

Ceramic Tile Floor Underlay Fibre Cement

substrate
for ceramic
floor tiles

**Ceramic
Tile Floor
Underlay** -
specially
designed
fibre cement
sheet



Build it better with **BGC**

BGC

Fibre Cement

Australian Owned & Manufactured www.bgc.com.au/fibrecement

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Product Description

BGC Ceramic Tile Floor Underlay is a specially formulated fibre cement sheet designed to provide a stable substrate for slate and ceramic floor tiles. It can be installed over new or existing timber floorboards, plywood or particleboard flooring.

In dry areas, tiling may be applied directly to the BGC Ceramic Tile Floor Underlay to form an impervious, easily cleaned surface.

For wet areas, and areas subject to accidental flooding or water splash, the installation of a waterproof membrane between the BGC Ceramic Tile Floor Underlay and the tiling is required.

Product Information

BGC Ceramic Tile Floor Underlay is manufactured from Portland cement, finely ground silica, cellulose fibres and water. It is cured in a high-pressure steam autoclave to create a durable, dimensionally stable product.

BGC Ceramic Tile Floor Underlay is manufactured to comply with the requirements of AS 2908.2 Cellulose Cement Products. It is classified as a Type B Category 2 sheet and is suitable for internal use.

Mass

The approximate weight is 9.5 kg /m² (15.4 kg / sheet) at equilibrium moisture content (7%).

Quality Systems

BGC Ceramic Tile Floor Underlay sheets are manufactured under the rigorous Quality Management System of the International Standard ISO 9002:1994. BGC Fibre Cement is the holder of Licence Agreement number QEC2955/13.

Sheet Size

BGC Ceramic Tile Floor Underlay is produced in **1800 x 900 x 6mm** square edged flat sheets and **1800 x 1200 x 6mm** square edged flat sheets.

Fire Resistance

BGC Ceramic Tile Floor Underlay has been tested by the CSIRO – Building, Construction and Engineering Division, in accordance to Australian Standard AS1530.3 – 1989. See report number FNE 7524.

This report deemed the following Early Fire Hazard Indices:

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

Handling & Storage

BGC Ceramic Tile Floor Underlay sheets must be stacked flat, up off the ground and supported on level bearers. 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 sealed.

Maintenance

BGC Ceramic Tile Floor Underlay when used in accordance with this literature requires no direct maintenance. However, regular checks (at least annually) must be made of the tiling system to ensure it remains watertight. Any cracked or damaged tiles, tile grout, or sealants must be repaired immediately, grouted and sealed as for new work. Any grout or sealant that is missing, cracked or likely to allow leakage, must be raked out and restored to original condition.

Health & Safety

BGC Ceramic Tile Floor Underlay is manufactured from cellulose fibre, finely ground sand, Portland cement and additives. As manufactured the product will not release airborne dust. However 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.

Avoid Dust Inhalation

When cutting sheets, work in a well-ventilated area and use the methods recommended in this literature to 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 your nearest BGC Fibre Cement Sales Office.

Sheet Cutting & Drilling

Ceramic Tile Floor Underlay 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 alternatively an approved (P1 or P2) dust mask shall be worn. It is recommended that work always be carried out in a well-ventilated location.

The most suitable cutting methods are:

- **Score and Snap**
Score the sheet face 4 or 5 times with a 'score and snap' knife. Snap the sheet upward for a clean break.
- **Hand Guillotine**
Cut on the off-cut side of the line to allow for the blade thickness.
- **Hand Sawing**
The back of the Ceramic Tile Floor Underlay sheet should be supported close to the cut. A fine toothed saw and a quick jabbing action gives best results. Mark out the cut lines on the face side of the sheet.
- **Drilling**
Use normal high-speed drill bits. Do not use the drill's hammer function. For small round holes such as floor drains and water pipes, a hole-saw is recommended. For other penetrations, drill a series of small holes around the perimeter of the cut out. Tap out the waste piece from the sheet face with a hammer while supporting the underside of the opening to avoid damage. Clean rough edges with a rasp.

Preparation

Remove any existing floor covering. The floor should be substantially flat before installing the underlay. If any floorboards are warped, cupped or misaligned, the entire floor should be coarse sanded. It is recommended that a competent tradesperson carry out the sanding.

