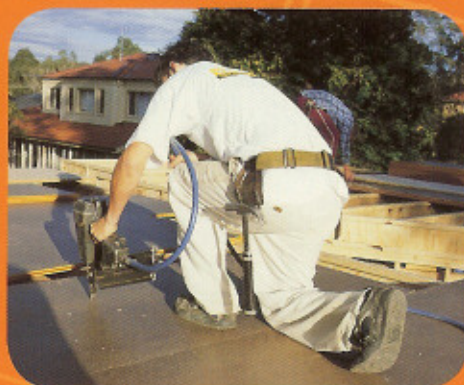




CHH woodlogic®

StructaFlor® & TermiFlor®



Installation Manual



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Introduction and Applications

StructaFlor® & TermiFlor® are structural grade particleboard sheet flooring, manufactured in Australia to comply with the requirements for Particleboard Flooring, Class 1, in Australian Standard, AS/NZS 1860.1:2002, Particleboard Flooring.

Designed to provide a total flooring concept, StructaFlor & TermiFlor are particularly suited to platform construction where the floor is laid prior to the erection of walls. It is made from precision milled wood flakes and bonded with moisture resistant synthetic resin. For additional protection during construction and exposure to weather, the upper surface is resin enriched and all edges are wax sealed.

StructaFlor & TermiFlor are sanded on the underside for thickness control and accurate edge profiling. Factory grooved long edges are fitted one side with a distinctive, colour-coded rigid PP tongue to ensure a neat, tight fit for adjoining panels. The tongue and grooved sheets are supplied in easy-to-handle 600mm or 900mm widths. Large 3600mm x 1800mm sheets of square edge StructaFlor are also available.

woodlogic's comprehensive product range allows the selection of flooring to meet specific needs. The products provide total compatibility and cover large areas fast.

The following information provides a guide to the applications, properties and features of the full product range. It also details the appropriate installation systems.

The product range comprises StructaFlor Yellow Tongue®, Red Tongue™ and Blue Tongue™ Heavy Duty, TermiFlor a termite protected product in all tongue colours.

StructaFlor Yellow Tongue

An interior all-purpose flooring for use in domestic and some residential buildings and designed for both platform and fitted flooring construction methods.



StructaFlor Yellow Tongue will support live loads as required for houses generally in Australian Standard AS/NZS1170.1:2002, Structural design actions - General principles. StructaFlor Yellow Tongue is 19mm thick. The maximum joist centres for 19mm Yellow Tongue is 450mm.

StructaFlor Red Tongue

StructaFlor Red Tongue is 22mm thick. The maximum joist centres for 22mm Red Tongue is 600mm.

StructaFlor Blue Tongue Heavy Duty

A 25mm thick particleboard flooring specifically for residential, commercial, industrial and institutional buildings. Subject to span and deflection limits, StructaFlor may be used over various floor joist spacings to support a wide range of concentrated and uniformly distributed loads.

Floor loads will depend on the nature of occupancy and floor use. Refer AS/NZS1170.1:2002. When used over floor joists at 450mm maximum centres, 25mm thick Blue Tongue will support live loads in excess of 10kPa uniformly distributed and 4.0kN concentrated. In some circumstances, alternative fixing methods to those in this publication may be necessary.

TermiFlor

A termiticide protected sheet flooring that provides added protection against termite attack. It should be used in conjunction with the normal precautions against termite attack which include adequate sub-floor ventilation and the provision of physical or chemical barriers to AS3660.1:2000 Termite management - New building work.

