



DURAFLOOR™ IS THE ULTIMATE FLOORING PRODUCT THAT CAN BE USED IN BOTH INTERIOR AND EXTERIOR APPLICATIONS.

DURAFLOOR™ IS IDEALLY SUITED TO INTERIOR WET AREAS AS WELL AS EXTERIOR PROJECTS.

DURAFLOOR™

- / EASILY INSTALLED USING TRADITIONAL GUN NAILING METHODS
- / REDUCES INSTALLATION COSTS COMPARED TO STANDARD COMPRESSED SHEET
- / USES SAME TONGUE AND GROOVE TECHNOLOGY AS TRADITIONAL SHEET FLOORING
- / CAN BE USED IN INTERIOR WET AREAS
 - / BATHROOMS
 - / LAUNDRIES
- / CAN BE USED IN EXTERIOR APPLICATIONS
 - / BALCONIES
 - / VERANDAS
 - / SUN DECKS
- / OR AS A TOTAL FLOOR SOLUTION WHERE A PREMIUM PRODUCT IS REQUIRED
- / HAS GREATER IMPACT RESISTANCE AND FEELS MORE SOLID UNDER FOOT THAN TIMBER BASED SHEET FLOORING PRODUCTS





CONTENTS



ADVANTAGES	5
PRODUCT INFORMATION	5
FIRE RESISTANCE	5
SHEET SIZES AND WEIGHT	5
SHEET PROPERTIES	5
SHEET TOLERANCES	5
HANDLING AND STORAGE	6
CUTTING AND DRILLING	6
HEALTH AND SAFETY	6
FASTENERS	6
INTERIOR INFORMATION	7-14
EXTERIOR INFORMATION	15-21
EXTERIOR FINISHES	21
MEMBRANES	21
MAINTENANCE	21
WARRANTY	21



APPLICATIONS

DurafloorTM is the perfect product to use for interior wet area projects such as bathrooms and laundries but is also ideal for use as the substrate for a variety of exterior decking applications such as above ground pool surrounds, verandas and balconies.

SHEET SIZES AND WEIGHT

NOMINAL THICKNESS mm	WEIGHT KG/M ²	WIDTH mm	LENGTH mm
19	26.2	600	2250

Weight is based on Equilibrium Moisture Content.

ADVANTAGES

- / A single product for interior and exterior projects
- / Tongue and groove system that fits well with particleboard flooring products
- / Easily installed using traditional gun nailing methods reducing installation costs
- / Has greater impact resistance and feels more solid under foot than timber based sheet flooring products

SHEET PROPERTIES

DENSITY	1300kg/m3
FREEZE-THAW TEST	Passed
WARM WATER TEST	Passed
SOAK AND DRY TEST	Passed
WATER PERMEABILITY	Passed
BENDING STRENGTH	Greater than 7MPa at Saturated condition

PRODUCT INFORMATION

DurafloorTM is manufactured from Portland cement, finely ground silica, cellulose fibres and water. After forming it is then cured in a high-pressure steam autoclave to create a durable, dimensionally stable product.

DurafloorTM is immune to permanent damage from water. It is impact resistant, immune to termite attack, non combustible and easy to work.

Durafloor™ is manufactured to conform to the requirements of AS2908 Cellulose Cement Products, and is classified as Type A Category 3 for external use.

SHEET TOLERANCES

- / Width +0/-1mm
- Length +0/-2mm
- / Thickness +0.5mm
- / Diagonals difference (max) 2mm
- / Edge straightness deviation (max) 1mm

FIRE RESISTANCE

Durafloor™ has been tested by CSIRO and is non-combustible.



HANDLING AND STORAGE

Durafloor™ must be stacked flat, up off the ground and supported on equally spaced level bearers at 450mm centres.

Durafloor™ must be kept dry, preferably by being stored inside a building. When stored outdoors it must be protected from the weather.

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

Durafloor™ must be dry prior to fixing, jointing or finishing.

QUALITY SYSTEMS

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

CUTTING & DRILLING

Durafloor™ can be cut to size on site. Either Tungsten Carbide or Diamond tipped tools are generally required.

For straight cuts BGC recommend the use of a BGC Durablade fitted to a 185mm circular saw, with a full dust extraction system.



HEALTH & SAFETY

Durafloor™ sheeting is manufactured from cellulose fibre, finely ground sand, Portland cement and additives. As manufactured the product 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, prolonged exposure (usually over several years) may cause bronchitis, silicosis or cancer.

AVOID INHALING DUST

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 for cutting drilling or sanding they must be fitted with appropriate dust collection devices or alternatively use an approved (P1 or P2) dust mask and wear 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 Sales Office.