For a good result it essential that the floor structure is sound and not springy.

To prevent joint movement or cracking, floors should not deflect more than $1/360$ of their span under maximum design loading.

For flooring laid over joists at 400mm centres this is equivalent to a deflection of 1.1mm between the joists $\{400/360 = 1.1\}$.

Any repairs required on existing floors must be completed prior to fixing the ceramic tile underlay.

Likely problems include:

- Loose floorboards – re-nail as necessary.
- Broken or damaged floorboards – replace.
- Damaged or rotted timbers that will not hold nails or will allow movement – replace.

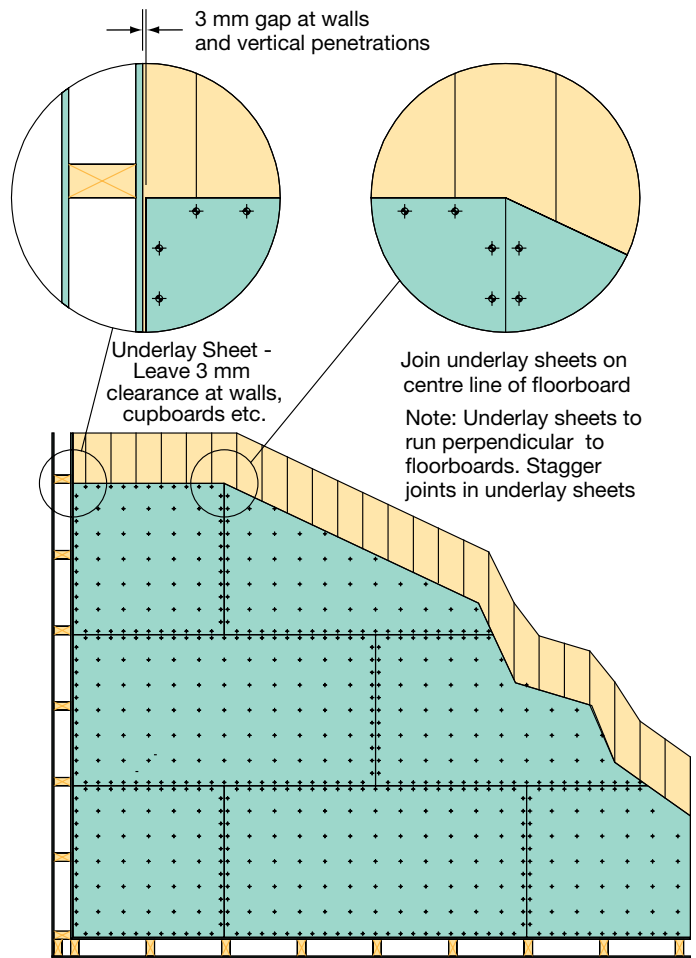
The floor must be free of dirt, dust and grease before commencing to install the underlay.

Installation of the BGC Ceramic Tile Floor Underlay sheets or tile laying must not commence until both the flooring and its supporting framework are dry.

Sheet Layout

A few minutes spent planning the job will generally pay dividends in reduced cutting and wastage.

Figure 1 - Sheet Layout



For a simple layout, place a run of sheets loosely across the area to be worked. The loose lay-out allows for sheet manipulation and adjustments that will enable the optimum cutting and jointing positions to be established. Sheet edges can be overlapped as required to mimic the location of cuts.

For more complex areas a scaled layout is recommended.

Adjust the layout so that:

- There are no narrow edge pieces (less than 200mm wide).
- When installing over panel flooring such as plywood or particleboard, position the underlay joints so that they do not coincide with joints in the underlying floor.
- When installing over floorboards, run the sheet length (1800mm direction) across to the run of the flooring. End joints in the underlay should coincide with the centre line of a floorboard. See Figure 1.
- Existing construction joints or movement control joints, must be carried through the underlay and tiling. See Figure 3.
- The underlay must finish to leave a 3mm gap at all walls and any other vertical projections in the floor.
- The underlay should be laid in a staggered (brick) pattern. See Figure 1.
- Except for movement control joints the sheets should butt up close to one another.

