

TECHNICAL & INSTALLATION SHEET

AUGUST 2014

PRODUCT



WEIGHT

At either approx. 40kg (19mm) or 33kg (16mm) **INEX>FLOOR** is lighter weight and easy to handle on site.

STORAGE

INEX>FLOOR should be stored dry, flat and with all edges protected from damage. We recommend storage undercover and raised from the ground.

HANDLING

Wear protective gloves when handling or cutting sheets.

SUPPORT



*When using **INEX>FLOOR** as a substrate for floor tiling, if the tile size is greater than 300mm in any direction, floor joist spacing should be no greater than 450mm centres with an approved tile adhesive for both interior and exterior applications.

FRAMING

INEX>FLOOR is able to be fixed to timber or steel joists at a **maximum of 600mm centres***, (see loading section overleaf).

Timber framing must be in accordance with AS 1684 – ‘Residential timber-framed construction’.

Steel framing must be in accordance with AS 3623 – ‘Domestic metal framing’.

Ends or edges without the tongue and groove (butt ends) must be supported by a joist.

Ensure framing is level prior to fitting.

FIXING



NOTE:

Even if you do not require a waterproof deck, it is recommended that the deck be made as water-resistant as possible (ie that water penetrations be minimised) as it can lead to damage to the frame such as timber dry rot.

For details relating to waterproof membranes for decks above habitable areas refer to UBIQ's Technical Department**

ASSEMBLY

INEX>FLOOR can be fitted to a square or staggered layout, but must be staggered for tiled or vinyl finishes. Where waterproofing is required ensure butt joints are over timber/metal joists and have a 2mm gap and are filled with a **INEX>BOND**.

FIXINGS:

Ensure all fixings are located:

- 20mm min. from all tongue and grooves 12mm min. from all butt joints
- 50mm min. from all corners
- Max. 300mm centres along joists or 300mm centres if glue is used.

Ensure framing and **INEX>FLOOR** boards are clean and dry prior to fitting.

FIXINGS – TIMBER JOISTS – Class 3 Fixings (or higher) Required

Screws: 10g x 50mm self embedding countersunk head screws.

- It is desirable to run a 6mm bead of **INEX>BOND** on top of the timber or steel joists below each sheet progressively as they are fixed in place.

FIXINGS – STEEL JOISTS – Class 3 Fixings (or higher) Required

Screws: 10g x 40mm self-drilling, self-embedding, stainless steel countersunk screws.

APPLICATION



FINISHES

CLEAR: For specifiers wishing to retain **INEX>FLOOR**'s raw concrete like appearance we recommend a proprietary water based low VOC polyurethane sealant system.

TILES: Install **INEX>FLOOR** rough side up.

CARPET, VINYL or TIMBER: Install **INEX>FLOOR** with the smooth side up.

WET AREAS: For wet areas such as showers a waterproof membrane is required in accordance with the Building Code of Australia.

GENERAL: Ensure all components and adhesives are compatible with each other.

FRAMING / ASSEMBLY / FIXING

INEX>FLOOR must be fixed to either timber or light gauge steel framing at a maximum of 600mm centres.* Timber joists must have a minimum width of 45mm to allow for suitable jointing and support of the flooring sheets.

INEX>FLOOR is ideally suited as a **PLATFORM FLOOR SYSTEM** providing a working floor for wall frame and roof frame erection during construction with cost and time saving benefits. Alternatively the **INEX>FLOOR** can be fitted after the wall frames have been erected allowing a 2mm gap between the **INEX>FLOOR** and the bottom wall plate.

It is recommended that the **INEX>FLOOR** sheets be installed with the long edge across the joists. When the long edge of the sheets are laid parallel to the joists, trimmers must be added to fully support all edges and joints. The joist framing must continuously support both the long and short sheet edges fully on the joists which includes expansion and control joints.

INEX>FLOOR can be fitted to a square (brick-stack bond) pattern or staggered (brick-stretcher bond) pattern, but must be staggered for tiled, carpeted or vinyl finishes.

*When using **INEX>FLOOR** as a substrate for floor tiling, if the tile size is greater than 300mm in any direction, floor joist spacing should be no greater than 450mm centres with an approved tile adhesive for both interior and exterior applications.

