CERAMIC TILE UNDERLAY

FLOORING SUBSTRATE

innova™
INNOVATIVE BUILDING SYSTEMS

INNOVAFIBRECEMENT.CO.NZ

INNOVA FIBRE CEMENT PRODUCTS ARE EXTREMELY VERSATILE – PERFECT FOR ARCHITECTURAL FLOURISHES, EXTERNAL AND INTERNAL WET AREAS. COMING IN AN EXTENSIVE ARRAY OF SIZES AND THICKNESSES, THEY MAKE CONSTRUCTION AND RENOVATION PROJECT DESIGN DREAMS COME TRUE.

CERAMIC TILE UNDERLAY
FLOORING SUBSTRATE

CERAMIC TILE UNDERLAY IS A SPECIALLY-FORMULATED FIBRE CEMENT SHEET. IT'S DESIGNED AS A STABLE SUBSTRATE FOR SLATE AND CERAMIC FLOOR TILES, SO YOU CAN INSTALL CERAMIC TILE FLOOR UNDERLAY OVER NEW OR EXISTING TIMBER FLOORBOARDS, PLYWOOD OR PARTICLEBOARD FLOORING.

IN DRY AREAS, APPLY TILES DIRECTLY TO CERAMIC TILE FLOOR UNDERLAY FOR AN IMPERVIOUS, EASILY-CLEANED SURFACE. IN WET AREAS AND ANYWHERE SUBJECT TO ACCIDENTAL FLOODING OR WATERSPLASH, INSTALL A WATERPROOF MEMBRANE BE-TWEEN THE UNDERLAY AND YOUR TILING.

CERAMIC TILE UNDERLAY
- Specially-manufactured fibre cement sheet
- Excellent substrate for floor tiles, both slate and ceramic
- For dry and wet areas (see above)
- Can be applied to both new and existing timber floorboards, plywood or particleboard

PRODUCT DESCRIPTION

Ceramic Tile 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 Ceramic Tile 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 Ceramic Tile Underlay and the tiling is required.

PRODUCT INFORMATION

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

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

SHEET SIZE AND WEIGHT

THICKNESS (mm)	WEIGHT (kg/m^2)	WIDTH (mm)	LENGTH (mm)
			1800
6	8.8	1200	✓

Weights are based on Equilibrium Moisture Content

SHEET TOLERANCES

Ceramic Tile Underlay complies with the requirements of AS/NZS 2908.2.

FIRE RESISTANCE

Innova Fibre Cement products have been tested in accordance to Australian Standard AS1530.3.

These tests deemed the following Early Fire Hazard Indices:

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

Ceramic Tile Underlay is deemed non-combustible and may be used where non-combustible materials are required.

Ceramic Tile Underlay has been tested in accordance with AS/NZS 3837 and is classified as a Group 1 product.

QUALITY SYSTEMS

Ceramic Tile Underlay sheets are manufactured under the rigorous Quality Management System of the International Standard ISO 9002:1994.

DURABILITY

The physical properties of Ceramic Tile Underlay make it a very durable product.

- Ceramic Tile Underlay sheets are immune to permanent water damage in both short and long-term exposure.
- Ceramic Tile Underlay sheets will not rot or burn and are unaffected by termites, air, steam, salt and sunlight.
- Ceramic Tile Underlay sheets are not adversely affected over a temperature range of 0°C to 95°C.

MOISTURE MANAGEMENT

Designers, specifiers and builders have a duty of care to identify moisture associated risks with any individual building design.

This manual does not contain all information relevant for waterproofing and is to be used as a guide only. It is the responsibility of the specifier to carry out all the necessary design and detailing to ensure the waterproofing and finish satisfy all relevant codes, regulations and system waterproofing manufacturer recommendations.

HANDLING AND STORAGE

Ceramic Tile 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

Ceramic Tile 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 AND SAFETY

Ceramic Tile Underlay is manufactured from cellulose fibre, finely ground sand, 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 chronic bronchitis, silicosis or cancer.

AVOID INHALING DUST

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 Innova Fibre Cement Sales Office or go to innovafibrecement.co.nz

CUTTING AND DRILLING

Ceramic Tile 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:

Durablade
180mm diameter. This unique cutting blade is ideal for cutting fibre cement. It can be fitted to a 185mm circular saw, ie. Makita or similar. Please ensure safe working practices when using.

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 masonry drill bit. Do not use 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 is 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 450mm centres this is equivalent to a deflection of 1.25mm between the joists {450/360 = 1.25}.