Safe Load Tables

Limited by Deflection Limited by Bending Strength

$k_1=1.65$ $j_2=1$

Particleboard Thickness mm	Span mm						
	300	350	400	450	500	600	700
19	3.3	2.7	2.6	2.5	2.1	1.4	1.1
22	4.8	4.1	3.5	3.3	3.2	2.1	1.8
25	6.7	5.7	5.0	4.3	4.2	3.1	2.6

Allowable Concentrated Live Load - kN
Max Deflection - Span/200 or 3mm whichever is greater

$k_1=1$ $j_2=2$

Particleboard Thickness mm	Span mm						
	300	350	400	450	500	600	700
19	18.2	13.4	10.2	8.1	6.5	4.5	3.1
22	24.4	17.9	13.7	10.8	8.8	6.1	4.5
25	31.5	23.1	17.7	14.0	11.3	7.9	5.8

Allowable Long Term Uniformly Distributed Load - kPa
Max Deflection - Span/200 or 3mm whichever is greater

$k_1=1.65$ $j_2=1$

Particleboard Thickness mm	Span mm						
	300	350	400	450	500	600	700
19	3.3	2.7	2.6	2.1	1.5	0.9	0.8
22	4.8	4.1	3.5	3.2	2.6	1.5	1.2
25	6.7	5.7	5.0	4.4	4.0	2.4	1.8

Allowable Concentrated Live Load - kN
Max Deflection - Span/300 or 2mm whichever is greater

$k_1=1$ $j_2=2$

Particleboard Thickness mm	Span mm						
	300	350	400	450	500	600	700
19	18.2	13.4	10.2	8.1	6.5	3.5	2.0
22	24.4	17.9	13.7	10.8	8.8	5.5	3.2
25	31.5	23.1	17.7	14.0	11.3	7.9	4.6

Allowable Long Term Uniformly Distributed Load - kPa
Max Deflection - Span/300 or 2mm whichever is greater

The product is not recommended for use with under-carpet heating.

Product Details

Thickness: 19mm, 22mm and 25mm nominal.

Surface Qualities: Upper surface is unsanded to retain a resin film, retard moisture and provide a working surface during installation. Sanded on "down" or underside for thickness control and precise edge profiling.

Wax Edge Sealant: Factory applied to all edges of tongue and grooved sheets to minimise moisture ingress.

YELLOW sealant for StructaFlor General Purpose Yellow Tongue, Red Tongue and Blue Tongue Heavy Duty.

RED sealant for TermiFlor Yellow Tongue, Red Tongue and Blue Tongue Heavy Duty

Edge Profiles: Square cut all edges, or tongue and grooved long edges with square cut ends.

Tongue System: Factory fitted, rigid PP tongues ensure a tight fit and precise alignment of unsupported edges.

Identification: Stamps on the underside of boards indicate required joist spacings.

Table 1: Dimensions and packaging

Thickness	Edge Type	Length +/- 2mm	Width +/- 2mm	Sheets per pack	Contents m ²	Approx Mass per pack kg
19mm	Yellow Tongue	3600	900	30	97.2	1350
	Yellow Tongue	3600	600	30	64.8	900
22mm	Red Tongue	3600	900	30	97.2	1500
	Red Tongue	3600	600	30	64.8	1000
19mm	Square	3600	1800	15	97.2	1350
22mm		3600	1800	15	97.2	1500
25mm	Blue Tongue	3600	600	25	54.0	1134

Properties

Table 2: Physical Properties

Property	Unit	Typical Value			AS/NZS 1860.1 Property limited where applicable
		19mm	22mm	25mm	
Density	kg/m ³	700	710	710	-
Mass Unit Area	kg/m ²	13.2	14.8	17.5	-
Modulus of Rupture	MPa	21	21	22	minimum 19
Modulus of Elasticity	MPa	3000	3000	3000	2750
Internal Bond Strength	MPa	0.7	0.7	0.75	minimum 0.55



YELLOW TONGUE

Signifies 19mm StructaFlor Yellow Tongue



RED TONGUE

Signifies 22mm StructaFlor Red Tongue



BLUE TONGUE

Signifies 25mm StructaFlor Blue Tongue Heavy Duty

Table 3: Glue Bond and Moisture Related Properties

Property	Unit	Typical Value	AS/NZS1860.1
Surface Water Absorption	g/m ²	60	maximum 150
Thickness stability	%	11	maximum 14
Glue bond quality	MPa	10	minimum 8.6
Glue bond durability	%	5.0	minimum 4.2
Moisture content (ex mill)	%	8 – 12	minimum 6
Linear hygro-expansivity (for each 1% change in moisture content)	%	0.035	-