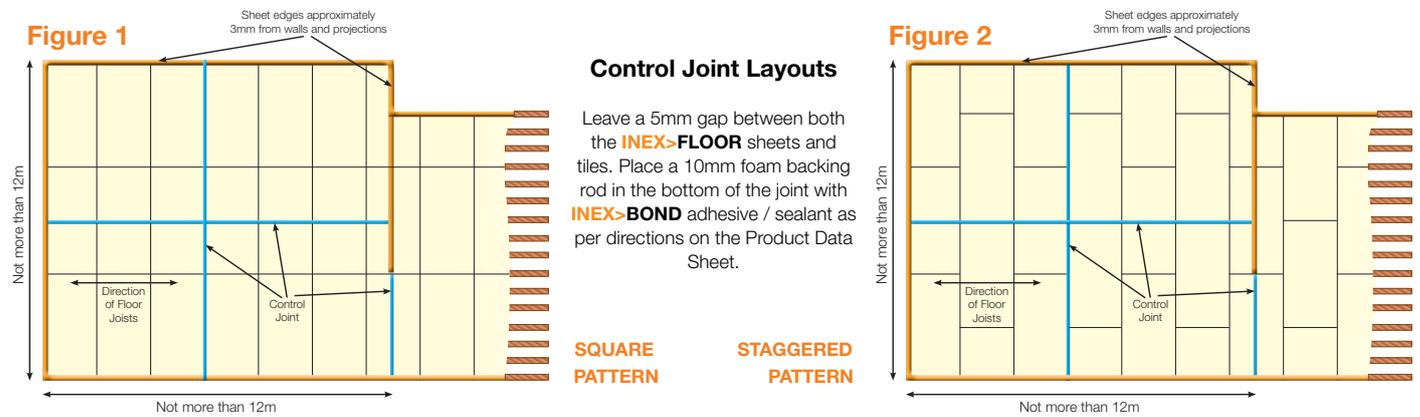
CONTROL JOINTS

For tiled or painted / coated **INEX>FLOOR** in wet and dry areas only

Movement control joints in the floor sheets and tiles are to be provided where the floor dimensions exceed 6m in the long sheet direction, at changes of direction in the floor and at openings such as doorways or where existing structural joints are located.

Control joints should be installed symmetrically about the centre of the floor (Figures 1 & 2) and be approximately 5mm in width. The tiles must not overlay the control joints.

NOTE: No control joints are required in the flooring sheets when covered with vinyl and carpet unless there is a structural joint in place or otherwise specified by code and regulation. For external decks a lesser control joint spacing may be required depending on the deck's function and finishing system.



For a ceramic tiled finish **INEX>FLOOR** sheets must be installed with the 'rough side' up. For carpet, vinyl or timber, sheets must be installed with the 'smooth' side up. For a polished concrete look install smooth side up, finished with an approved clear coating.

NOTE: Avoid excessive foot traffic on the floor for at least 24 hours to allow sealant to cure. Cool and low humidity weather conditions may increase this period to 48-72 hours. Protect the surface of the sheets from damage until final finish is applied.

INSTALLATION

Step 1

It's good practice to always apply a 6mm diameter bead of **INEX>BOND** to the joists.

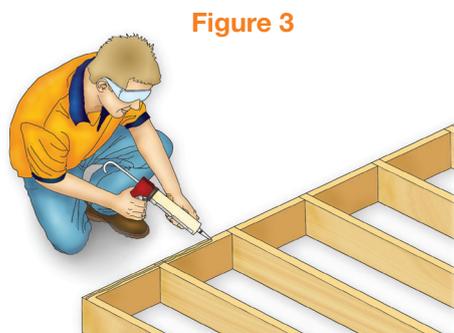


Figure 3

When fixing **INEX>FLOOR** to the joists it's good practice to apply a 6mm diameter bead of **INEX>BOND** to bond **INEX>FLOOR** to the frame even when mechanical fixings are used. This will fill any gaps arising from acceptable construction tolerances and minimise the possibility of a 'squeaky' floor developing as the floor ages.

Step 2

Install the first **INEX>FLOOR** sheet as per the layout plan similar to Figures 1 or 2.



