

# Duralux™ Fibre Cement

general  
purpose  
fibre cement  
sheeting

Duralux™ -  
versatility  
for demanding  
applications



Build it better with **BGC**

**BGC**

Fibre Cement

# History & Mission



BGC Fibre Cement and Plasterboard is a proud Australian owned manufacturer of Fibre Cement and plasterboard products.

BGC has state-of-the-art manufacturing facilities in Perth and distribution centres in all states of Australia and in New Zealand.

Our distribution network ensures that our entire product range is readily available in all states of Australia.

BGC has a team of technical specialists that can assist with all specification and design information to help ensure that you always **'build it better with BGC'**.

#### **BGC has interests in:**

- residential and commercial building
- building and construction products
- contract mining
- civil engineering construction and maintenance
- quarrying
- road transport
- property ownership and management
- insurance

Our mission at BGC is simple – we want to ensure that people can always **'build it better with BGC'**.

In keeping with our mission, we are constantly assessing and improving our products to ensure that we always provide cost effective, high quality and easy-to-use products to the market.





BGC Duralux™ is a general purpose fibre cement building board specially designed and prepared for many different and demanding applications.

These could include; interior lining, domestic and commercial soffits, exposed beam ceilings, in wet areas and as a substrate for ceramic wall tiles. It is classified as a Type B Category 2 product for use in applications where it will be sheltered from direct weathering.

#### **Duralux™:**

- Simple and quick to install to timber or steel
- 3 thicknesses available
- Suitable for many different applications, both domestic and commercial
- Water resistant when installed and maintained correctly
- Can be easily decorated in a number of finishes

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## Product Description

Duralux™ is a general-purpose fibre cement building board specially formulated and prepared for many demanding applications including:

- Interior Lining
- Domestic & Commercial Soffit Linings
- Exposed beam ceilings
- Wet Area Linings
- A Substrate for Ceramic Wall Tiles

## Product Information

Duralux™ is manufactured from Portland cement, finely ground silica, cellulose fibre and water. It is cured in a high-pressure steam autoclave to create a durable, dimensionally stable product.

Duralux™ is manufactured to comply with the requirements of AS 2908.2 Cellulose Cement Products. It is classified as a Type B Category 2 product for use in applications where it will be sheltered from direct weathering.

## Mass

The approximate weight of Duralux™ at equilibrium moisture content is as tabulated.

**\*Available only in Queensland**

NOMINAL THICKNESS (MM)	APPROX. WEIGHT (KG/M2)
4.5*	7.1
6.0	9.5
9.0	15.0

## Appearance

Duralux™ is manufactured in 4.5mm, 6.0mm and 9.0mm thick sheets. Both 4.5mm and 6.0mm sheets have a bevelled edge, 9.0mm sheets have a square edge.



4.5mm and 6.0mm Bevel      9.0mm Square

The face of Duralux™ has a factory applied green tinted sealant to facilitate finishing and to aid identification.

## Fire Resistance

The early fire indices of Duralux™, as tested by the CSIRO – Building, Construction and Engineering Division, in accordance to Australian Standard AS1530.3 (Report No. FNE7524) are:

Ignitability Index	0
Spread of Flame Index	0
Heat Evolved Index	0
Smoke Developed Index	0 ~ 1

## Quality Systems

BGC Fibre Cement manufactures Duralux™ under the rigorous Quality Management System of the International Standard ISO 9001:2008, and is the holder of Licence Agreement number QEC2955/13.

## Handling & Storage

Duralux™ must be stacked flat, up off the ground and supported on equally spaced (max 300mm) level gluts.

The sheets must be kept dry, preferably by being stored inside a building. When stored outdoors they must be protected from the weather.

Care should be taken to avoid damage to the ends, edges and surfaces.

Sheets must be dry prior to being fixed, or painted.

Sheets must be carried on edge.

## Sheet Sizes

Duralux™ is available in the following sizes

THICKNESS (mm)	LENGTH (mm)	SHEET WIDTH (mm)	
		900	1200
4.5 Available in QLD only	1800		
	2400	x	x
	2700		x
	3000	x	x
	3600	x	x
6	1800		x
	2400	x	x
	2700		x
	3000	x	x
	3600		x
9	2400		x
	2700		x
	3000		x

## Maintenance

When used in accordance with this literature, Duralux™ requires no direct maintenance. However in wet areas, regular checks (at least annually) must be made of the tiling system to ensure it remains watertight. Cracked or damaged tiles, tile grout, or sealants must be repaired immediately. Grout or sealant likely to allow leakage must be raked out and restored to original condition.

Damaged sheets should be replaced as originally installed.

## Health and Safety

BGC Duralux™ as manufactured, will not release airborne dust but, during drilling, cutting and sanding operations cellulose fibres, silica and calcium silicate dust may be released. Breathing in fine silica dust is hazardous and prolonged exposure (usually over several years) may cause bronchitis, silicosis or cancer.

## Bushfire Information

BGC Duralux™ may be used in a Soffit/Eaves application up to BAL40. For more information, contact your local BGC Fibre Cement office.