Mechanical Properties

Basic working stresses and stiffness values for StructaFlor & TermiFlor are given in Table 4. They were derived from the characterisation of test results at the Timber and Wood Products Research Centre, C.I.A.E., Rockhampton, Queensland, together with Carter Holt Harvey manufacturing data and international research information on particleboard testing.

The information is applicable to StructaFlor in internal fitted floor applications. Internal conditions are such that StructaFlor is not subjected to prolonged wetting or high levels of relative humidity. The equilibrium moisture content of the board should be maintained below 13%.

Design data is available from the AWP website, www.woodpanels.org.au

Table 4: Basic Working Stresses and Stiffness

Basic working stress	Value MPa
Bending F _b	3.4
Tension F _t	1.2
Compression F _c	2.4
Interlaminar shear F _v	0.25
Elastic moduli (short duration)	
Modulus of elasticity E	3000
Modulus of rigidity G	1360

Early Fire Hazard Properties

StructaFlor 19mm was tested to ISO 9239, Reaction to Fire Tests for Floorings, Part 1: Determination of burning behaviour using a radiant heat source, 2003 by the CSIRO Division of Manufacturing and Infrastructure Technology.

Mean distance of flame travel	417mm
Average Critical Radiant Flux	5.4 kW/m ²
Average Smoke Obscuration	101%min

Typical oberon manufactured product values.

Thermal Insulation

The thermal conductivity of StructaFlor is 0.12 W/mK. Thermal resistance "R" values, for the nominated thicknesses are:

Thickness (mm)	19	22	25
Thermal resistance m ² K/W	0.16	0.18	0.21

As StructaFlor is a relatively light-weight wood product, it is a useful thermal insulator. It has a low thermal capacity (specific heat is approximately 2.1 kJ/kg.K) and, like natural timber, gives a feeling of warmth and comfort.

Resistance To Termite Penetration

TermiFlor particleboard flooring contains a termiticide which was developed with the assistance of the CSIRO and is regularly tested by an independent, accredited third party laboratory.

TermiFlor is council approved by the Qld Timber Utilization and Marketing Act and the NSW Timber Marketing Act and is compliant with AS3660.1-2000. As per-AS/NZS 1604.2:2002, an approved preservative treatment is retained within TermiFlor equivalent to hazard level H2. This preservative is resistant to both the subterranean termite (including *mastoterms darwiniensis*) and the timber beetle.

Comparative resistance tests involving exposure to subterranean termites proved that under test conditions, TermiFlor sustained minor mass losses (less than 5%) in comparison to untreated control specimens.

The preservation treatment has been approved by the Forestry Commission of NSW; the Queensland Department of Primary Industries. The registered brand number is 135 70 H2.

Storage

StructaFlor is designed to withstand full weather exposure for up to 3 months. Because of this there is a tendency to leave packs unprotected on site before installation. Packs of StructaFlor must be protected from the weather until it is installed as moisture penetration of the product before installation may lead to gaps occurring at the flooring joints when the product dries out.

When storing outside, ensure packs are kept clear of the ground. Cover with waterproof sheeting laid on timber battens so that air circulates freely between the waterproof cover and the product.

Adhesive Requirements

Adhesive Application

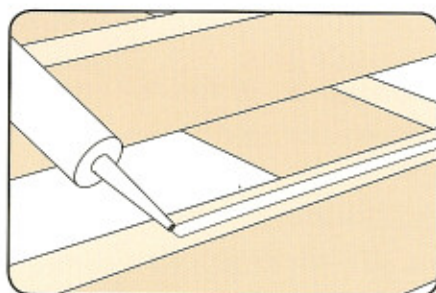
Construction grade adhesive should be used with nail or screw fixings. Apply the adhesive as follows:

Load cartridge into sealant or caulking gun. Cut spout and puncture the inner seal.