Any repairs required on existing floors must be completed prior to fixing the Ceramic Tile Underlay.

Likely problems include:

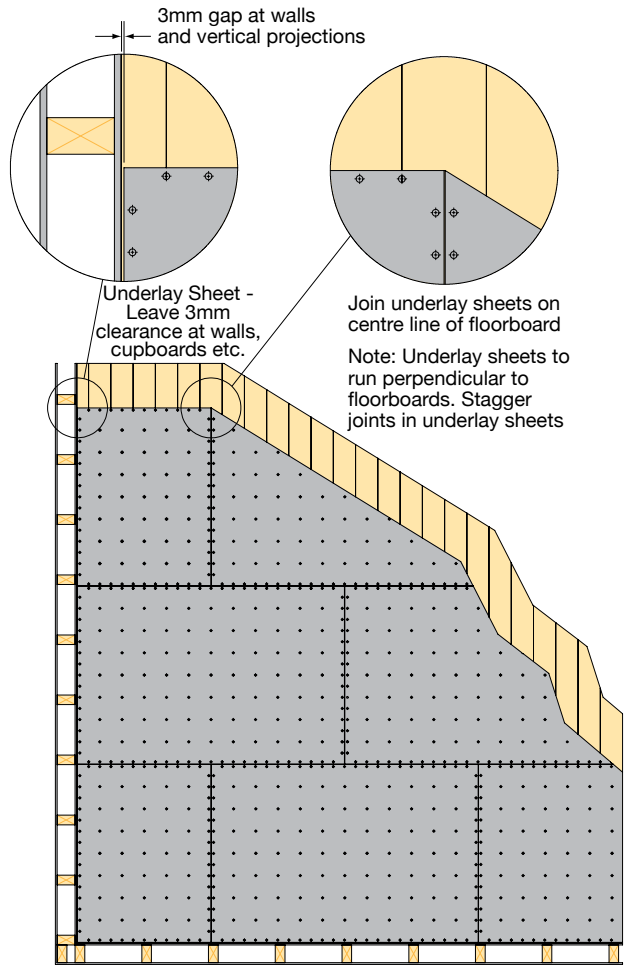
- Loose floorboards – re-nail as necessary.
- Broken or damaged floorboards – replace.
- Damaged or rotted timbers that will not hold nails or will allow movement – replace.

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

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

SHEET LAYOUT

FIGURE 1
SHEET LAYOUT



For a simple layout, place a run of sheets loosely across the area to be worked. The loose layout 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.

SHEET LAYOUT CONT.

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) at right angles to 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.

FIXING

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.

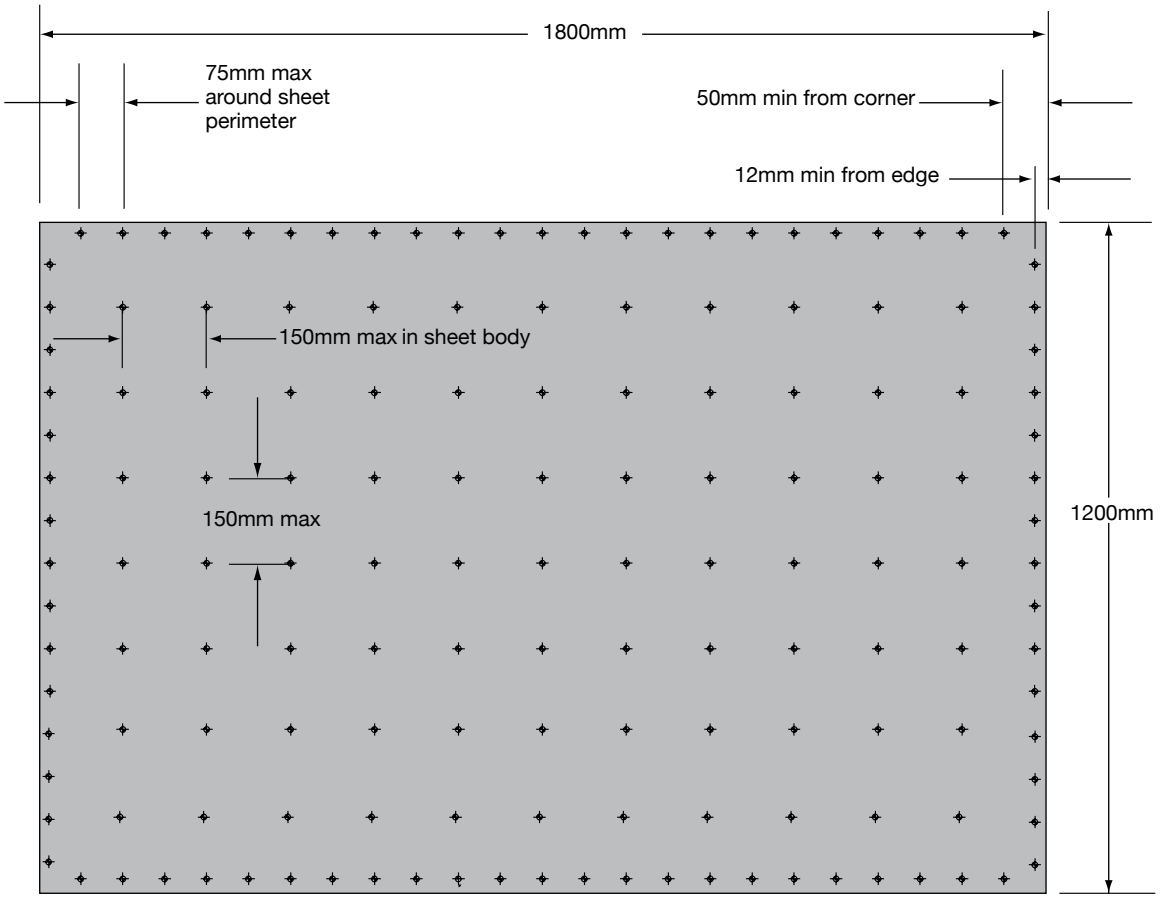
The wallboard adhesive should be applied evenly over the back of the underlay sheet with a 3mm notched trowel, paying particular attention to the edges. Position and nail down the sheet. Two or three temporary nails placed towards outer sheet ends will prevent movement as sheets are nailed down.