HOLES

For small holes a well-sharpened Tungsten Carbide masonry drill is recommended. Use a slow drill speed.

Do not use the drills hammer function.

For larger circular holes such as waste holes a Tungsten Carbide or diamond tipped hole saw is recommended.

Alternatively drill a series of small holes around the perimeter of the cut out, and then gently tap out the waste piece while supporting the underside of the opening to avoid damage. Clean up any rough edges with a rasp.

FASTENERS

DURAFLOOR™ TO TIMBER FRAME

10g x 50mm self embedding screw - wood thread



Paslode HDG Coil Nail 45 x 2.5mm or Paslode 50 x 2.87mm Stainless Steel RounDrive Ring nail or Paslode 50 x 2.87mm Dekfast HD Galvanised RounDrive Nail





All fasteners to be corrosion resistant- Class 3 minimum.

DURAFLOOR™ TO STEEL FRAME

Wingtek 8-10g x 40-45mm - min class 3





Or similar





WET AREA TILED FLOORS

Durafloor™ is ideally suited as a substrate for ceramic tiled floors in the wet areas such as bathrooms and laundries.

GENERAL

All waterproofing of internal wet areas must be carried out strictly in accordance with NZBC E3-Internal Moisture and AS 3740-2010.

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 specifyer 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.

FRAMING

Durafloor $\mbox{^{TM}}$ sheeting can be fixed to either timber or lightweight steel framing.

Timber framing must comply with NZS 3604 – Timber Framed Buildings or for specific design NZS 3603 – Timber Structure Standard.

Metal framing must be designed in accordance with NASH 3405 –An Alternate Solution to Steel Framed Buildings and loads specified for Domestic and Residential Activity from Table 3.1 of AS/NZS 1170.1.

BGC recommend sheets to be laid with the long edge across the joists. (Figure 2).

Joist spacing must not exceed 450mm maximum centres.

In all cases a floor joist must support the sheet end.

For all applications the joist face width must be no less than 45mm min.

DURAFLOOR™	MAXIMUM JOIST
NOMINAL THICKNESS mm	CENTRES
19	450

LOADING

Durafloor™ satisfies the loading requirements of AS/NZS 1170.1 Table 3.1 Category A Domestic and Residential Activities Concentrated Loads 1.8kn @ UDL of 4KPA.

For higher load applications, BGC Compressed Sheet is recommended. Please contact your local BGC Fibre Cement office for further details, or refer to BGC Fibre Cement Compressed brochure.

FLOOR DRAINAGE

In wet areas lay mortar bed (screed) at a minimum depth of 25mm over the Durafloor $^{\rm TM}$ to produce a minimum 1:50 fall to the waste drain.

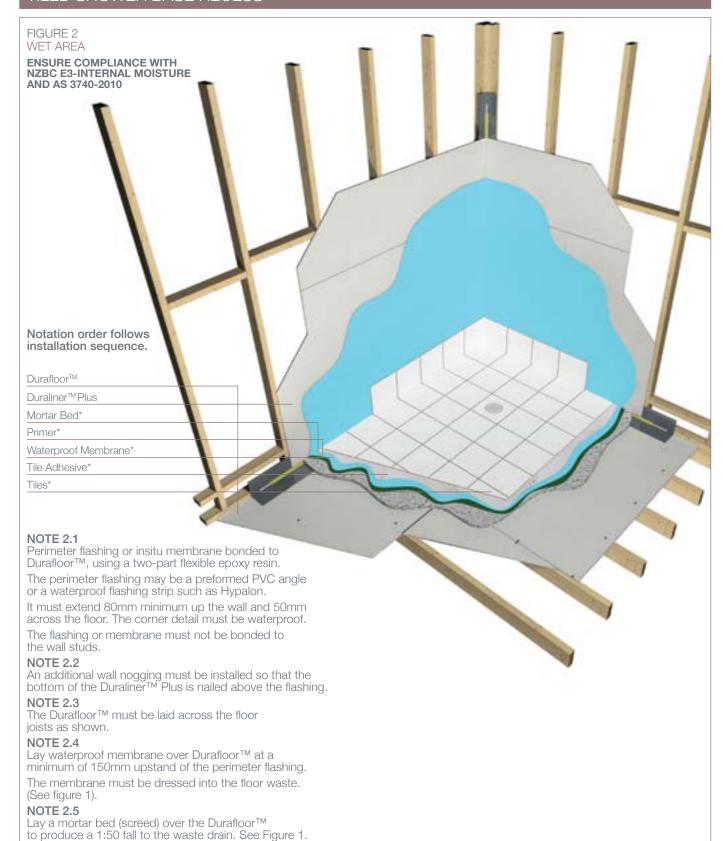
Figure 1 depicts a typical floor waste installation showing the waterproof membrane carried down into the fitting. The inner pipe is slotted to allow drainage of the mortar bed (screed).