Clean any dirt, grease or water from surfaces to be bonded.

Exude a continuous, 5mm diameter bead of adhesive to each joist to be covered by flooring. Apply two beads to joists where sheets butt together. Adhesive fixing provides a stiffer floor. An extra bead applied along the tongue before sheets are pressed together will ensure a squeak free floor system. Any excess glue squeezed out should be cleaned off.

Position sheets within approximately ten minutes of applying the adhesive. Do not allow the adhesive to skin over before applying sheets.



Nail or screw sheets within 15 minutes of positioning sheet.

Remove excess adhesive from sheet surface before it dries. Use a scraper and rag dampened with mineral turps.

To seal cut edges of the sheets, apply a bead of adhesive to the edge. Butt the edge firmly up to the adjoining sheet and remove excess adhesive. The use of construction grade adhesive in conjunction with nails or screws is mandatory.

Alternatively, the adhesive may be spread over the cut edge with a spatula.

Australian Standards

a) General. StructaFlor & TermiFlor should be installed in accordance with government building regulations and Australian Standard 1860-1998, Installation of Particleboard Flooring.

Construction Requirements

It may be used over conventional timber frames in single-storey or two-storey construction in accordance with Australian Standard 1684-1999, Residential Timber Frame Construction. In domestic, commercial or other applications involving increased floor loads, reference should be made to Australian Standard 1170, Part 1 - 2002 Structural design actions - General Principles. The supporting frame should comply with Australian Standard 1720.1-1997 SAA Timber Structures Code and/or be certified by a professional engineer, as may be required by the building authority.

b) Wet Area Rooms. StructaFlor & TermiFlor are accepted by building authorities for use beneath impervious floor surfaces in wet area rooms such as bathrooms, laundries and toilets. The waterproofing of the floor surface should comply with AS3740-2004, Waterproofing of Wet Areas within Residential Buildings.

Carter Holt Harvey recommend that wet area rooms (bathrooms, laundries and toilets) be entirely waterproofed.

Framing

StructaFlor & TermiFlor may be used over timber or metal floor framing systems. For best results with timber frames, deep floor joists (150mm or more) such as those used in upper story construction, should be seasoned and gauged.

Securely fix floor joists to bearers. The top surface of joists must be level to allow StructaFlor sheets to lie flat and level when installed. Kiln dried or stabilized timbers are recommended for use. Green timber (joists and bearers) may lead to distortion of the StructaFlor flooring sheets as well causing protrusion of nail heads after joists and bearers have stabilised in moisture.

Floor joist spacings must not exceed the span capacity of the particular StructaFlor product. Refer "Applications" page 3 or "Product Details" page 4.

Ventilation/vapour Barriers

Ventilators to external and internal subfloor walls should satisfy the requirements of the Building Code of Australia, be evenly spaced and allow a clear cross-flow of air beneath the floor. Particular attention should be given to the ventilation of corners.

Increased levels of ventilation are advised for subfloor spaces which are subjected to occasional dampness.

StructaFlor and subfloor framing members should not be subjected to prolonged dampness. The moisture content of StructaFlor should be maintained below 13% moisture content.

To assist drainage and ventilation, the ground should be graded to fall and weep holes provided in the external walls. In some circumstances 0.2mm (minimum) plastic sheet covers may be used on the ground to retard the rise of moisture vapour.

The underside of StructaFlor facing the ground must not be coated with sealant.