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.

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

FIGURE 2
SHEET FIXING



MOVEMENT CONTROL JOINTS

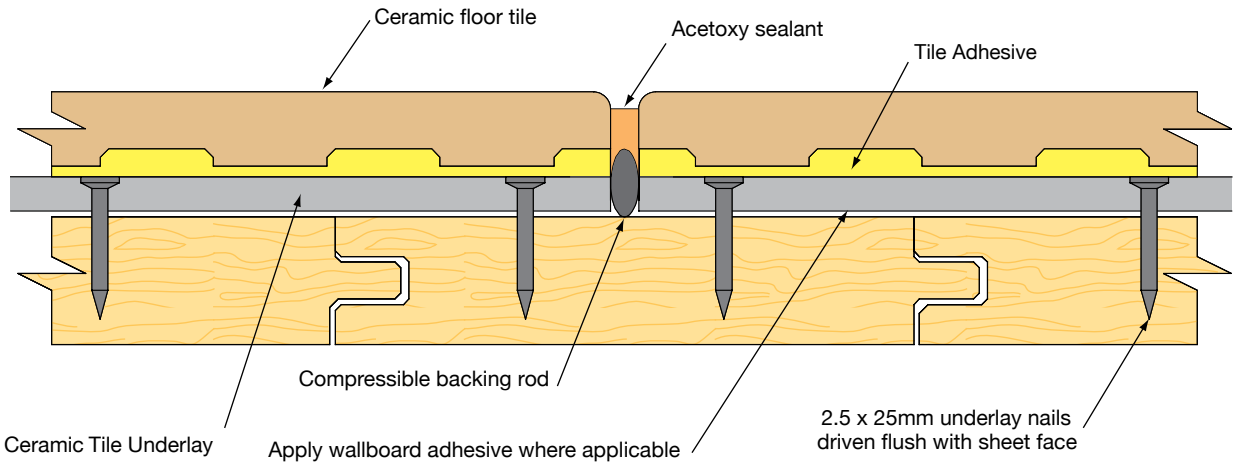
Movement control joints must be provided:

- To coincide with any existing structural or movement control joints.
- So that the maximum distance between control joint is less than 5m.
- 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.

The floor space either side of a movement control joint should be approximately equal. For example, in a floor run greater than 5m and less than 10m, 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 “acetoxy sealant”.

FIGURE 3
MOVEMENT CONTROL JOINT



SUB 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.

