are provided, spanning from the fascia to the external wall of the building as shown in Figure 1, such that the lining sheets are supported on all four sides in square or rectangular panels (‘boxes’), allowing the sheet to span in both directions.

**HardieFlex™ Sheet Description:**

Sheet thickness nominally 4.5mm with square edges; Sheet weight approximately 6.0kg/m<sup>2</sup>.

**HardieFlex™ Eaves Lining Description:**

Sheet thickness nominally 4.5mm with square edges; Sheet weight approximately 6.0kg/m<sup>2</sup>.

**Versilux® Sheet Description:**

Sheet thickness nominally 4.5mm; Sheet weight approximately 6.2kg/m<sup>2</sup>.

**FRAMING & SHEET INSTALLATION**

Install sheets to steel or timber trimmers as shown in Figure 1 and in accordance with the trimmer and fastener spacing given in Table 1 depending on the wind load classification.

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.

Intermediate support battens must be a minimum of 64 x 35mm deep for metal framing and 70 x 35mm for timber and fixed in accordance with the details in the Technical Specification.

**Framing – Steel**

The steel frame and eaves trimmers must be in accordance with AS 3623: 1993 “Domestic Metal Framing”. Studs, trimmers and battens shall be rolled steel sections not exceeding 2.0mm 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.

**Support at Fascia & Walls:**

ALL SHEET EDGES AND JOINTS MUST BE SUPPORTED BY THE FRAMING. Cantilever edges are not permitted. The fascia board groove must therefore provide secure support along the outer edge, otherwise noggings between trimmers must be provided in this position.

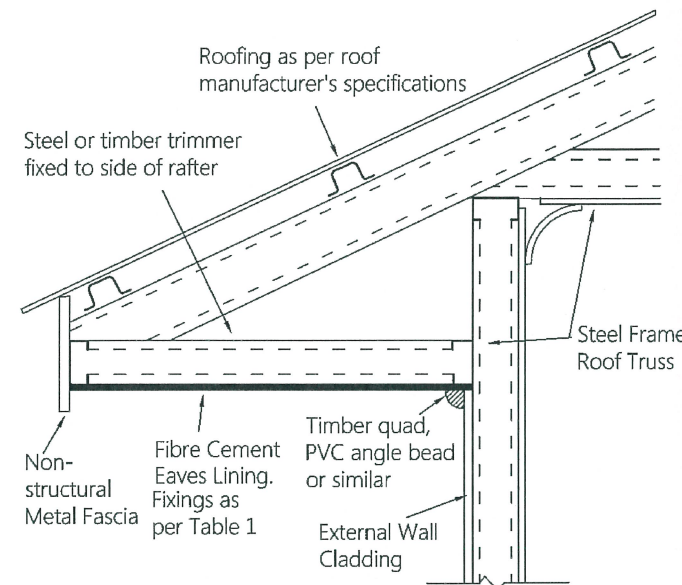
**Jointing:**

HardieFlex and Versilux sheets are normally jointed with a PVC straight joint mould as shown in Figure 3, although butt joints may also be used as shown in Figure 2.

Sheet joints must coincide with the centre line of the trimmer or framing member (see Figures 2 and 3).

**TABLE 1: Maximum Trimmer & Fastener Spacing for Wind Pressure to AS 4055 or Equivalent Pressure**

Soffit Width (mm)	AS 4055 Wind Classification (Cyclonic)	Within 1200mm of External Building Corners			Elsewhere in Building		
		ULS Design Suction (kPa)	Trimmer Spacing (mm)	Fastener Spacing (mm)	ULS Design Suction (kPa)	Trimmer Spacing (mm)	Fastener Spacing (mm)
Up to 600	C1	1.95	450	250	0.98	600	300
	C2	2.90	375	200	1.45	500	300
	C3	4.27	300	175	2.14	450	225
	C4	5.77	275	150	2.88	375	200
600 to 1200	C1	1.95	450	250	0.98	600	300
	C2	2.90	375	200	1.45	500	300
	C3	4.27	300	175	2.14	400	250
	C4	5.77	275	150	2.88	375	200