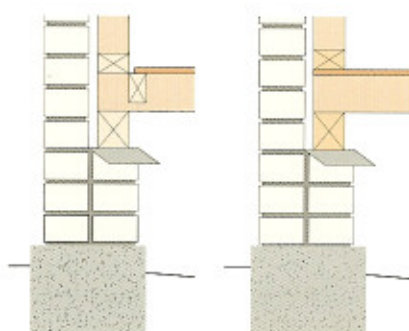
Fitted Construction

This applies to StructaFlor & TermiFlor installation after the walls have been erected. Floor joists and trimmers must be installed so that all sheet edges at the room perimeter are supported.

Platform Construction

The product is particularly suited to platform construction. The method provides a working platform for wall and roof frame erection and contributes to time and cost savings.

In platform construction, sheet edges at the building perimeter are aligned with the outside edges of external wall frames. Wall plates are laid over the product and fixed through the sheets to the joists.



Fitted Construction Platform Construction

The fixing of trimmers between joists is eliminated except for Square Edge products. Where square edges butt together within a room, they must be supported on joists or trimmers.



Square edge joining

Platform Exposure

The product may be exposed to the weather for up to three months. However, it is always advisable to enclose the building as soon as possible after laying the floor.

During exposure, prevailing weather conditions can influence the surface condition of the board and may cause minor swelling. This can be removed by sanding, following the enclosure of the building.

Remove any water that ponds on the platform by sweeping or by drilling holes (no larger than 3mm in diameter and no closer than 1 metre apart) in positions which will eventually be covered by wall plates, cupboards or skirting.

Excessive and differential drying of StructaFlor after it has been wet may result in cupping and shrinkage of the product which could, in extreme circumstances, cause pull-out or pull-through of nail heads. If this occurs screwing of StructaFlor to the joists will be required to prevent the floor from movement and possible squeaking. In severe cases, shading may be required, or alternatively, light wetting of the StructaFlor surface may be required to recondition sheets back to uniform moisture contents.

Do not apply plastic sheeting or surface sealants over the exposed platform as they will trap moisture and retard drying out.

General damage to the StructaFlor surface can occur through various means. Avoid the build up of plaster, concrete, paint etc on the floor and **do not** use the floor:

- for stacking heavy materials like bricks, tiles, sand, cement or
- as a mixing table for the mixing of cement, mortar etc.

Installation

Installation methods depend on the edge profile and the construction method – either “fitted” or “platform”.

Irrespective of the construction method, always ensure that:

- Joists are spaced to suit the thickness and design use, i.e.
 - Maximum 450mm centres for 19mm Yellow Tongue
 - Maximum 600mm centres for 22mm Red Blue Tongue
 - 450mm or maximum 600mm for 25mm Blue Tongue
- Individual sheet lengths or widths cover at least two floor joist spacings
- The sheet surface carrying identification thickness and span information is placed face down.

Apply a construction grade adhesive to the upper surface of framing members prior to sheet placement (see “Adhesive Application”).

The use of foil between the joists and StructaFlor is not recommended as it may impede the proper gluing of StructaFlor to the joists and may also prevent air from circulating and therefore maintaining an even moisture content within the flooring.

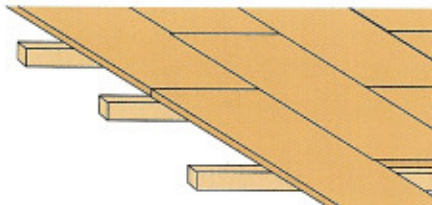
Platform Installation Yellow Tongue, Red Tongue and Blue Tongue

Set a string line to the floor extremity and at right angles to the joists, using a brickwork pattern.

Position the first sheet with the tongued edge to the string line. Set one end flush or trim back to outside edge of perimeter

joist. The opposite end should be located centrally over a joist.

Fix sheet to joists with fasteners from table 6 and at the nominated spacings. Refer “Fasteners” page 9.



Platform Layout Tongue and Grooved Sheets

Continue positioning and fixing first row of sheets. Butt ends firmly together and locate centrally over joists. Seal any cut ends with construction grade adhesive before positioning sheet. Trim end of last sheet flush with outside edge of perimeter joist.