## Avoid Dust Inhalation

When cutting sheets, work in a well-ventilated area and minimise dust generation. If using power tools, wear an approved (P1 or P2) dust mask and safety glasses.

These precautions are not necessary when stacking, unloading or handling fibre cement products.

For further information or a Material Safety Data Sheet contact the nearest BGC Fibre Cement Sales Office.

## Sheet Cutting & Drilling

Duralux™ sheets may be cut to size on site. If using power tools for cutting, drilling or sanding they must be fitted with appropriate dust collection devices or wear an approved (P1 or P2) dust mask. Work should always be carried out in a well-ventilated location.

Suitable cutting methods are:

- Durablade**  
 180mm diameter. This unique cutting blade is ideal for cutting fibre cement. It can be fitted to a 185mm circular saw. Please ensure safe practices when using.
- Notching**  
 Cut the two sides with a handsaw or guillotine, score along the back edge then snap upwards to remove the notch.
- Drilling**  
 Duralux™ sheets can be drilled using normal high-speed drill bits. Do not use the drill's hammer function. For small round holes such as tap penetrations, the use of a holesaw is recommended.
- Penetrations**  
 Penetrations can be made by drilling a series of small holes around the perimeter of the cut out. Tap waste piece from the sheet face with a hammer. Support the underside of the opening to avoid damage. Clean rough edges with a rasp.



Large Rectangular Openings are formed by deeply scoring the perimeter of the opening with a 'score and snap' knife. Next, form a hole in the centre of the opening (see method above) then saw cut from the hole to the corners of the opening. Snap out the four triangular segments. Clean rough edges with a rasp.

## Framing

Duralux™ is suitable for fixing to timber and lightweight steel framing.

## General

- Framing must be constructed to comply with the Building Code of Australia.
- The framing must be set to a true plane to ensure a straight finish to the wall.
- Maximum stud centres are 450mm for 4.5mm sheets and 600mm for 6.0mm and 9.0mm sheets.
- Noggings must be spaced at a maximum of 1350 mm centres.
- With the exception of some soffit linings, Duralux™ sheets must not be joined off the framing unless supported with PVC sheet joiners.

## Timber Framing

Timber framing must comply with AS 1684.2 & .3 National Timber Framing Code.

Duralux™ must not be fixed to wet framing. It is strongly recommended that kiln dried timber is used for framing.

If sheets are fixed to 'wet' framing problems may occur at a later date due to excessive timber shrinkage.

## Metal Framing

Metal framing must comply with AS 3623 Domestic Metal Framing.

Duralux™ may be fixed directly to lightweight metal framing. The metal framing must not exceed 1.6 mm in thickness.

If Duralux™ is used with rigid steel framing, it must be battened out with either timber or lightweight steel battens prior to fixing.

Timber battens must have a minimum thickness of 40 mm to allow adequate nail penetration. Battens supporting sheet joints must have a minimum actual face width of 45 mm.

## Fasteners

### Timber Framing

Duralux™ sheets are fixed to timber framing using 30 x 2.0 mm galvanised flat head nails.

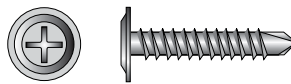


30 x 2.0 mm galvanised flat head nails

Do not overdrive nails. When using nail guns, if variability occurs, the gun should be set to under drive and the nails tapped home with a hammer.

### Lightweight Steel Framing

4.5 mm Duralux™ soffit sheets must be fixed to lightweight steel framing using No.8 x 20 mm Wafer Head Drill Point Screws.



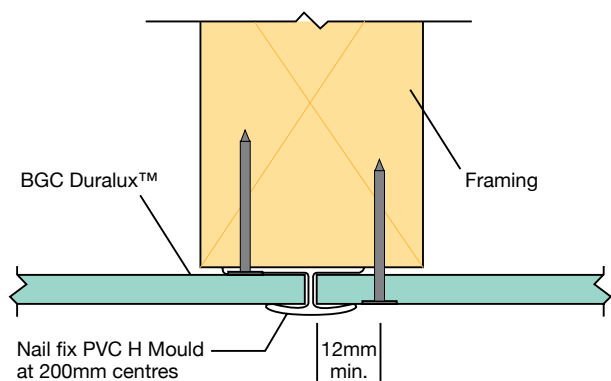
No.8 x 20 mm Wafer Head Drill Point Screws

6.0mm and 9.0mm Duralux™ sheets are fixed to lightweight steel framing using No.8 x 20mm galvanised self-embedding head screws.



No.8 x 20mm galvanised self embedding head screws

Figure 1 - Framing must support all sheet joints



## Fixing Requirements

Duralux™ can be butt jointed over framing members, or with a PVC sheet holder. All sheet edges and joins must be supported by the frame. Fixing centres must not exceed 200 mm on the edges of the sheet and 300 mm centres in the body of the sheet. See Figure 2.

Do not place fixings closer than 12mm from sheet edges, or closer than 50mm from sheet corners.

The sheet must be held firmly against the framing when fixing to ensure breakout does not occur on the back.