FLOOR WASTE SKETCH





TILED SHOWER BASE RECESS



Optional regulation - Refer to local Building Authority.

Ensure all flashings and waterproofing comply with NZBC E3-Internal Moisture and AS 3740-2010.

Shower walls are to be waterproofed to 1800mm above floor level and not less than 300mm above shower rose. Waterproofing must extend at least 1500mm horizontal radius from the shower rose.



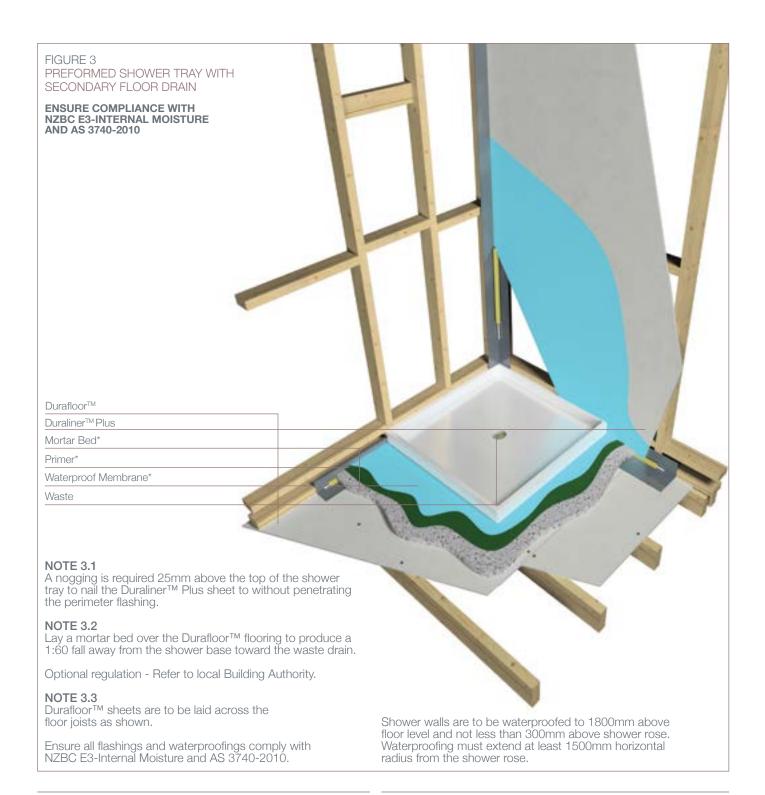


PREFORMED SHOWER BASE RECESS

Particular attention is required to the sealing of shower alcoves or recesses.

As with all wet area applications strict adherence to the NZBC E3-Internal Moisture and AS 3740-2010 and local building regulations is essential.

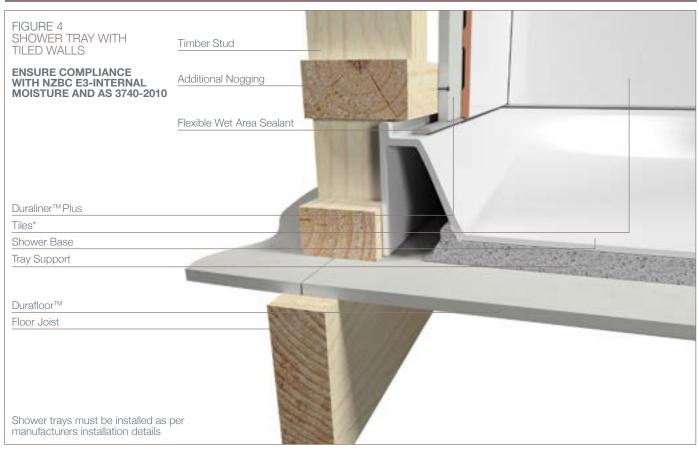
Figures 3 & 4 depict a preformed shower base. Figure 5 depicts a waterproof membrane, which may be either preformed or insitu.

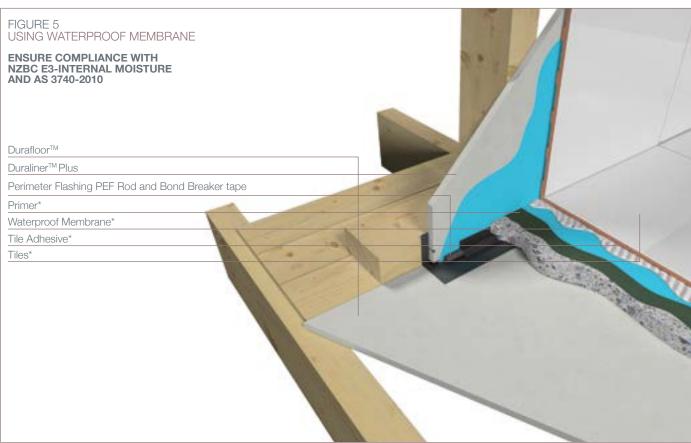






SHOWER RECESSES









INTERIOR TILED FLOORS

In areas where floor waste drains are not required for example kitchens, ceramic floor tiles may be fixed directly to the Durafloor $^{\text{TM}}$.