Use 2.5mm x 25mm underlay nails. Drive nail heads flush with the surface. For hardwood floorboards nailing of the underlay is sufficient.

For softwood floorboards, plywood and particleboard flooring, it is recommended that the underlay be glued to the floor with wallboard adhesive in addition to nailing.

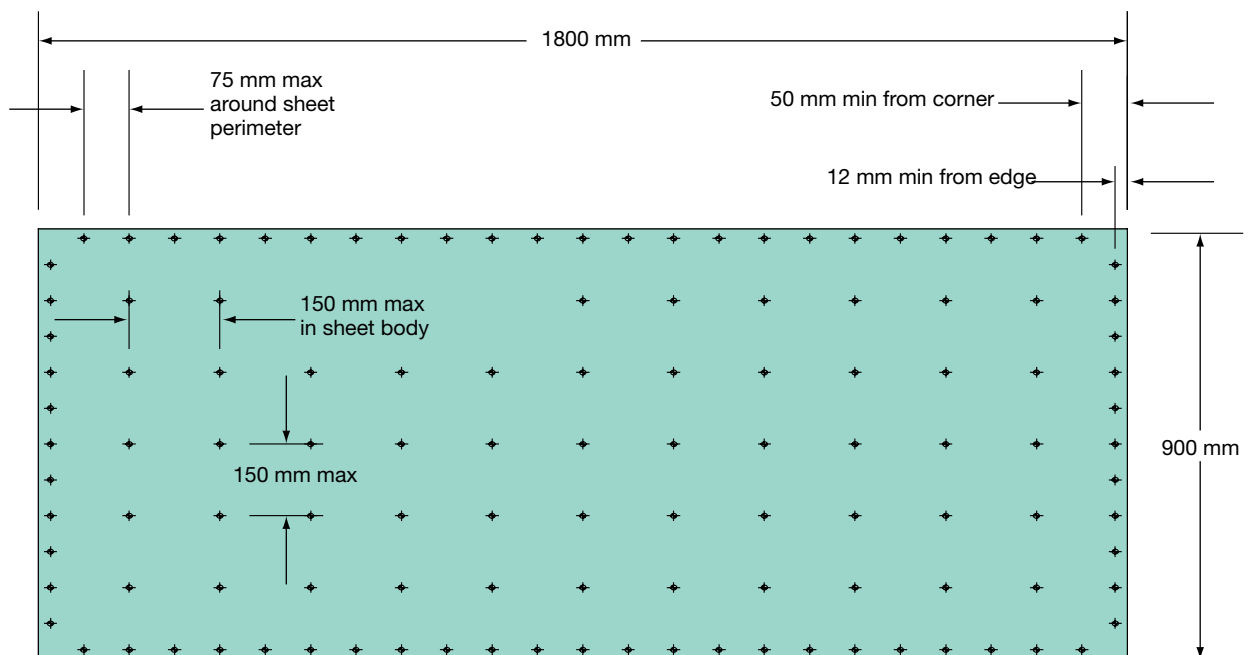
The wall board adhesive should be applied evenly over the back of the underlay sheet with a 3mm notched trowel, paying particular attention to the edges. Position and nail down the sheet. Two or three temporary nails placed towards outer sheet ends will prevent movement as sheets are nailed down.

Nailing should proceed from the centre of the sheet outwards, to ensure sheets finish flat and tight.

Nails must be at 150mm centres in the body of the sheet and 75mm centres around the perimeter. A nailing pattern is on the sheet.

Nails must be a minimum of 50mm from sheet corners and 12mm from sheet edges. See Figure 2.

Figure 2 - Sheet Fixing



Note: The nailing pattern is indicated in the sheet to aid correct installation

Movement Control Joints

Movement control joints must be provided:

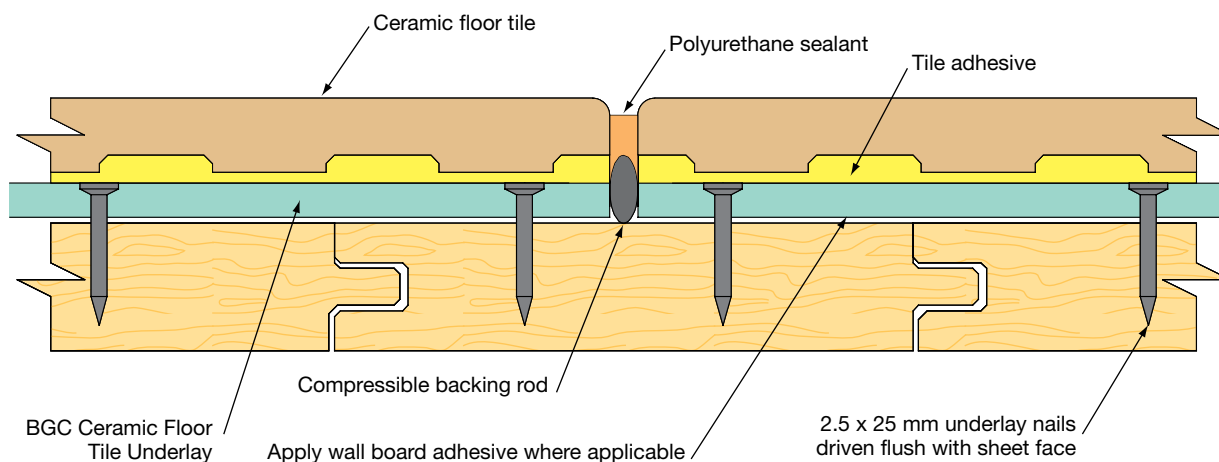
- To coincide with any existing structural or movement control joints.
- So that the maximum distance between control joint is less than 5.0m
- Across any doorways and openings where the tiling is carried through.
- To coincide with changes in the room or flooring direction – such as occur in “L” shaped rooms

Under Floor Ventilation

As the ceramic tile system will effectively seal the top surface of the floor, it is essential that the underside of the floor is dry and well ventilated. Excessive dampness can lead to problems with the floor structure.

Any significant variation in the moisture content of the floorboards or the supporting structure may cause excessive movement and result in an unsatisfactory performance from the system.

Figure 3 - Movement Control Joint



The floor space either side of a movement control joint should be approximately equal. For example, in a floor run greater than 5.0m and less than 10.0m, the joint should be near the centre of the run.

The width of movement control joints should be the same as the tile grout width (approx 3mm). The joint should extend right through the underlay, tile adhesive and a tile joint. The joint should be backed with a compressible backing rod then sealed with a good quality “Polyurethane Sealant”.

Tile Laying

For the layout and fixing of tiles follow the tile manufacturers instructions.

The use of a flexible tile adhesive complying with Part 1 of Australian Standard AS2358 – 1990 is recommended.

The underlay sheets should be primed as recommended by the adhesive manufacturer.

Where movement control joints occur, they should be used as starting (or guide) lines for laying out the tiling.

Wet Areas

When BGC Ceramic Tile Floor Underlay is used in wet areas, a waterproof membrane must be installed and the floors graded to a waste outlet:

The membrane must be installed in accordance with the manufacturers specifications.

The waterproof membrane should:

- Continue 150mm up adjacent walls, the inside of hobs etc.
- Provide an effective seal at floor drains.
- Seal internal corners to a height of 1800mm.

Figure 4 depicts some of the features to be observed when using BGC Ceramic Tile Floor Underlay in wet areas.

Note 1 – Screed Layer

Wet areas and areas subjected to splash must be provided with floor drains. The floors must slope to these drains (minimum fall of 1:50). Generally a screed layer will need to be installed to achieve the required falls.

Hobs must be constructed from masonry or concrete.