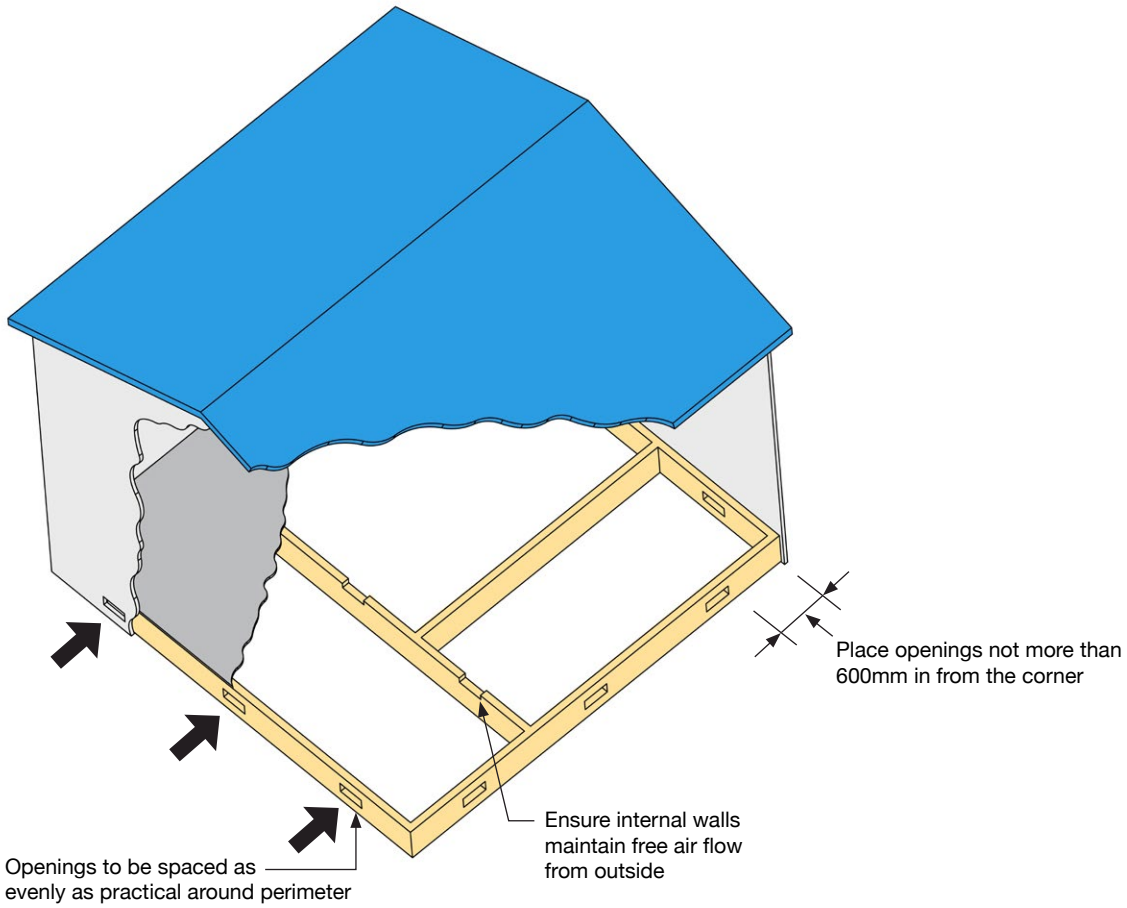
A subfloor space must be cleared of all building debris and vegetation. It must have the ground beneath the suspended floor graded in accordance with the NCC and contain no dead air spaces and have openings evenly spaced as far as practicable See Figure 4 and have openings placed not more than 600 mm in from corners.

TILE LAYING

For the layout and fixing of tiles follow the tile manufacturer's instructions.

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

FIGURE 4
TYPICAL CROSS VENTILATION OF SUBFLOOR AREA



When Ceramic Tile Underlay is used in wet areas, all waterproofing must be carried out strictly in accordance with AS3740.

Figure 5 depicts some of the features to be observed when using Ceramic Tile Underlay in wet areas.