## Sheet Layout

### Interior Wall Lining

Duralux™ sheets may be fixed vertically or horizontally.

**Where the wall is to be tiled, fix at 200 mm centres in the body of the sheet as well as along the sheet edges.**

**Note:** Framing must support all sheet joints. When sheets are fixed adjacent to a floor, leave a 6 mm gap between the bottom of the sheets and the floor.

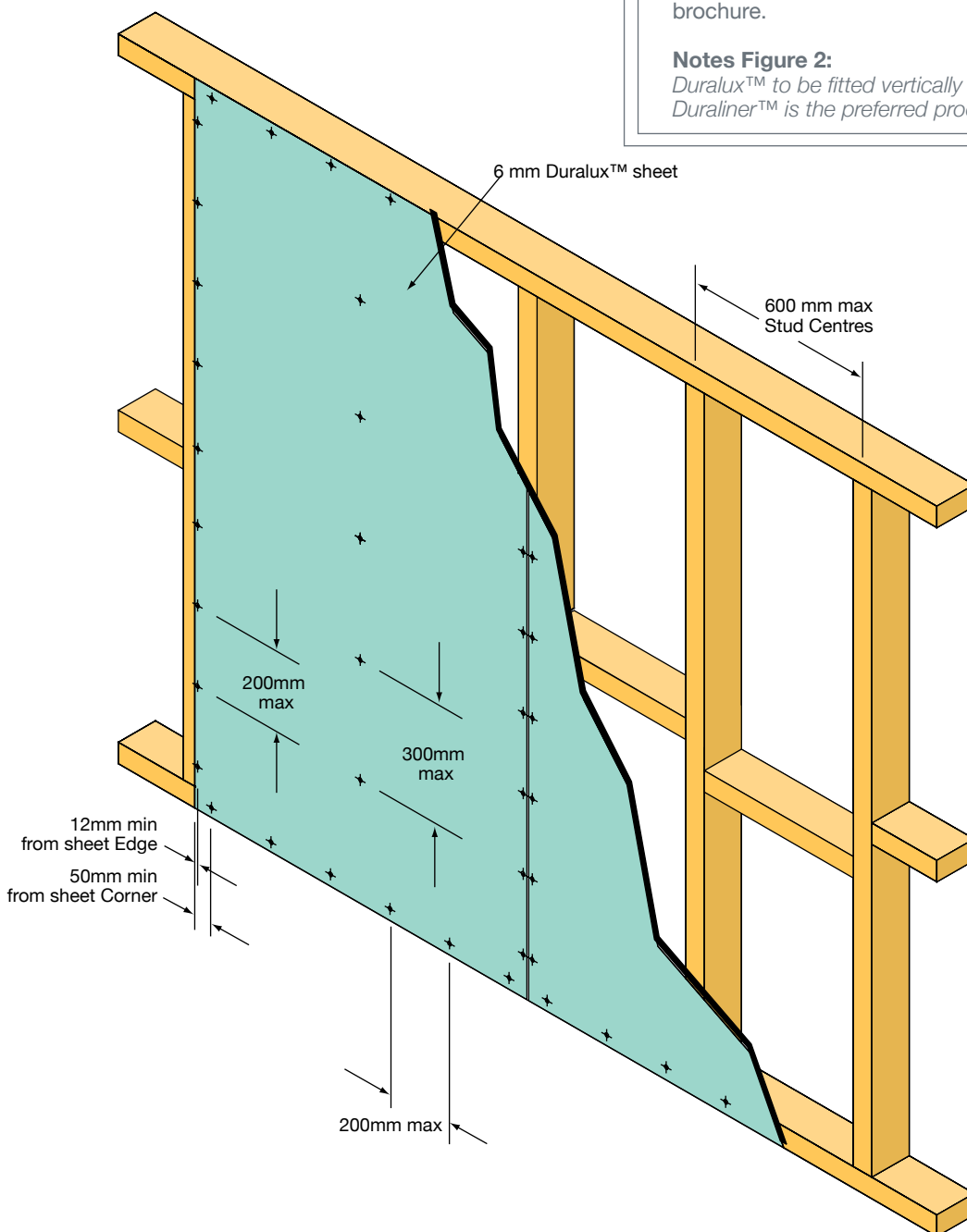
### Wet Areas

Duralux™ offers a proven, cost effective lining system for use in wet areas when installed in accordance with AS3740: 1994 'Waterproofing of wet areas within residential buildings'. Refer to our Duraliner™ Technical Information brochure.

#### Notes Figure 2:

Duralux™ to be fitted vertically with no joins in wet areas. Duraliner™ is the preferred product in wet areas.

Figure 2 - Sheet Fixing



## Soffits

Residential Soffits include veranda linings, carports and eaves. Please refer to the fixing details in our Durasheet™ technical information brochure. 6.0mm and 9.0mm Duralux is ideally suited to commercial applications such as awnings, covered walkways, balconies etc. These areas could include bulk heads, lightwells, curved surfaces etc.