Durafloor™ should be laid across the floor joists with a bead of construction adhesive on the contact face of each joist – ie Bostik Seal n Flex FC, Bostick Seal n Flex 1, Sika Sikaflex 11FC or Holdfast 220LM.

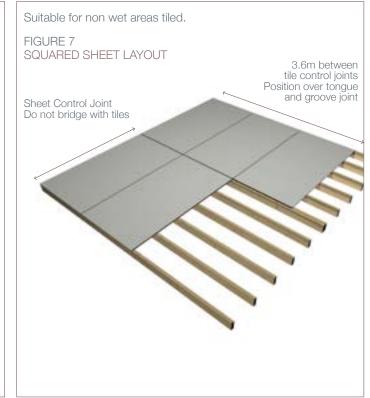
Tiles should be laid with a proprietary tile adhesive conforming to AS 2358 – Adhesives - and installed as per AS 3958.1 – Ceramic Tiles – Part 1 – Guide to the installation of ceramic tiles.

SHEET LAYOUT

Suitable for wet areas with waterproof membrane fitted and tiled, and non wet areas fitted with vinyl or carpet.

FIGURE 6
STAGGERED SHEET LAYOUT

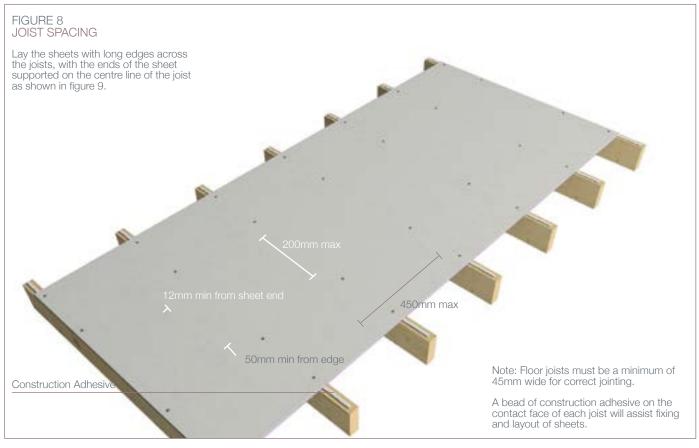
Control joints at 4.5m max in either direction