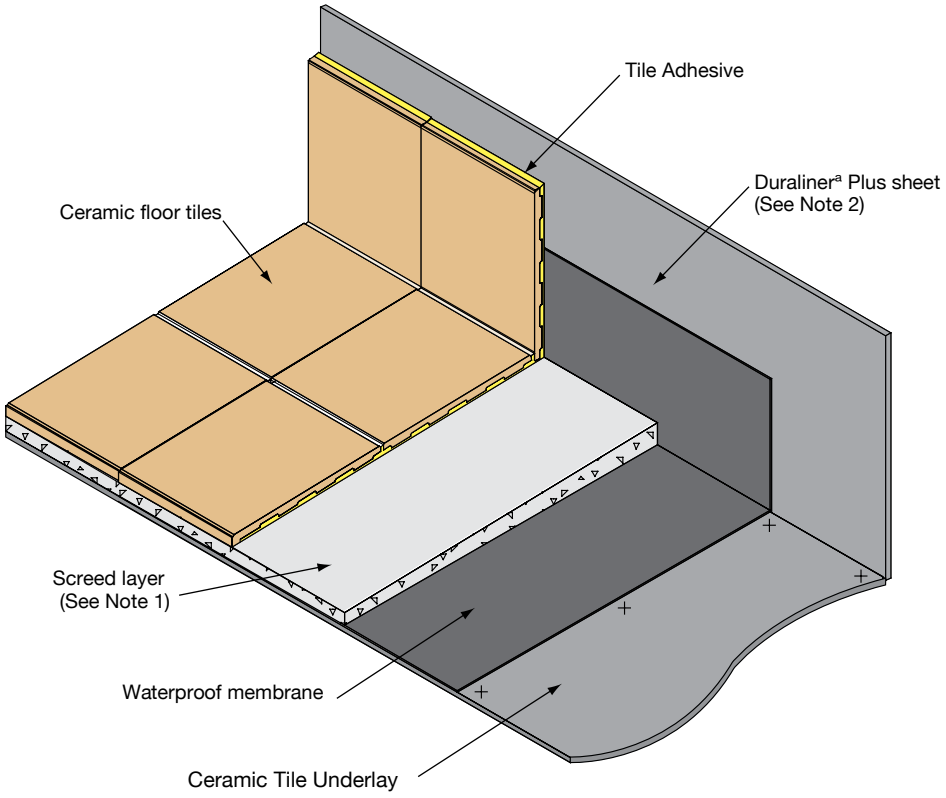
NOTE 1 – SCREED LAYER
Wet areas and areas subjected to splash must be provided with floor drains. The floors must slope to these drains (minimum fall of 1:60). Generally a screed layer will need to be installed to achieve the required falls.

NOTE 2 – DURALINER™ PLUS
Duraliner™ Plus provides an excellent wall lining in association with Ceramic Tile Underlay.

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

Details on the installation of Duraliner™ Plus are covered in our Duraliner™ Plus Brochure available on our website - www.innovafibrecement.com.au.

FIGURE 5
CERAMIC TILE UNDERLAY WET AREA DETAIL



WARRANTY

Etex Australia Pty Ltd warrants, subject to the Conditions and Notes set out below, that its products be:

1) Free from defects caused by defective materials or workman ship (manufacturer); and
2) Resistant to rotting, fire and cracking,

For the following period from the date of purchase of each product:

- 25 years for Nuline™ Plus, Stratum™ and Duraplank™ ranges
- 15 years for Montage™
- 50 years for Durabarrier (when used as bracing sheets)
- 15 year for all other products.

If you purchase any Innova Fibre Cement (NZ) product and nd that it does not meet the above warranty during the relevant warranty period, Innova Fibre Cement (NZ) will at its option, repair or replace the product, supply equivalent replacement products or reimburse the purchase price of the product, subject to receiving a valid claim, product inspection and confirmation of the existence of a defect by Innova Fibre Cement (NZ). We will bear the cost of any such repair, replacement or refund.

CONDITIONS

i) This warranty is non-transferable. To claim under this warranty, you must submit proof of purchase and a written claim to Innova Fibre Cement (NZ) at the following address:

27 Accent Drive, East Tamaki, Auckland.
Postal Address PO Box 76695, Manukau City, Auckland

ii) The product must be installed and maintained in accordance with the relevant Innova Fibre Cement (NZ) literature current and available at the time of purchase. All additional products used in conjunction with the Innova Fibre Cement product(s), including accessories, jointing systems and coatings must be applied or installed according to the relevant manufacturer's instructions.

iii) Claims must be submitted in writing within 30 days of the defect becoming reasonably apparent. If the defect is detected prior to installation, the claim must be submitted prior to installation.

iv) Your sole remedy under this warranty is the repair or replacement of the product, supply of equivalent replacement product or reimbursement of the purchase price as described above. Innova Fibre Cement (NZ) is not liable for any damage or losses (direct or indirect) including (without limitation) any property damage or personal injury, economic loss or loss of profits, consequential loss arising in contract or negligence or howsoever arising.

v) Innova Fibre Cement (NZ) is not liable for any claims, damages or defects arising from or attributed to:

- poor workmanship, poor design or detailing of the project,
- products not supplied by Innova Fibre Cement (NZ),
- settlement or structural movement or movement of materials to which the product is attached,
- incorrect design of the structure,
- acts of God, including but not limited to oods, cyclones, earthquakes or severe weather or unusual climate conditions, performance of coatings or paints applied to the product,
- normal wear and tear, growth of mould, mildew, fungi, bacteria or any other organism on the product's surface (exposed or unexposed).