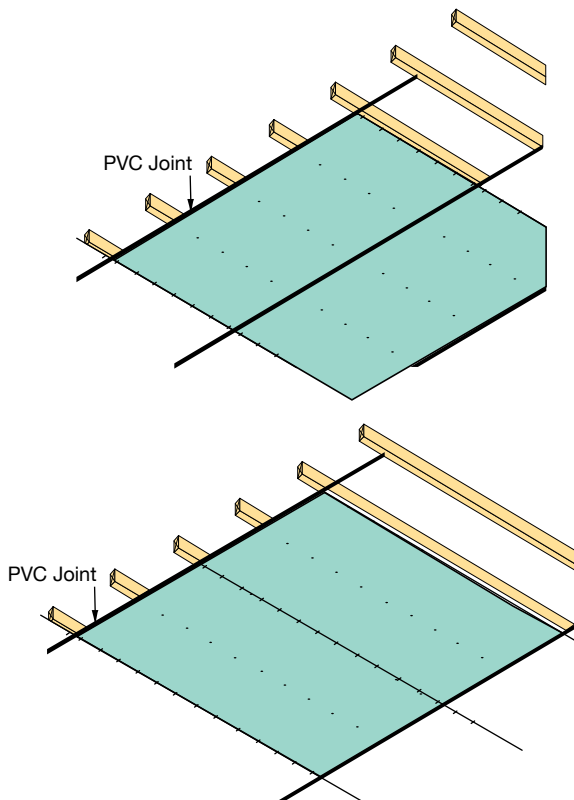
### General Installation

Fix sheets from the centre and work outwards to prevent drumminess. Ensure that the sheet is held hard against the framing during nailing or screwing to minimise breakout from the back of the sheet

### Using PVC straight jointers

Sheets may be installed across or parallel to the framing members. The sheet edges spanning across the framing are jointed using PVC straight joints and the sheet edges parallel to framing must coincide with and be supported on the centre line of the framing to form a butt joint.

Figure 3 - Sheet Layout with PVC Straight joints sketch

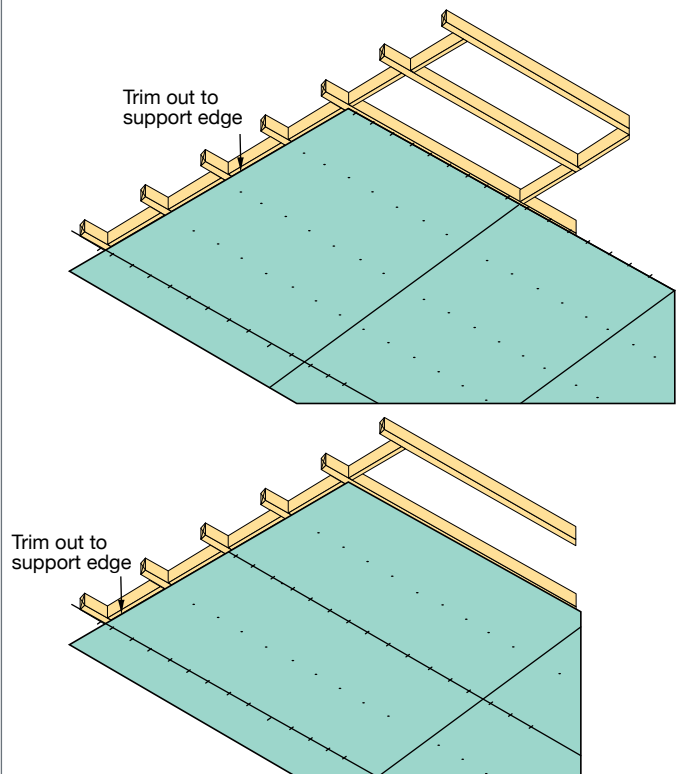


Where PVC straight jointers are required on all edges, fixing legs on the jointer should be trimmed at the corner joint junctures to ensure an acceptable aesthetic appearance.

### Using Butt Joints

Where butt joining is used, all sheet edges must coincide with and be supported on the framing. Locate butt joints on the centre line of the framing is that the edges are adequately supported.

Figure 4 - Sheet Layout for butt joints sketch



Where PVC straight jointers are required on all edges, fixing legs on the jointer should be trimmed at the corner joint junctures to ensure an acceptable aesthetic appearance.

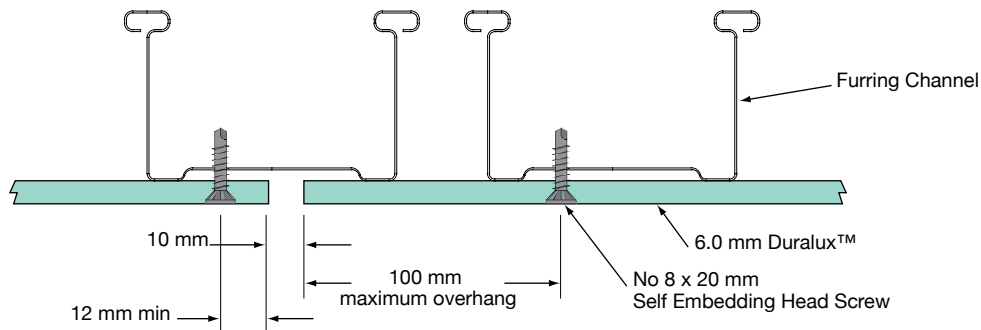
### Under Metal Roofing

Where Duralux™ is used under metal roofing, insulation should be installed directly under the roof sheeting to reduce temperature build up. Ventilation maybe required to help prevent heat build up in the cavity.