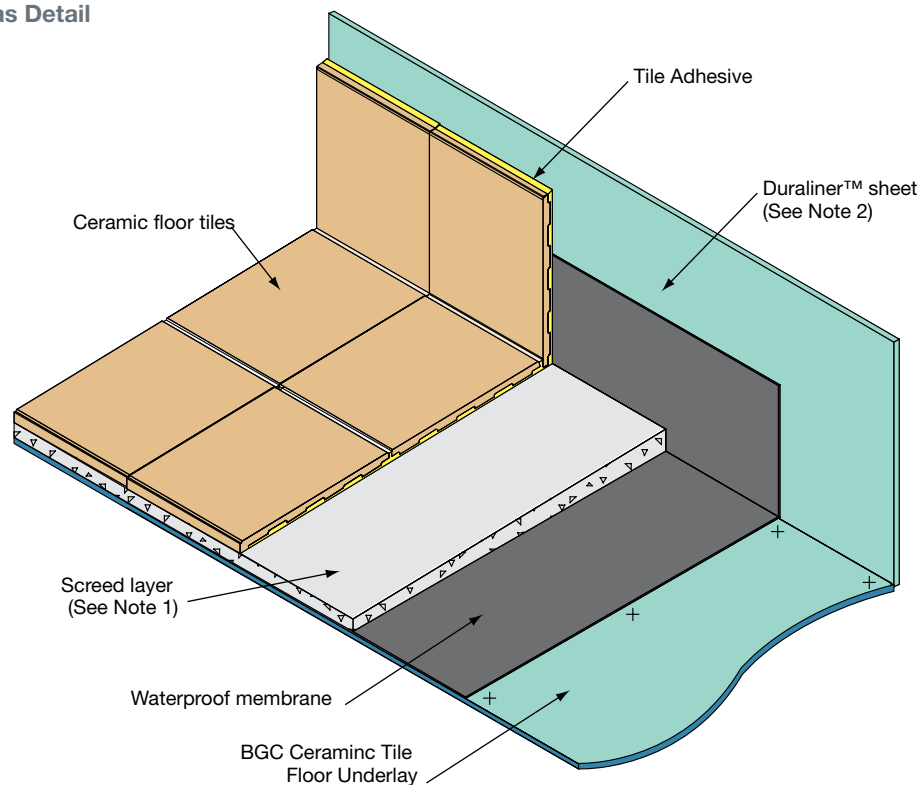
Note 2 – Duraliner™ Wall Cladding

Duraliner™ provides an excellent wall lining in association with BGC Ceramic Tile Floor Underlay.

The Duraliner™ should be flush jointed and tiled with ceramic tiles.

Details on the installation of Duraliner™ are covered in our Duraliner™ Technical Information Brochure available from any BGC Fibre Cement sales office.

**Figure 4 - Ceramic Tile Floor Underlay
Wet & Water Splash Areas Detail**



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.

To contact your nearest BGC stockist, please call:

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08 8347 0844

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BGC Fibre Cement is a proud Australian owned manufacturer of Fibre Cement 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. All products in the BGC range are 100% Australian manufactured.

BGC has a team of technical specialists who can assist with all specification and design information.

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

External products and applications:

- NuLine™ – weatherboard cladding system.
- Durasheet™ – used for external applications. Durasheet is ideal for the cladding of gables and lining eaves, carports and verandahs. Can also be used for commercial soffits and external cladding on non impact areas.
- Duratex™ – a base sheet used for textured coatings on external wall applications.
- Compressed sheet – used for domestic, commercial sheet for wet areas, flooring, partitions, external decking, fascia and facade cladding.
- Duraplank™ – available in Smooth, Woodgrain and Rusticated finishes, Duraplank™ is ideal for external cladding of upper storey conversions or ground level extensions.

- Duracom™ – compressed fibre cement facade system
- Silhouette™ – a fibre cement plank and uPVC feature strip exterior cladding system.
- Stonesheet™ – purpose designed substrate for stone tile facade.
- Duralattice™ – square or diamond patterned lattice, suitable for screens, pergolas and fences.

Internal products and applications:

- Duraliner™ – an internal lining board, this is the perfect substrate for tiles and is ideal for wet areas.
- Duralux™ – internal lining board suitable for ceilings and soffits.
- Ceramic Tile Underlay – a substrate for ceramic and slate floor tiles.
- Vinyl cork floor coverings – a substrate for vinyl floors.

Safe working practices - Please wear a P1 or P2 mask and safety goggles (approved to AS/NZW1337 standards) whilst cutting or installing Ceramic Tile Underlay. Ceramic Tile Underlay can be safely handled during unloading or stacking without the use of these precautions. **Cleaning up** - Always wet down your work area when cutting Ceramic Tile Underlay, to ensure that dust is managed. Dispose of any vacuumed dust with care and using containment procedures.