Fix second and subsequent rows as described and by mating tongued edges into grooves. Stagger end joins (brickwork pattern) and locate centrally over joists. Trim ends flush with joists at floor perimeter.

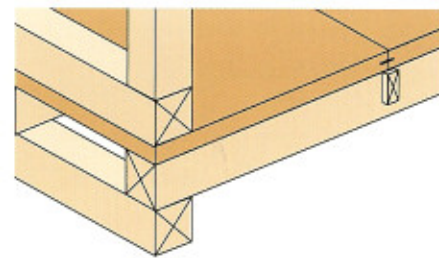
Notes: 1. For ease of mating tongue and grooved edges, fasten grooved edges only slightly. Complete the fastening after laying the next row. 2. Tongues may be removed from the first row of sheets to “make good” offcuts.

StructaFlor Square Edge

StructaFlor square edge requires frame support and the fixing of trimmers between joists is sometimes necessary. Trimmers are not required at the floor perimeter where external wall frames will be fixed over the StructaFlor.

To minimise trimmer installation, fix StructaFlor Square Edge with the long edges resting on joists. At the floor perimeter set the long edges of the first row to a string line and flush with the outside of the perimeter joist. The opposite edges should be centred on joists

Fasten sheets individually and butt subsequent sheets firmly up to the fixed sheets. Stagger end joins and seal any cut ends with construction grade adhesive.



Platform Layout. Square Edge.

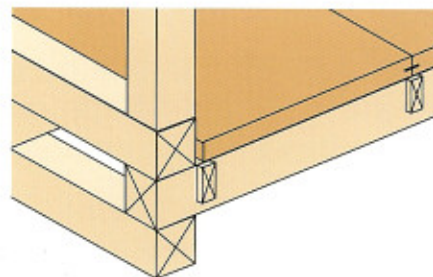
Fitted Floor Installation

When fitting up to installed wall frames, use either tongue and grooved or square edge sheets.

Arrange sheets as in “Platform Installation” ie. T&G edges at right angles to floor joists, long edges of StructaFlor Square Edge resting on joists.

Ensure floor joists and trimmers are installed at the room perimeter to support sheet edges and ends. Provide 10mm clearance between edges and wall frames. Cover with skirting fixed through wall linings to the wall frame.

Fix sheets and stagger end joins using a brickwork pattern. All edges of StructaFlor Square Edge must be supported on joists or trimmers. Position ends of tongue and grooved sheets over joists.



Fitted Floor Layout. Square Edge.

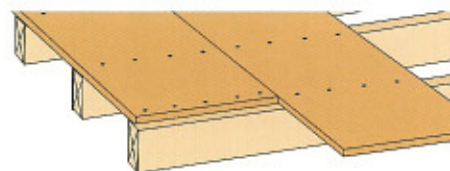
Fasteners

Select an appropriate fastener from Table 5. The fastener type, length and gauge is based on the Particleboard thickness, joist material and available fastening equipment.

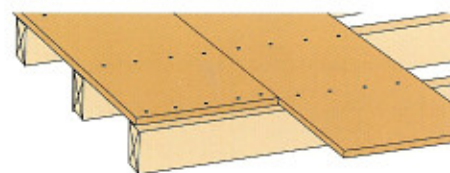
Fastener Spacing

At StructaFlor sheet edges, space fasteners at 150mm centres. Keep fasteners at least 10mm from square edges and 25mm from tongue and grooved edges.

In the body of the sheets, space fasteners at 300mm centres. Drive nails flush with the StructaFlor surface. Immediately prior to sanding, punch nails 2mm below the surface.