## Soffits

Figure 5 depicts the use of metal furring channels to support the Duralux™ sheeting. Two furring channels are used to form a combination expressed joint/control joint. This system is favoured for applications where a metal roof is installed directly above the soffit (particularly if it is not insulated). In these situations soffits can be subjected to severe thermal movement, and where Duralux™ is used, it is preferred the roof be vented to allow emission of hot air as well as a reduction in roof space temperature.

**Figure 5 - Expressed Joint Soffit Lining Control Joint Using Furring Channels**



## Control Joints

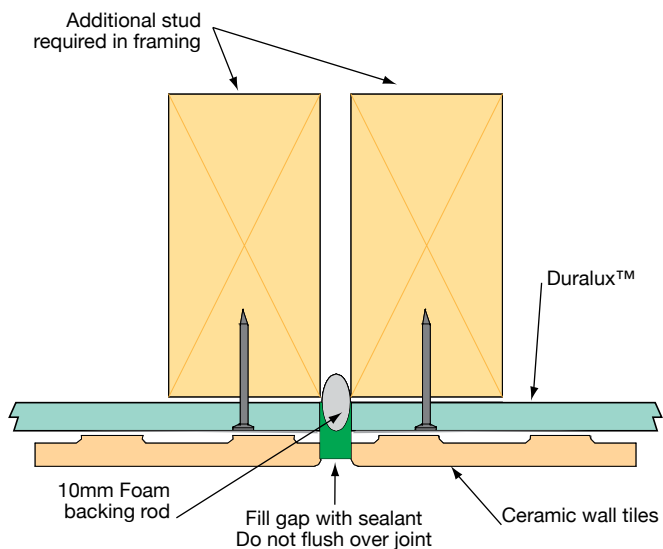
If a continuous run of sheeting exceeds 4.2 m for tiled areas, or 5.4 m for un-tiled areas, then it must be broken with a control (expansion) joint.

For tiled areas the control joint must carry through the framing, sheeting and tiling, see Figure 6.

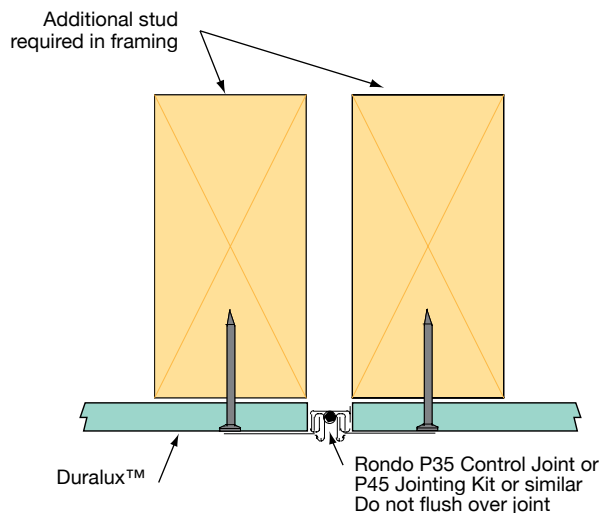
For un-tiled areas the use of a Rondo – P35 or P45 control joint, see Figure 7.

Allow a 15 mm gap between the Duralux™ sheets. Locate the control joint centrally in the gap and fix the flanges of the control joint at a maximum of 150 mm centres.

**Figure 6 - Tiled Control Joint**



**Figure 7 - Un-tiled Control Joint**



# Wind Load Tables - Maximum Framing and Fastener Spacings

**DURALUX™ 4.5MM** \* Available in QLD only

WIND CLASSIFICATION		WITHIN 1200MM OF THE EXTERNAL CORNERS OF BUILDING		ELSEWHERE IN THE BUILDING	
To AS4055-1992	TO QLD STANDARD	MAX BATTEN SPACING (MM)	MAX FASTENER SPACING (MM)	MAX BATTEN SPACING (MM)	MAX FASTENER SPACING (MM)
N1	W28N	450	300	450	300
N2	W33N	350	300	450	300
N3/C1	W41N and C	300	300	400	300
N4/C2	W50N and C	250	250	350	300

Fastener spacing for 4.5mm Duralux™ are based on using 2.0 x 30mm galvanised fibre cement nails.  
Fasteners used in 4.5mm Duralux™ should not be countersunk.  
Locate fasteners not less than 12mm from sheet edge and 50mm from sheet corner.