Failure to comply with all relevant requirements of the current New Zealand Building Code regulations and standards in the design and construction of the project.
Please note that:

- If any remedy under this warranty involves recoating or painting of Innova Fibre Cement (NZ) products, there may be slight colour differences between the replacement product and the original products due to the effect weathering and variations in materials over time.

- Innova Fibre Cement (NZ) does not warrant any product's suitability for any purpose or ability to comply with the relevant conditions set out in the New Zealand Building Code. It is the responsibility of the building designer to ensure that the products used are suitable for the intended project and that specific design is conducted where appropriate. All warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extend allowed by the law.

- The instructions and recommendations in Innova Fibre Cement (NZ) literature are based on good building practice, but are in no way an exhaustive statement of all relevant information and are subject to conditions above. Innova Fibre Cement has tested the performance of its products when installed in accordance with the product's technical specification, in accordance with the standards required by the New Zealand Building Code

DISCLAIMER
The successful performance of the relevant product depends on a number of factors outside the control of Innova Fibre Cement (NZ). As such, Innova Fibre Cement (NZ) shall not be liable for the recommendations made in its literature and the performance of the products/systems including its suitability for any purpose or ability to comply with the relevant conditions set out in the New Zealand Building Code. It is the responsibility of the building designer to ensure that the details and recommendations provided in the relevant Innova Fibre Cement (NZ) installation guide are suitable for the intended project and that specific design is conducted where appropriate.

The instructions and recommendations in Innova Fibre Cement (NZ) literature are based on good building practice, but are in no way an exhaustive statement of all relevant information and are subject to conditions above. Innova Fibre Cement has tested the performance of its products when installed in accordance with the product's technical specification, in accordance with the standards required by the New Zealand Building Code. Those test results demonstrate the products compliance with the performance criteria set out by the New Zealand Building Code.

TERMS AND CONDITIONS

Innova Fibre Cement's Terms and Conditions of Sale ("Agreement"), as in place and published at the date of this brochure, which are available upon request or on our website at www.innovafibrecement.com.au. The purchaser's terms and conditions, howsoever provided, do not form part of the Agreement.

TO CONTACT YOUR NEAREST INNOVA STOCKIST, PLEASE CALL:

ADELAIDE
TELEPHONE
08 8480 1700

BRISBANE
TELEPHONE
07 3548 8400

MELBOURNE
TELEPHONE
03 9492 1700

PERTH
TELEPHONE
08 9311 5500

SYDNEY
TELEPHONE
02 8107 9500

NEW ZEALAND
TELEPHONE
09 273 1457

TECHNICAL HELP LINE
0800 424 234

INNOVAFIBRECEMENT.CO.NZ

INNOVA 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**

DURACOM™ / A compressed fibre cement facade system.

DURAFLOOR™ / Is the ultimate flooring product that can be used in both interior and exterior applications.

DURAGRID™ / A light weight facade giving a modern and durable finish.

DURAGROOVE™ / A vertically grooved exterior facade panel.

DURASCAPE™ / A lightweight exterior facade base sheet with a subtle vertical shadow line.

NULINE™ PLUS / A weatherboard style cladding system.

MONTAGE™ / A pre-finished versatile facade system that can be used internally and externally.

STONESHEET™ / Purpose designed substrate for stone tile facade.

STRATUM™ / Is a trio of plank products, each of which can be used as stand alone products or used together to create a striking exterior cladding solution.

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 and Woodgrain finishes, Duraplank™ is ideal for exterior cladding of upper storey conversions or ground level extensions.

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

DURALUX™ PLUS / Suitable for exterior applications where it will be sheltered from direct weather.

DURALINER™ PLUS / Suitable for exterior applications where it will be sheltered from direct weather.

INTERIOR PRODUCTS AND APPLICATIONS INNOVA **FIBRE CEMENT RANGE OF PRODUCTS**

DURALUX™ PLUS / An interior lining board suitable for ceilings and soffits.

DURALINER™ PLUS / An interior lining board, this is the perfect substrate for tiles and is ideal for wet areas.

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.

Design by **The SHAPE Group** www.theshapegroup.com.au