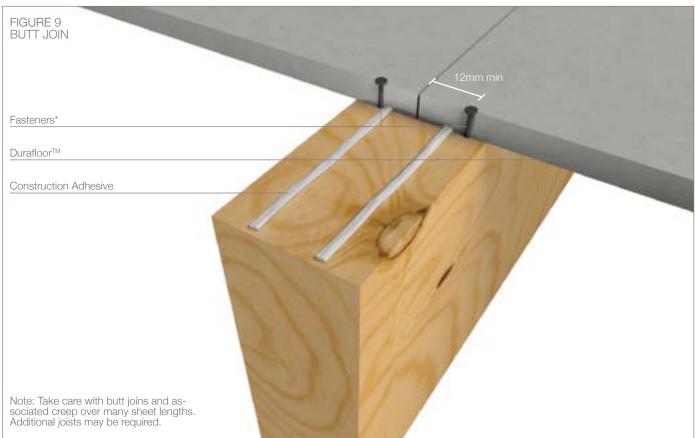






INSTALLATION DETAILS - INTERIOR TILED FLOORS





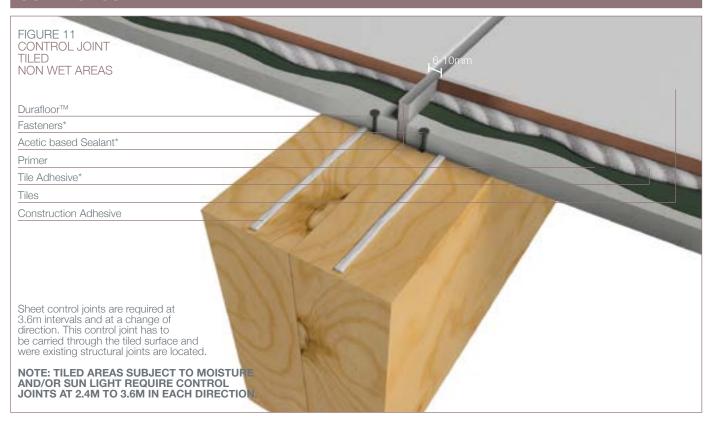




INSTALLATION DETAILS - INTERIOR TILED FLOORS



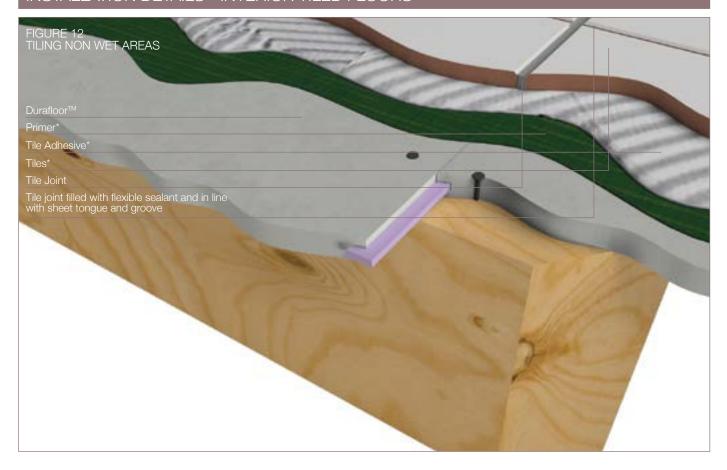
CONTROL JOINT







INSTALLATION DETAILS - INTERIOR TILED FLOORS



DIRECT STICK TILES TO DURAFLOOR™

Tiles may be adhered directly to Durafloor $^{\text{TM}}$ up to a maximum run of 4.5 along the length and 4.5m along the width or where existing structural joints are located

It is recommended Durafloor™ be primed/sealed prior to membranes and adhesives being applied. Tiling to be installed as per the Good Tiling Practice Guide by BRANZ.





EXTERIOR DECKING

Durafloor™ can be used as the substrate for a variety of exterior decking applications such as above ground pool surrounds, verandas and sun decks.

The basic requirements of two systems are covered in this brochure.

WATER RESISTANT

- / Square Sheet layout
- / Suitable for Tiling (control joint required 2400-3600mm in either direction)
- / Not suitable over habitable rooms or living spaces

WATERPROOF

- / Square Sheet Layout
- / Suitable for tiling (control joint required 2400-3600mm in either direction)
- / Applied waterproof membrane
- / Suitable over habitable rooms or living spaces

FRAMING

Timber framing must comply with NZS 3604 – Timber Framed Buildings or for specific design NZS 3603 – Timber Structure Standard.

Metal framing must be designed in accordance with NASH 3405 –An Alternate Solution to Steel Framed Buildings and loads specified for Domestic and Residential Activity from Table 3.1 of AS/NZS 1170.1.

Both steel and timber joists must be suitable for the application and exceed the minimum durability and corrosion requirements.

Responsibility rests with the specifier and controlling party of the project. Suitability of structure and all associated details (as recommended here) for the project is controlled by them. Details contained within this document do not cover all possibilities. It is up to the specifier to develop additional details as required.

GENERAL REQUIREMENTS

All decks shall have a fall minimum 1:40 to an outside edge. The use of sumps in decking is not recommended.

A minimum clearance of 35mm is required between the base of the cladding and the finished height of the deck is required

Ensure compliance the NZBC and all relevant standards.

Sheets are laid with the long edges across the joists. Max joist spacing 450mm centres. In all cases a floor joist must support the sheet ends. The exception being the outer edge of decks where a drip angle is installed.

The gap required for control joints needs to be taken into account when setting out the framing.

LOADING

FRAMING

Durafloor™ satisfies the loading requirements of AS/NZS 1170.1 Table 3.1 Category A Domestic and Residential Activities Concentrated Loads 1.8kn @ UDL of 4KPA.

For higher load applications, BGC Compressed Flooring is recommended. Please contact your local BGC Fibre Cement office for further details.

Timber or hot dipped galvanised steel joists are suitable framing members for Durafloor™.

For all applications the joist face width must be no less than 45mm min

Control joints will require a double joist to facilitate joint width.

It is STRONGLY recommended that joist creep control joint position and double joist positions be considered with sheet layout when setting out.

WATERPROOFING

Waterproofing a deck is dependant on the membrane and application of that membrane.

Ensure an approved membrane is applied by an approved applicator able to warrant and guarantee the membrane and its application.

Ensure compliance with AS 4654.2-2009.

WATER RESISTANT DECKS

Water Resistant decks are generally cantilevered decks where the space beneath in non habitable.