Figure 4

Note: Do not install the last row of fasteners adjacent to the tongue & groove joint until after the joint is completed.

Step 3

Use the tongue & groove joint to install the second sheet.

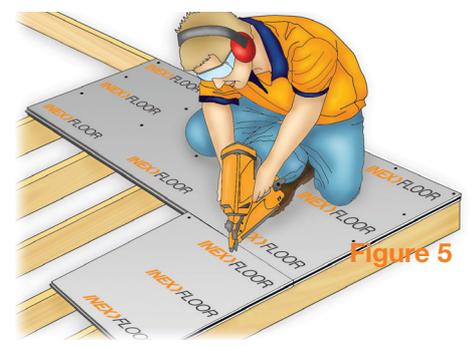


Figure 5

Step 4

Install the 1st row of fasteners in the second sheet before installing the final row of fasteners in the first sheet.

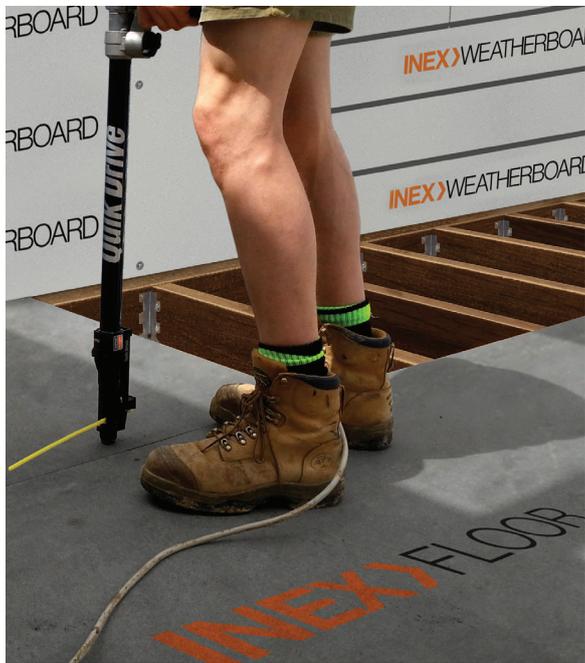


Figure 5a Alternative method of screwing **INEX>FLOOR** to steel or timber joists using freestanding screwing system

Step 5

Before assembling the tongue and groove joints ensure that a 2mm to 3mm diameter bead of **INEX>BOND** is in place, along the full joint length at bottom of groove.