**Figure 1: Boxed Eaves Detail**

**FIXING / FASTENERS**

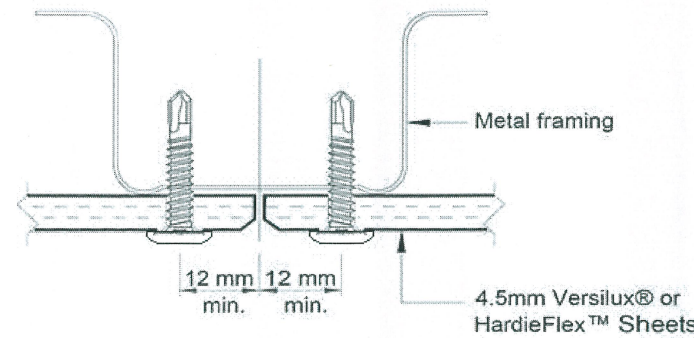
All fixings and fasteners to be minimum Class 3 finish. The outer (edge) fasteners to trimmers must be positioned 50mm away from the fascia and external wall. Thereafter spacing must be as per Table 1.

**Fasteners - Steel Framing:**

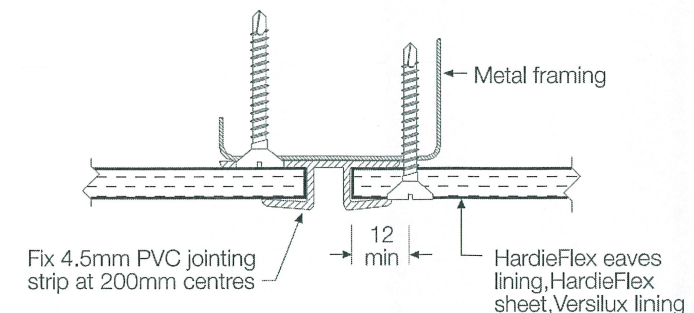
For 4.5mm thick JHFC sheets, use non-embedding, wafer-head (“express”) screws with a head diameter of minimum 10mm. Embedding screws may be used when the joining strip is used as shown in Figure 3.

**Fasteners - Timber Framing:**

2.0mm diameter x 30mm long galvanised fibre cement nails.



**Figure 2: Butt Joint Fixing**



**Figure 3: Fixing using PVC Jointing Strip**

**DETAILS & OTHER MATTERS**

More extensive construction details and jointing details are provided in current James Hardie literature for HardieFlex and Versilux eaves linings. Refer also to the Warranty in that literature.

For further details on matters such as an appropriate weather barrier, flashing, system accessories and finishing, refer to current James Hardie technical literature for HardieFlex and Versilux eaves linings, the BCA or relevant Australian Standards.

Product Name:

**BOXED EAVES LINING WITH 4.5mm HARDIEFLEX™ & VERSILUX® SHEET**

Product Description:

**4.5mm External Cladding for Eaves**

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 Building Code of Australia (BCA) and other applicable regulations and standards.

**[2] Wind Loading**

The boxed eaves lining sheet must be fastened to the appropriate framing in accordance with Table 1 for the different wind classifications, which are taken from AS 4055: 2006 “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 Ultimate Limit State (ULS) design capacity of the system may be deduced from Table 1, noting that an ULS material capacity reduction factor (‘phi’) is implicitly included and no further factoring of the design capacity is needed.

**Limitations:**

[1] HardieFlex and Versilux boxed eaves 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 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: 2006 (eg max eaves height = 6m and maximum building width = 16m), except as varied by the design engineer.

[3] Fastening: Do not fix fasteners closer than 12mm from panel edges, or closer than 50mm from sheet corners.

**Accepted for Inclusion**

DTCM ref:

M/280/01

Chairman's Signature:

Chairman's Name:

STEVEN J HURUGH

Date of Approval:

30/07/2015

Expiry Date:

30/07/2020

**Notes covering basis of DTC (relevant test reports etc):**

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

- [1] Cardno MBK Letter of Certification dated 1 July 2004 for James Hardie 4.5mm thick Eclipsa™ eaves, which covers the current James Hardie eaves and soffits literature.
- [2] James Hardie Submission to Cardno MBK Engineers dated 21 May 2004 “Proposed Certification of Designs for James Hardie Eclipsa™ Fibre-Cement Eaves Lining”.
- [3] Cyclone Structural Testing Station Report No. TS 471 dated 23 July 1996 “Static and Cyclic Uniform Loading of Hardiflex Cladding”.

**\*Design Engineers Certification**

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Date: 16 June 2015  
Signature:   
\*registered as a structural engineer in Australia

**\*\*Certifying Engineers Certification**

Name: DAVID BENEKE  
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Date: 17 June 2015  
Signature:   
\*\*registered as a structural engineer in Northern Territory