Water resistant decks must be constructed with a 12mm minimum separation from the main building. For further guidance on Water Resistant deck construction refer to NZBC E2/AS1 section 7 Fig 14, 15 and 16.

Water Resistant Decks must be constructed with Timber complying with NZS 3602 durability requirements.

Durafloor™ must be installed as per the installation details contained in this brochure. Durafloor™ should be coated with a primer, prior to the installation of the ceramic tile – an appropriate flexible tile adhesive should be used – please check with the primer/adhesive supplier for installation details. Tiles should be installed as per the Good Tiling Practice Guide –from BRANZ.

WATERPROOF DECKS

Waterproof Decks are required where the space beneath the deck is likely to be used as a habitable space or where the deck is going to be enclosed.

Section 7.1.2 Figure 17A of NZBC E2/AS1 provides guidance on enclosed deck construction.

To achieve a waterproof deck Durafloor™ must have a suitable waterproof membrane correctly installed.

Waterproof membranes must be installed as per the manufacturer's instructions.

Only use flexible tile adhesives or bedding compounds.

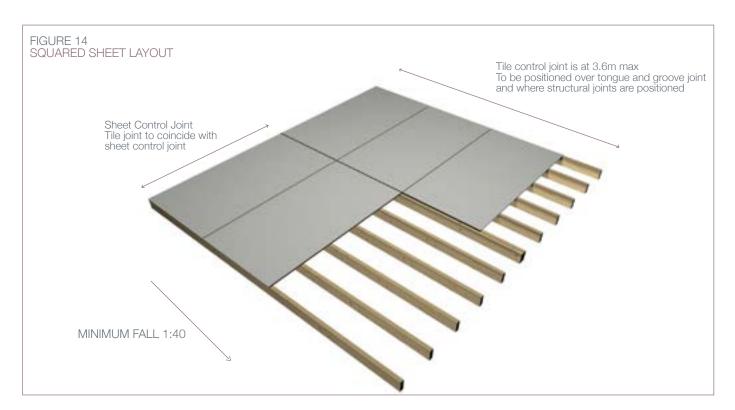
For guidance with waterproof decks, please refer to NZBC E2/ AS1 Section 8.5.





SHEET LAYOUT - EXTERIOR DECKING

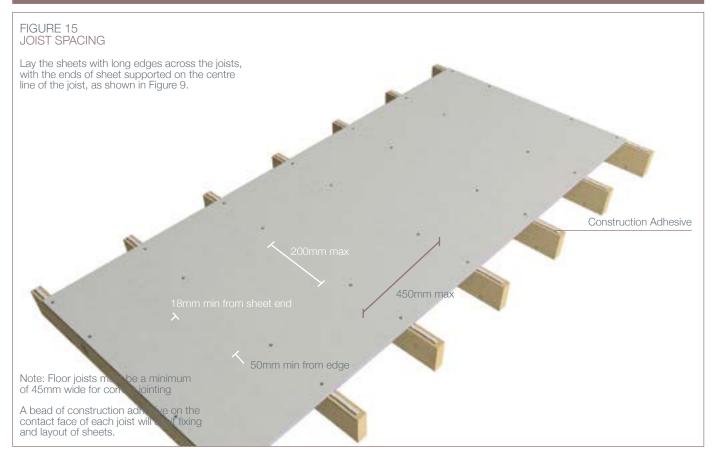
TYPE	SHEET LAYOUT	MEMBRANE	
Water Resistant	Squared	Required when tile finish used AS/NZ 4654.2 2009	
Waterproof	Squared	Applied liquid membrane to AS/NZ Standard 4654.2 2009	