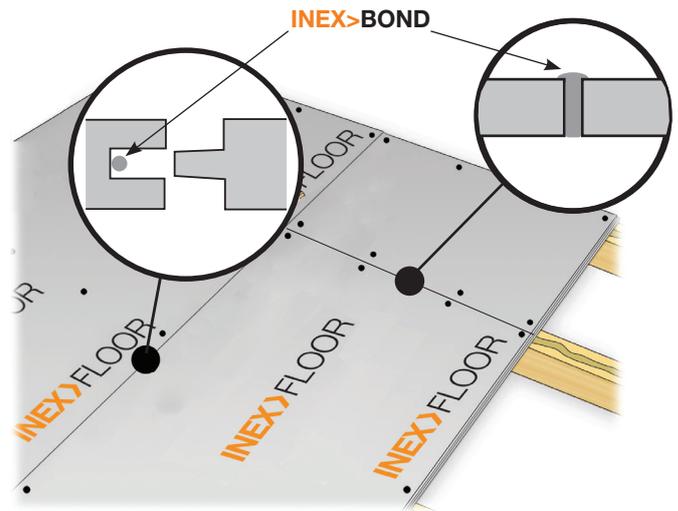


Figure 6

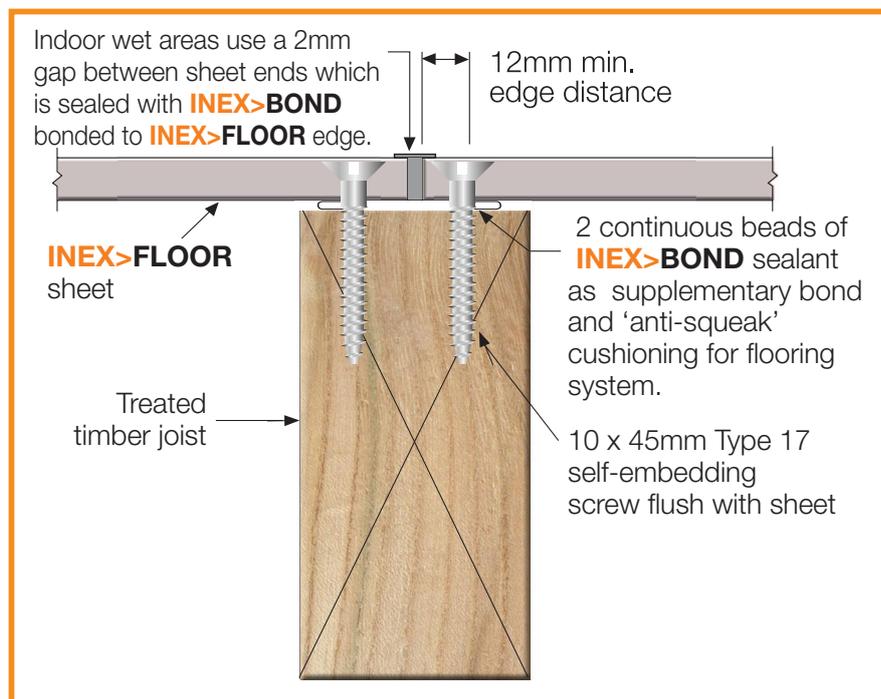
Note: Even if you do not require a waterproof deck, it is recommended that the deck be made as water resistant as possible (ie that water penetrations be minimised) as it can lead to damage to the frame such as timber dry rot. For details relating to waterproof membranes for decks above habitable areas refer to UBIQ's Technical Department.

Similarly where waterproofing is required ensure before assembling the tongue and groove joints between the long sides of **INEX>FLOOR** sheets that the groove (of the tongue and groove joint) has a 2.5mm to 3mm diameter bead of **INEX>BOND** extruded along the bottom of the groove. Use *un-cut* **INEX>BOND** nozzles to automatically get the desired bead diameter.

Use a spatula to remove any excess **INEX>BOND** squeezed out of these tongue and groove joints after they are assembled and before the **INEX>BOND** forms a skin.

BUTT AND CONTROL JOINTS FOR INEX>FLOOR IN INTERNAL WET AREAS AND OUTDOOR WATERPROOF DECKS

Figure 7



INSTALLATION EQUIPMENT

UBIQ recommends the following equipment and accessories for the installation of **INEX>FLOOR**:

- GENERAL:** **INEX>FLOOR** can be machined and worked in same way as comparable flooring sheets.
- CUTTING:** **INEX>FLOOR** should be cut using a mechanical dust reducing circular saw with a diamond edge blade. Similar to that used to cut softer brick or stone or a specific cutting blade for fibre cement sheets. See also Health & Safety section below.
- SCREW FIXING:** Use a cordless drill or Muro Ultra-Driver.
- ADHESIVE:** When fixing **INEX>FLOOR** to the joists it is good practice to apply a 6mm diameter bead of **INEX>BOND** to bond **INEX>FLOOR** to the frame. even when mechanical fixings are used. This will fill any gaps arising from acceptable construction tolerances and minimise the possibility of a 'squeaky' floor developing as the floor ages. In light foot traffic areas **INEX>BOND** alone may be used to fix **INEX>FLOOR** to the sub-frame.
- DUST LIMITATION:** Always limit dust with a vacuum dust extraction system with a suitable filter.
- BACKING ROD:** Where control or expansion joints are needed in any **INEX>FLOOR** application use a closed cell PE foam backing rod of 5–6mm diameter to control the design depth of **INEX>BOND** adhesive/sealant used to seal the joint. For more details refer to the **INEX>BOND** product data sheet.

Important Notes:

Ensure all components are compatible with each other and suitable for **INEX>FLOOR** and/or the intended surface finish. Failure to install, finish or maintain this product in accordance with relevant building codes, regulations, standards and UBIQ's current published instructions may lead to personal injury, affect system performance, violate local building codes, and possibly void the product warranty.

