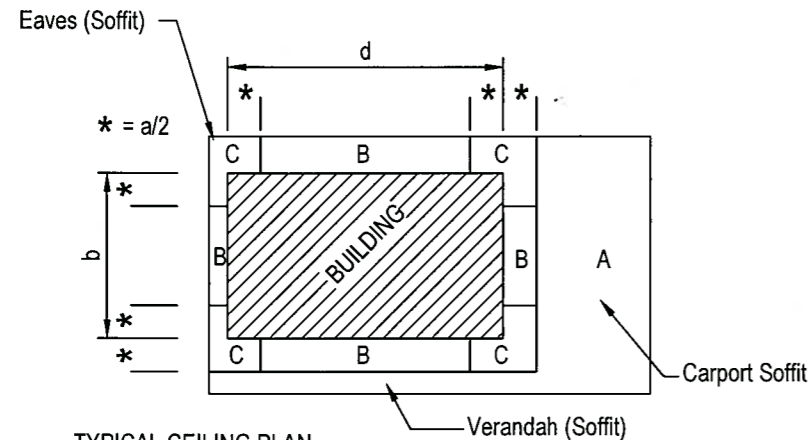


NORTHERN TERRITORY TO COMPLY MANUAL - National Construction Code Volume 2 (Section 3.0.4 Structural resistance of material in high wind areas)

This product has been determined to satisfy NCC Performance Requirement P2.1.1 for structural stability and resistance.



TYPICAL CEILING PLAN

Dimension 'a' is minimum 0.2 x 'b', 0.2 x 'd' or height of soffit above ground

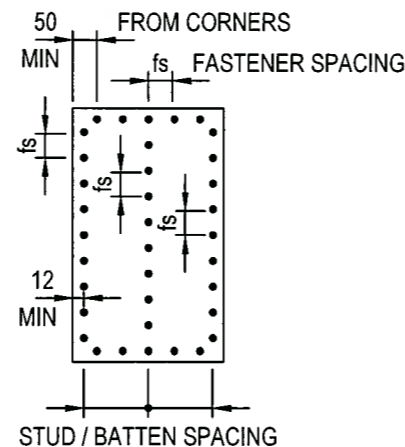
LOCAL PRESSURE AREAS

A - general areas away from building ($k_L = 1.0$)

B - beyond $\frac{a}{2}$ from building corners ($k_L = 1.5$)

C - up to $\frac{a}{2}$ from building corners ($k_L = 2.0$)

k_L - local pressure zone factor applied to wind speed.



TYPICAL 6mm 'DURASHEET' FIXING DETAILS

CARPORT, VERANDAH AND EAVES (SOFFIT) LINING REQUIREMENTS					
TERRAIN CATEGORY	LOCAL PRESSURE AREA	ULTIMATE LIMIT STATE PRESSURE (kPa)	STUD/BATTEN SPACING (mm)	FASTENER SPACING (mm)	TESTED CAPACITY PRESSURE (kPa)
1	A	-2.06, +2.22	450	200	-2.19
	B	-3.10, +3.34	300	150	-4.27
	C	-4.13	300	150	-4.27
2	A	-1.55, +1.67	450	200	-2.19
	B	-2.33, +2.51	450	150	-2.90
	C	-3.10	300	150	-4.27
2.5	A	-1.42, +1.53	450	200	-2.19
	B	-2.13, +2.29	450	200	-2.19
	C	-2.84	450	150	-2.90
3 & 4	A	-1.29, +1.39	450	200	-2.19
	B	-1.94, +2.08	450	200	-2.19
	C	-2.58	450	150	-2.90

CONSTRUCTION NOTES

'Durasheet' shall be fastened to a steel subframe in accordance with the support and fastener spacings tabulated above.

Fasteners shall be fixed 12mm minimum from sheet edges and 50mm minimum from sheet corners.

All sheet edges and joints must be supported by steel framing.

Fasteners to steel supports from 0.75mm B.M.T. to 1.6mm B.M.T. shall be 'Buildex' or similar M5 Countersunk Ribbed Head self-drilling screws.

Exposed 'Durasheet' cladding must be painted.

'Durasheet' shall not be fixed to steel frames with a typical B.M.T. greater than 1.6mm.

Product Name .

6.0mm 'DURASHEET' Fibre Cement Cladding

Product Description

EXTERNAL SOFFIT CLADDING

Manufacturer's Details

BCG Fibre Cement (Australia) Pty Ltd

121 Bannister Road Canning Vale WA 6155, Australia
Postal Address: PO Box 1408, Canning Vale WA 6970

Design Criteria

REGION 'C' WIND LOADING TO AS / NZS 1170.2:2011
(Including Amendment No 1, 2, 3, 4 & 5)

Limit State design pressures were determined in accordance with AS/NZS 1170.2:2011(including amendment No 1, 2, 3, 4 & 5) using shielding, topographic, combination, dynamic response, and structural importance multipliers equal to 1.0.

Strength: regional wind speed: $V_{500} = 69\text{m/s}$

Terrain/Height Multiplier (Mz cat):

TC	h ≤ 5m
1	1.05
2	0.91
2.5	0.87
3 & 4	0.83

$C_{pe} = +0.7, -0.65$

Limitations

- These tables only apply to fixing to steel supports minimum thickness of steel support to be 0.75mm.
- BCG External cladding to be painted to BCG specifications.
- Ceiling space has been designed for zero internal pressure or -0.2 (pressure coefficient) for sealed structure.
- Domestic housing up to 5 meters high ($h \leq 5\text{m}$).
- 6mm 'Durasheet' is an external cladding subject only to external pressure and suction loadings. **Internal linings competent to resist internal design pressures must be installed. The racking strength of Durasheet has not been tested and therefore should not be allowed for in the design of a structure.**
- The building aspect ratio (r) of the structure to be ≤ 1 . If $r > 1$ further checks of additional local pressures to be carried out by a fully qualified structural engineer. r is defined as the average roof height divided by the lesser of b and d .
- A material capacity reduction factor of 0.8 was applied to the test capacity pressures nominated in the table to calculate the test pressures (P_t) used during the proof testing, which was carried out by Cyclone Structural Testing Station (James Cook University).

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: **M/262/01**

Chairperson Signature:

Chairperson Name: **Paul Nowland**

Date of Approval: **29/06/2021** Expiry Date: **29/06/2026**

Notes covering basis of DTC (Relevant Test reports etc)

Tables are based on a test program to AS 4040.3:1992 clause 6, carried out by James Cook University Cyclone Testing Station in May 1997 (Test Report No TS486).

We confirm AS 4040.3:1992 is equivalent to AS 4040.3:2018.

The negative ULS pressures are deemed to govern, due to the associated critical failure mechanism.

Checking Engineer

Name: **Adam James**

Registration Number: **26968ES**

Date: **20/05/2021**

Signature:

Must be an Australian registered structural engineer

Certifying Engineer

Name: **Peter Standen**

NT Registration Number: **289952ES**

Date: **12/05/2021**

Signature:

Must be a registered structural engineer in the Northern Territory