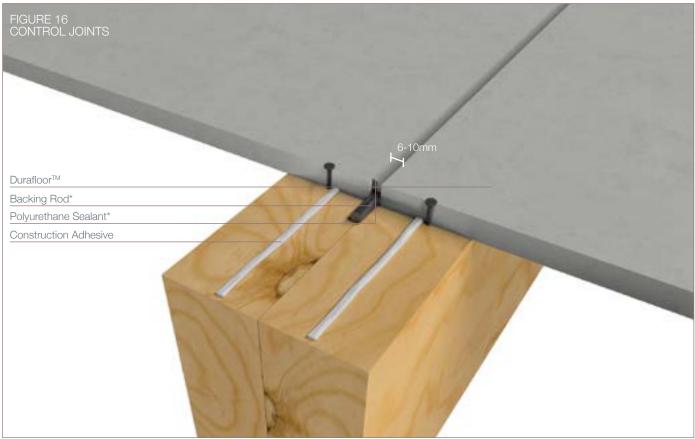






FIXING - EXTERIOR DECKING

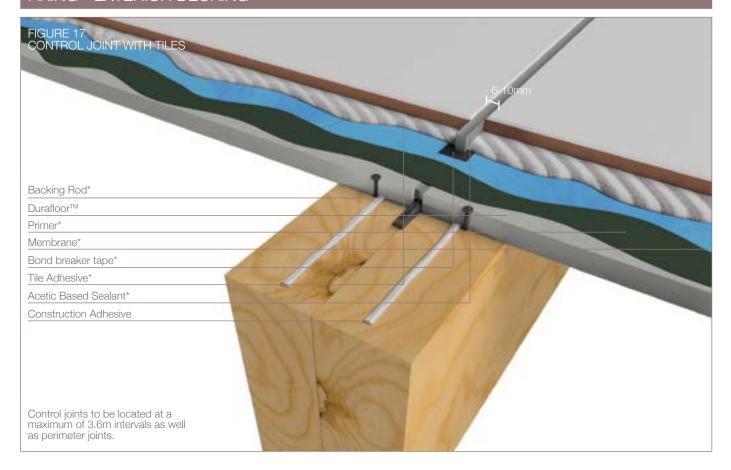








FIXING - EXTERIOR DECKING



SEALING

After fixing, the screw holes should be sealed using a polyure-thane sealant to prevent ingress of water into the framing.

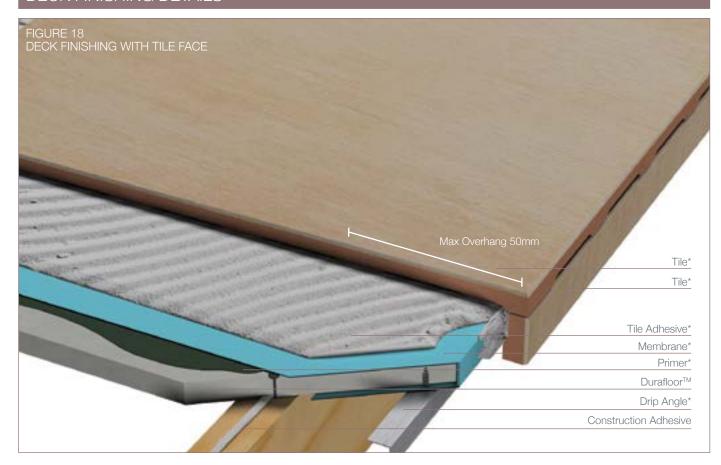
FASTENERS

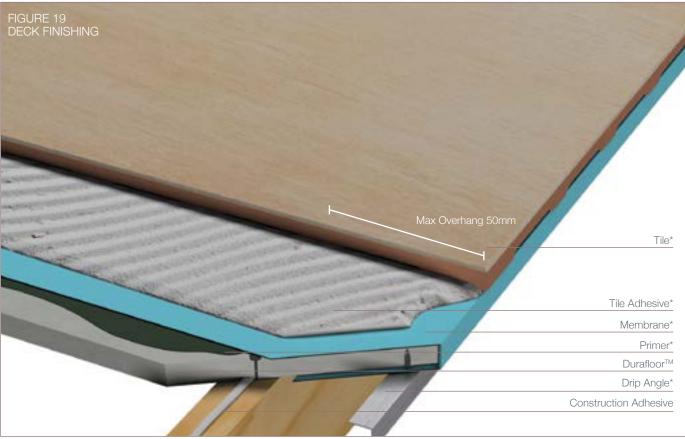
Durafloor™ can be fixed to either timber or lightweight steel framing. All fasteners to be a minimum Class 3 Corrosion Resistant - refer to page 6 for fastener type and sizes.