**DURALUX™ 6.0MM**

WIND CLASSIFICATION		WITHIN 1200MM OF THE EXTERNAL CORNERS OF BUILDING		ELSEWHERE IN THE BUILDING	
To AS4055-1992	TO QLD STANDARD	MAX BATTEN SPACING (MM)	MAX FASTENER SPACING (MM)	MAX BATTEN SPACING (MM)	MAX FASTENER SPACING (MM)
N1	W28N	500	300	600	300
N2	W33N	500	300	600	300
N3/C1	W41N and C	450	300	600	300
N4/C2	W50N and C	400	150	450	300
N5/C3	W60N and C	300	200	450	200
N6/C4	W70N and C	300	100	375	200

Fastener spacing for 6.0mm Duralux™ are based on using 2.0 x 30mm galvanised fibre cement nails.  
Self embedding head drill point or wafer head screws may be used in 6.0mm Duralux™.  
It is recommended to pre-drill and countersink sheets being fixed to light gauge steel framing.  
Locate fasteners not less than 12mm from sheet edge and 50mm from sheet corner.

**DURALUX™ 9.0MM**

WIND CLASSIFICATION		WITHIN 1200MM OF THE EXTERNAL CORNERS OF BUILDING		ELSEWHERE IN THE BUILDING	
To AS4055-1992	TO QLD STANDARD	MAX BATTEN SPACING (MM)	MAX FASTENER SPACING (MM)	MAX BATTEN SPACING (MM)	MAX FASTENER SPACING (MM)
N1	W28N	600	300	600	300
N2	W33N	600	300	600	300
N3/C1	W41N and C	600	250	600	300
N4/C2	W50N and C	450	200	600	250
N5/C3	W60N and C	450	150	600	200
N6/C4	W70N and C	450	125	450	200

Fastener spacing for 9.0mm Duralux are based on using 2.8 x 40mm galvanised fibre cement nails.  
Self embedding head drill point or wafer head screws may be used in 9.0mm Duralux™.  
It is recommended to pre-drill and countersink sheets being fixed to light gauge steel framing  
Locate fasteners not less than 12mm from sheet edge and 50mm from sheet corner

## Bracing

BGC Duralux™ 6.0mm and 9.0mm sheets can be used to provide bracing to resist racking loads due to wind loadings when installed vertically.

Where Duralux™ 6.0mm and 9.0mm sheets are used to provide bracing is used to provide bracing on timber dwellings, the Australian Standard for “Residential timber-framed construction” must be adhered:

AS1684.2-1999 (Non-cyclonic areas)  
AS1684.3-1999 (Cyclonic areas)

Racking forces due to wind loading shall be calculated as per these Australian Standards.

For bracing data on other construction methods and applications, contact your BGC Fibre Cement Sales Office.

## Nominal Wall Bracing

Up to 50% of the total bracing requirements can be supplied by BGC Duralux™ 6.0mm and 9.0mm sheets, installed normally. To be eligible for inclusion in calculations as nominal wall bracing:

- The minimum length of each nominal bracing panel shall be 450mm.
- Nominal bracing shall be distributed evenly throughout the building.

The Bracing Capacity for nominal bracing is given in the following table.

### NOMINAL SHEET BRACING WALLS

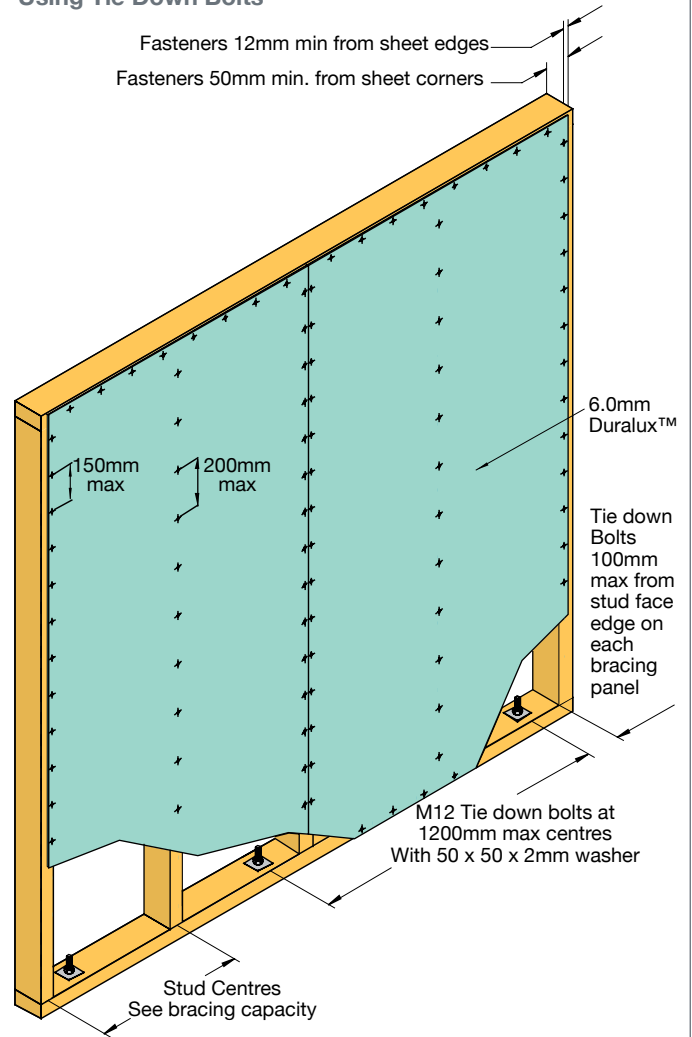
METHOD	BRACING CAPACITY (kN/m)
Sheeted one side only	0.45
Sheeted two sides	0.75

## Structural Wall Bracing

The use of 6.0mm Duralux™ is not limited to the provision of nominal wall bracing.