MATERIAL PROPERTIES

- INEX>FLOOR** an advanced high strength, low carbon fibre reinforced Engineered Cementitious Composite (ECC) product, containing 40% of post industrial recycled materials.
- INEX>FLOOR** conforms to the requirements of AS/NZS 2908.2 2000 'Cellulose-cement products Part 2: Flat sheets', other than the optional 'Warm Water' test item 6.4. In this test, **INEX>FLOOR** performs to a mean MPa of >10.
- INEX>FLOOR** conforms to AS 2964 2004 as containing no asbestos. It is toxin free and is 100% recyclable.
- INEX>FLOOR** is deemed non-combustible when tested in accordance AS/NZS 1530.1 and is therefore a non-combustible material suitable for **Bushfire BAL-40** under AS3959-2009. Approved **BAL-FZ** floor systems are available on request.
- INEX>FLOOR** when tested in accordance AS/NZS 1520.3 displayed no; Ignitability, Spread of Flame, Heat Evolved or Smoke Developed.
- INEX>FLOOR** when tested in accordance AS/NZS 3837-1998 for heat and smoke release rates is classified **Group 1 for Specification A2.4 of the BCA**.
- INEX>FLOOR** when tested in accordance with AS/NZS 2908.2 2000 item 6.6 "Soak Dry", **INEX>FLOOR** performs to a mean MPa of >20; test undertaken in accordance with clause 8.2.5 of AS/NZS 2908.2:2000. This represents a test pass at over 80% of the dry strength retained after 25 soak-dry cycles.
- INEX>FLOOR** is not susceptible to Termite Attack.
- Refer also to **INEX>FLOOR** Safety Data Sheet (**INEX>FLOOR** SDS) available at www.ubiq.com.au.

STRENGTH SPAN & LOADING PROPERTIES

- INEX>FLOOR** has a mean bending strength of >22MPa for Type B (equilibrium) and >20MPa for Type A (wet) and therefore **INEX>FLOOR** is suitable for Categories A or B Class 5 conditions. Tests undertaken in accordance with clause 8.2.1 of AS/NZS 2908.2: 2000 'Cellulose-cement products Part 2: Flat sheets'.
- INEX>FLOOR** has a mean modulus of elasticity of >10GPa for Type B (equilibrium) and >7MPa for Type A (wet) conditions. Tests undertaken in accordance with section 9 of AS1774.31.1:2000 'Refractories and refractory materials – Physical test methods; Modulus of Elasticity – Flexural method'.
- INEX>FLOOR 16mm is able to span 600mm at residential loading requirements of 2.0kPa UDL and 1.8kN point load.***
- INEX>FLOOR 16mm is able to span 450mm at commercial loading requirements of 4.0kPa UDL and 2.7kN point load.**
- INEX>FLOOR 19mm is able to span 600mm at commercial loading requirements of 4.0kPa UDL and 2.7kN point load.***

The above span to load criteria are based upon the minimum UDL (kPa) and Concentrated Actions (kN) requirements of Table 3.1 of AS/NZS 1170.1:2002, which **INEX>FLOOR** meets and/or exceeds. For further span/loading information please contact UBIQ directly.

UDL – Uniformly Distributed Load

*When using **INEX>FLOOR** as a substrate for floor tiling, if the tile size is greater than 300mm in any direction, floor joist spacing should be no greater than 450mm centres with an approved tile adhesive for both interior and exterior applications.

HEALTH & SAFETY

UBIQ advises that **INEX>FLOOR** contains fiberglass reinforcing and causes fine dust when cutting or machining. Continuous or excessive inhalation of fine dust containing fiberglass particles can cause irritation and may cause lung scarring (silicosis) or cancer, or exposure to such dust may cause irritation to the skin or other body surfaces.

When cutting **INEX>FLOOR** use methods recommended in this brochure to minimise dust production, and in addition:

LOCATION: Do not cut **INEX>FLOOR** indoors. Cut in a well ventilated outdoor location.

CLOTHING, MASK & GOGGLES: Always wear protective clothing and properly fitted and approved mask (respirator) and eye protective goggles.

DUST LIMITATION: Always use a mechanical circular saw equipped with a fitted dust extraction system. When cutting is finished always vacuum up residual dust. Maintain the work area as a dust free environment.