DECK FINISHING DETAILS

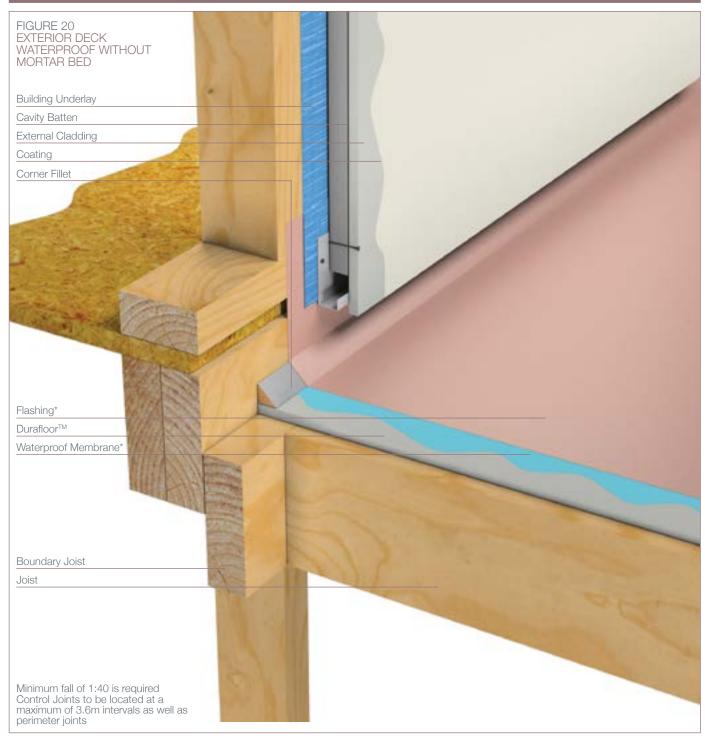








EXTERIOR DECK - WATER RESISTANT



SHEET PREPARATION

- / Primer applied to $\mathsf{Durafloor}^\mathsf{TM}$ ensure it is compatible with the waterproof membrane
- / Waterproof Membrane
- / Tile Adhesive

/ Tiles

Refer to membrane and tile adhesive manufacturers from installation instructions.





EXTERIOR DECKS - FINISHES

Tiles - Consult

/ AS 3958.1 Part 2 – Guide to Installation of Ceramic Tiles / AS 2358 – Adhesives for Fixing Ceramic Tiles

OTHER FINISHES - Consult manufacturer for their recommendation and ensure installation complies with the recommendation provided.

MEMBRANES

RECOMMENDED WATERPROOF MEMBRAMES AND **TILE ADHESIVES**

- Superflex Ardex liquid Membranes Ardex NZ Ltd
- Mapelastic and Mapelastic Smart Mapei NZ Ltd
- Flexiseal Flexco (NZ) Ltd
- ASA Waterproofing Membrane Dampfix 2 Bostik
- / Or any BRANZ Appraised Waterproof membrane suitable for Decking.

To achieve a waterproof deck Durafloor™ must have a suitable waterproof membrane correctly installed.

Waterproof membranes must be installed as per the manufacturer's instructions.

MAINTENANCE

Maintain the finished surface, keeping the surface clean and free of build up or residue.

Repair and maintain joints, junctions, tiles and grout that are damaged or deteriorated.

Ensure membranes are not prejudiced in any way as damage to these may result in diminished performance and leakage.

WARRANTY

BGC Fibre Cement (NZ) warrants its products to be free from defects caused by defective materials or workmanship (manufacturer) for a period of 15 years from the date of purchase, subject to the conditions set out below. Further, BGC Fibre Cement (NZ) warrants its products to be resistant from rotting, fire and cracking so long as the installation is carried out in accordance with BGC Fibre Cement literature available at the time of purchase.

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

iii) BGC Fibre Cement (NZ) is not liable for any breach of warranty unless the claimant provides proof of purchase and a claim is submitted in writing within 30 days of the defect becoming evident. If the defect is detected prior to installation, the claim must be submitted before installation occurs. iv) If BGC Fibre Cement (NZ) products are found to be defective, BGC Fibre Cement will at its option, repair or replace the product, supply equivalent replacement products or reimburse the purchase price of the product.

v) BGC Fibre Cement (NZ) shall not be liable for any damage

or losses (direct or indirect) including property damage or personal injury, economic loss or loss of profits, consequential loss arising in contract or negligence or howsoever arising. BGC Fibre Cement (NZ) shall not be liable for any claims, damages or defects arising from or attributed to poor workmanship, poor design or detailing, 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 floods, 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 products

surface (exposed or unexposed). vi)The project must be designed and constructed in accordance with all relevant requirements of the current New Zealand Building Code regulations and standards.

vii) If satisfying a claim under this warranty which involves recoating or painting of BGC 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.

viii) All warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extend allowed by the law.







NOTES



NOTES





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Fibre Cement



BGC HAS STATE OF THE ART
MANUFACTURING FACILITIES
IN PERTH, WA AND DISTRIBUTION
CENTRES IN ALL STATES OF
AUSTRALIA AND IN NEW ZEALAND.

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:

DURASHEET™ / Fibre cement sheet for exterior applications.

DURATEX™ / Fibre cement sheets for applied finish systems. DURABACKER™ / Fibre cement sheet for high build plaster coatings.

DURABARRIER / A rigid sheathing/air barrier for all types of timber framed construction.

DURAPLANK™ / Woodgrain and smooth fibre cement plank for exterior applications.

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

DURAGROOVE™ / A vertically grooved cladding.

DURASCAPE™ / A base sheet with a 5mm shiplap join.

DURALINER™ / Interior lining suitable as a substrate for tiles and is ideal for wet areas.

NULINE™ PLUS / Weatherboard cladding system.

STONESHEET™ / Fibre cement stone slip substrate.