Figure 8 gives the design bracing capacity for panels secured with tie down bolts. This table can be considered to be an addition to Table 8.18, AS1684.2- 1999/AS1684.3 - 1999.

**Figure 8 - Duralux™ Bracing Capacity Using Tie Down Bolts**



## Fastener Spacing

When using anchor rods, fasteners are to be fixed at 150 mm max around sheet perimeter and 200 mm max in the body of the sheet.

STUD CENTRE (MM)	CLADDING	BRACING CAPACITY (kN/m)
600	One Face Only	3.0
450	One Face Only	3.15

\*Ultimate Limit State design.

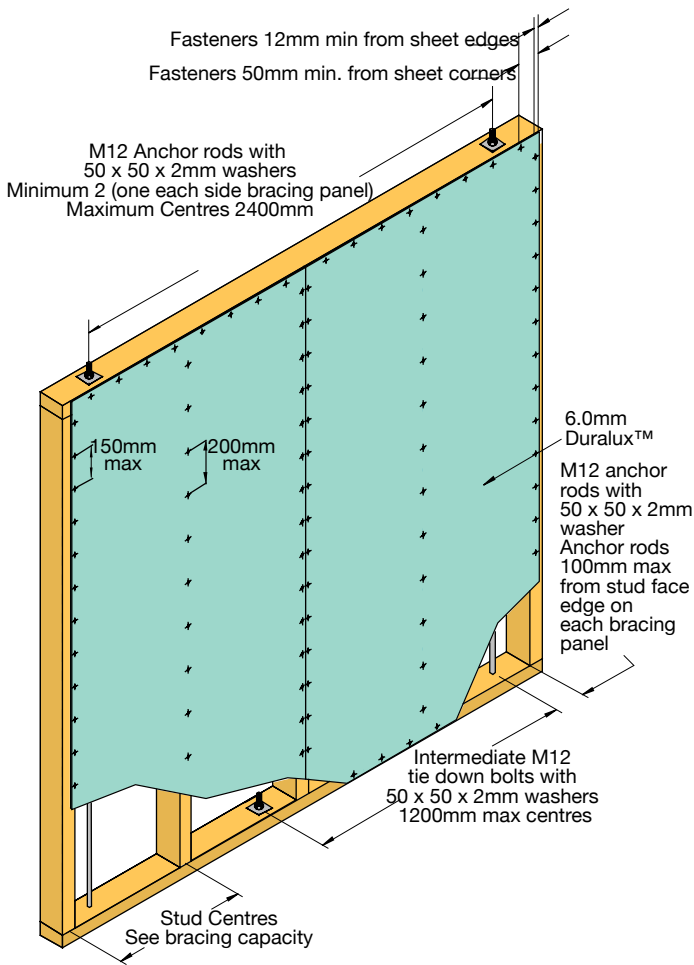
These results are from testing on JD5 Grade timber. If hardwood frames (JD2) are used, the ULS will increase by 12.5%.

Permissible Stress Design (PSD) =  $\frac{\text{Ultimate Limit State (ULS)}}{1.5}$

## Bracing

Figure 9 gives the design bracing capacity for panels secured with anchor rods. This table can be considered to be an addition to Table 8.18, AS1684.2- 1999/AS1684.3 - 1999.

**Figure 9 - Duralux™ Bracing Capacity Using Anchor Rods**



## Fastener Spacing

When using anchor rods, fasteners are to be fixed at 150 mm max around sheet perimeter and 200 mm max in the body of the sheet.

STUD CENTRE (MM)	CLADDING	BRACING CAPACITY (k/N/m)ULS*
600	One Face Only	5.55
600	Both Faces	5.77+

\*Ultimate Limit State design.

These results are from testing on JD5 Grade timber. If hardwood frames (JD2) are used, the ULS will increase by 12.5%.

Permissible Stress Design (PSD) =  $\frac{\text{Ultimate Limit State (ULS)}}{1.5}$

+Calculated through interpolation

## Panels Height Greater Than 2700mm

The bracing capabilities, Figures 8 and 9 are applicable to a maximum panel height of 2700mm.

For panel heights greater than 2700mm the bracing capacity shall be reduced using the panel height multiplier given in the below table.

