

WEATHERBOARD™ 7.5mm EXTERNAL WALL CLADDING

AS 4055 Wind Load Classification	General Areas of Building		Within 1200mm of Building Edges	
	Stud Spacing (mm)	ULS Capacity (kPa)	Stud Spacing (mm)	ULS Capacity (kPa)
C2	450	2.90	450	2.90
C3	450	2.90	300	5.77
C4	450	2.90	300	5.77

SPECIFICATION

WEATHERBOARD™ CLADDING

7.5mm nominal thickness 'Rusticated' or 'Old Style' surface finish. Available in widths of 170mm and 205mm. Stock length is 4200mm. Final surface finish (coating, painting etc) shall be in accordance with James Hardie's "External Fixing Manual".

DESIGN

WEATHERBOARD™ shall be fastened to the steel frame in accordance with the stud 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. Topographic classifications beyond T2 are likely to be uncommon 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.

The proven capacity of each system is given in the 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.

WALL FRAME (STEEL)

Studs shall be rolled steel sections not exceeding 1.6mm in thickness. Maximum stud spacing shall be as in the Design Table.

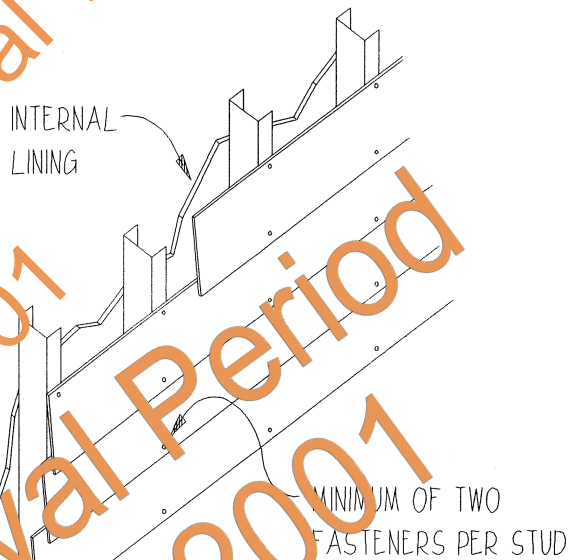
FASTENERS (refer to J Hardie "External Fixing Manual")

HARDIDRIVE™ self-embedding, self-drilling screws (or equivalent) shall be used when fastening to steel framing. Fasten through both thickness of plank, two fasteners per plank per stud. Locate fasteners no less than 12mm from top or bottom edges of plank. Alternatively, Hardie's STUD CLIPS may be used on steel frame only. Fasten stud clips to steel studs using a 3.0mm hex head screw or similar. One stud clip per plank per stud.

PLANK OVERLAP: 25mm minimum recommended.

DESIGN & CONSTRUCTION NOTES

[1] It has been assumed that WEATHERBOARD™ plank is an external wall cladding only. Internal pressures shall be resisted by internal linings. The WEATHERBOARD™ cladding is therefore only subjected to external pressure and suction loadings.



TIMBER FRAMED CONSTRUCTION: The same stud spacing designs may be applied equally using 40mm long $\varnothing 2.8$ mm fibre-cement FC nails, but do not use stud clips for wind classifications beyond C2.

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_{li}) 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



James Hardie Building Products

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FIXING TO STEEL FRAMES
WEATHERBOARD™ 7.5 mm (nominal)
EXTERNAL WALL CLADDING
IN THE DARWIN AREA

DESIGN DATA SHEET

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NORTHERN TERRITORY
DEPT OF LANDS & HOUSING
BUILDING AUTHORITY BRANCH

DWG NO.

M203/9

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

Approved: *[Signature]*
Date: 11/1/96

Approved for inclusion in DEEMED TO COMPLY by BUILDING ADVISORY COMMITTEE

Date: 12/1/96