CARPORT OR VERANDAH LINING WITH 6mm HARDIFLEX™, VERSILUX™ or VILLABOARD™ SHEET

AS 4055	General Areas of Building			Within 1200mm of Building Edges		
Wind Load Classification	Batten Spacing (mm)	Fastener Spacing (mm)	ULS Capacity (kPa)	Batten Spacing (mm)	Fastener Spacing (mm)	ULS Capacity (kPa)
C2	450	200	2.14	450	100	2.90
C3	450	200	2.14	300	150	4.27
C4	300	200	2.88	300	100	5.77

SPECIFICATION

HARDIFLEX™ / VERSILUX™ / VILLABOARD™ SHEET
6.0mm nominal thickness. Range of widths and lengths available. Final surface finish (coating, painting etc) shall be in accordance with James Hardie's "External Fixing Manual".

DESIGN
Lining sheets shall be fastened to the steel (or timber) frame in accordance with the batten and screw spacings tabulated above for the different wind conditions. The wind classifications are derived from AS 4055 of 1992 "Wind Loads For Housing" as in Table 1 below. Topographic classifications beyond T2 are unlikely to exist in Darwin (refer to Clause 10 of AS 4055).

In selecting the wind classification, the designer should first determine whether the structure is in topographic classification T1 or T2 (or other up to T5), the nature of shielding (FS = full shielding, PS = partial shielding, NS = no shielding) and the applicable terrain category. The design wind speeds are given in Table 2.

Design classifications C2, C3 and C4 are limited to buildings with an eaves height of 6m. However, the proven capacity of each system is given in Design Table and may be used by designers for intermediate wind speeds or buildings outside the scope of AS 4055. An Ultimate Limit State material capacity reduction factor of $\phi = 0.8$ has already been applied.

FASTENERS (refer to J.Hardie "External Fixing Manual")
HARDIDRIVE™ self-embedding head countersunk screws (or equivalent) shall be used for fastening to steel framing. For timber framing, use Ø 2.8mm fibre cement (FC) nails. Spacing of fasteners shall be as per Design Table. Do not fix fasteners closer than 12mm from sheet edges nor closer than 50mm from corners.

LINING SUPPORT FRAME (STEEL or TIMBER)
Battens shall be rolled steel sections not exceeding 1.6mm in thickness or timber sections of adequate capacity. The maximum batten spacing shall be as given in the Design Table.

DESIGN & CONSTRUCTION NOTES:

[1] It has been assumed that HARDIFLEX™, VERSILUX™ or VILLABOARD™ sheet is an external lining only. Internal pressures shall be resisted by internal linings. The James Hardie sheets are therefore subjected to only external pressure and suction loadings.

[2] Sheets may be laid parallel to or across the battens. All longitudinal sheet edges and joints must be supported by framing. VILLABOARD™ recessed edge joints are to be flush jointed as per James Hardie specification.

[3] A transverse joint is one that crosses the direction of the battens and where sheet edges may be butt jointed, although the use of HARDIJOINTER™ strips (or equivalent) is recommended.

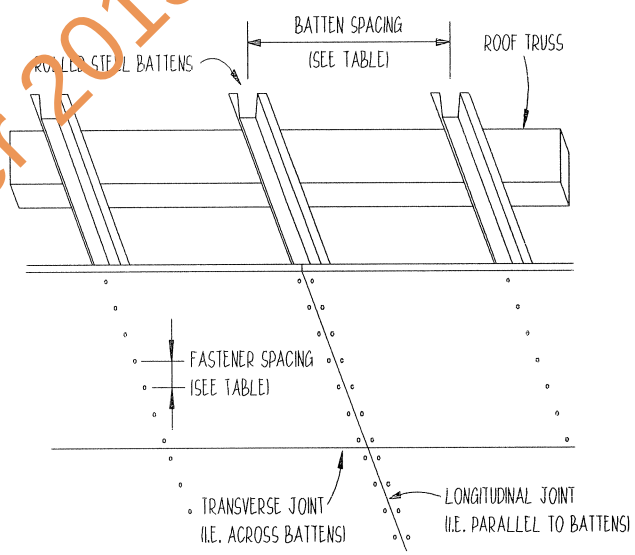

TABLE 1
Wind Classification System for Region C, Darwin

Terrain Category	Topographic Classification T1			T2		
	FS	PS	NS	FS	PS	NS
TC 2.5	C2	C2	C2	C2	C2	C3
TC 2	C2	C2	C2	C2	C3	C3
TC 1	C2	C2	C2	C2	C3	C3

TABLE 2
Maximum Design Gust Wind Speed (V_h) at Height h

Wind Classification in Region C	Serviceability Limit State (m/s)	Permissible Stress Method (m/s)	Ultimate Limit State (m/s)
C2	39	50	61
C3	47	60	74
C4	55	70	86

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FIXING TO STEEL FRAMES
CARPORT & VERANDAH LINING IN THE DARWIN AREA USING 6mm (nominal) HARDIFLEX™, VERSILUX™ or VILLABOARD™ SHEET

DESIGN DATA SHEET

McMILLAN BRITTON & KELL PTY LIMITED
ACN 001 145 035
12-18 Tryon Road, Lindfield NSW 2070, Australia

Certified: .....
Date: F.I.E. AUST, C.P.Eng 8th January 1996

NORTHERN TERRITORY
DEPT OF LANDS & HOUSING
BUILDING AUTHORITY BRANCH

Approved: .....
Date: 11/1/96

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