### BRACING CAPACITY - PANEL HEIGHT MULTIPLIER

WALL HEIGHT (MM)	MULTIPLIER
3000	0.90
3300	0.80
3600	0.75
3900	0.70
4200	0.64

## Panel Length Less Than 900mm

The bracing capabilities, Figures 8 and 9 are applicable to a minimum panel length of 900mm. Effective bracing is achievable with panel lengths down to 450mm. Reduce the bracing capacity for panel between 450mm and 900mm long, using panel length multiplier given in the below table.

### BRACING CAPACITY - PANEL HEIGHT MULTIPLIER

PANEL LENGTH (MM)	MULTIPLIER
850	0.92
800	0.83
750	0.75
700	0.66
650	0.58
600	0.50
550	0.42
500	0.33
450	0.25

## Lighting

Care needs to be taken with ceiling installations particularly when a low angle of incidence (critical lighting) is used.

AS/NZ 2589:2007 'Gypsum Linings In Residential And Light Commercial Construction - Application And Finishing - Gypsum Plasterboard' gives a guide to framing and finishing requirements under various lighting conditions.

It is recommended designers give consideration to the following details to control or eliminate problems due to critical lighting conditions:

- Ensure that the ceiling support structure is flat and true
- Use matt or textured surface finishes
- Use light fittings that are set into the ceiling (eliminating incident light)
- Use of shades or diffusers with light fittings
- Position hanging light fittings well below the ceiling

## Warranty

BGC warrants its products to be free from defects caused by faulty manufacture or materials. If any of its products are so defective the Company will at its option, repair or replace them, supply equivalent replacement products or reimburse the purchase price.

This warranty shall not apply to any loss or consequential loss suffered through or resulting from defects caused by faulty manufacture or materials.

Fittings or accessories supplied by third parties is beyond the control of BGC and as such is not warranted by BGC.

## Ceramic Wall Tiling

Duralux™ sheets used as a substrate for Ceramic wall tiles must be fixed to the framing with either screws or nails. **Adhesive fixing of sheets is not acceptable for tiled applications.** Framing must support all sheet edges.

For the layout and fixing of wall tiles follow the tile manufactures instructions. BGC recommend the use of a flexible tile adhesive complying with Part 1 of Australian Standard AS 2358. In some tropical regions flexible adhesives may not be suitable – check with tile merchant or adhesive manufacturer for recommendations.

## Painting

To enhance both the appearance and performance of Duralux™, BGC recommend that at least two coats of paint be applied. The paint manufacturer's recommendation on application and maintenance of the paint system should be followed.





To contact your nearest BGC stockist, please call:

**Adelaide**  
Telephone  
08 8250 4962

**Brisbane**  
Telephone  
07 3271 1711

**Melbourne**  
Telephone  
03 9392 9444

**Perth**  
Telephone  
08 9334 4900

**Sydney**  
Telephone  
02 9632 2100

**New Zealand**  
Telephone  
0011 64 9264 1457

[bgc.com.au/fibreceement](http://bgc.com.au/fibreceement)

# BGC Fibre Cement is a proud Australian owned manufacturer of fibre cement products.

## BGC Fibre Cement provides builders, developers and architects with a range of design alternatives and innovative products, such as:

### EXTERIOR PRODUCTS AND APPLICATIONS

#### Innova™ range of products:

- Duragrid™ Residential and Duragrid™ Light Commercial  
A lightweight façade giving a modern and durable finish.
- Duracom™  
A compressed fibre cement facade system.
- Nuline™  
A weatherboard style cladding system.
- Stonesheet™  
A purpose designed substrate for stone tile facades.

#### BGC Fibre Cement range of products:

- Durasheet™  
Ideal for the cladding of gables and lining of eaves. Can also be used on commercial soffits and cladding on non impact areas.
- Duraplank™  
Available in Smooth, Woodgrain and Rusticated finishes, is ideal for exterior cladding of upper storey conversions or ground level extensions.
- Duratex™  
A base sheet used for textured coatings on exterior wall applications.

- Duralattice™

Square or diamond patterned lattice, suitable for screens, pergolas and fences.

- Compressed sheet

Used for domestic, commercial sheet for wet areas, flooring, partitions, exterior decking, fascia and facade cladding.

- Duralux™

Suitable for exterior applications where it will be sheltered from direct weather.

- Duraliner™

Suitable for eaves and soffits where it will be sheltered from direct weather.

### INTERIOR PRODUCTS AND APPLICATIONS

- Duralux™

An interior liningboard suitable for ceilings and soffits.

- Duraliner™

An interior liningboard, this is the perfect substrate for tiles and is ideal for wet areas.

- Ceramic Tile Floor Underlay

A substrate for ceramic and slate floor tiles.

- Vinyl and Cork Underlay

A substrate for vinyl floors.



Quality  
Endorsed  
Company

**Safe working practices** - Please wear a P1 or P2 mask and safety goggles (approved to AS/NZW1337 standards) whilst cutting or installing Duralux™. Duralux™ can be safely handled during unloading or stacking without the use of these precautions.

**Cleaning up** - Always wet down your work area when cutting Duralux™, to ensure that dust is managed. Dispose of any vacuumed dust with care and using containment procedures.