Nail Spacings Tongue and Grooved



Nail Spacings Square Edge

Table 5. Fasteners

Fastening method	Joist material	Fastener type	StructaFlor/ TermiFlor	Minimum Fastener
Manual nailing	Hardwood or Cypress Pine	Bullet jolt or flathead nails	19mm, 22mm	50mm x 2.8mm
Manual nailing	Hardwood or Cypress Pine	Bullet jolt or flathead nails	25mm	65mm x 3.75mm
Manual nailing	Softwood	Bullet jolt or flathead nails	19mm, 22mm	65mm x 2.8mm
Manual nailing	Softwood	Bullet jolt or flathead nails	25mm	75mm x 3.75mm
Machine driven	Hardwood or Cypress Pine	D head, round head or finished head	19mm, 22mm	50mm x 2.5mm
Machine driven	Hardwood or Cypress Pine	D head, round head or finished head	25mm	65mm x 2.5mm*
Machine driven	Softwood	D head, round head or finished head	19mm, 22mm	65mm x 2.5mm*
Machine driven	Softwood	D head, round head or finished head	25mm	75mm x 2.5mm*
Machine driven	Steel	Hard steel twist, conical point	19mm, 22mm	32mm x 2.5mm*
Machine driven	Steel	Hard steel twist, conical point	25mm	40mm x 2.6mm*
Screw fixing	All timbers	Type 17 countersunk self-drilling screws	19mm, 22mm	No. 10mm x 50mm
Screw fixing	All timbers	Type 17 countersunk self-drilling screws	25mm	No. 14mm x 65mm
Screw fixing	Steel	Countersunk self-embedding head, self-drilling screws, preferably with self breaking cutter nibs	19mm, 22mm, 25mm	No. 10mm x 45mm

Notes: 1. Use galvanised nails for exposed platform construction and designated wet areas. 2. Skew bullet or jolt head nails for improved holding power. 3. Steel screws should be suitably coated to resist corrosion. 4. QuikDrive has a screw system that provides high pull-down and long-term holding power when compared to nails and allows fastening from a standing position. Contact QuikDrive on (02) 9831 7700. For more information to determine if there are alternative methods please contact the woodlogic Customer Service Centre on 1300 658 828.

Table 6. Fastener Quantities per Sheet

Sheet Size mm	Edge Profile	No of Fasteners per sheet	
		Joists at 450mm centres	Joists at 600mm centres
3600 x 600	Tongue and grooved	38	30
3600 x 900	Tongue and grooved	49	39
3600 x 1800	Square	123	106

Adhesives

Construction grade adhesive should be used with nail or screw fixings. For details on adhesive application refer "Adhesive Application" page 6.

Wet Area Installations

StructaFlor & TermiFlor provide an economical flooring for the application of impervious waterproofing systems in wet areas such as bathrooms, laundries and toilets. The waterproofing of floors and floor/wall joints in these areas is essential to prevent water damage to the substructure and adjoining rooms or spaces.

Waterproofing systems for wet area floors must comply with regulatory requirements. Systems which comply with AS 3740-2004, have a satisfactory ABSAC appraisal or a State or National certificate of Accreditation are generally suitable for use over StructaFlor & TermiFlor.

Australian Standard AS 3740-2004, Waterproofing of Wet Areas within Residential Buildings, defines two categories of wet areas. Floor areas in Category 1 are drained to an approved floor waste and include enclosed and unenclosed shower areas and showers over baths. Category 2 floor areas are adjacent to fixed vessels such as baths, spa baths, basins or tubs.

When waterproofed in accordance with AS 3740, StructaFlor & TermiFlor are suitable for use in both wet area categories.

Construction

"Platform" or "fitted" flooring construction methods may be used and the product should be installed as detailed under "Installation" page 8.

Sub-floor bearers and joists should be securely restrained and timber members should be seasoned and gauged, particularly where their depth exceeds 150mm. Ensure that the product is adhesive bonded and securely nailed or screwed to the floor joists.

Note: Movement of the sub-floor members due to shrinkage, attention to fixing detail or from subsequent floor loads can be detrimental to the performance of floor surfaces, e.g. waterproofing systems and ceramic tiles. Close attention should be given to the fixing detail in the design and construction of the floor.

Preparation

Following wall and roof installation prepare the product surface to receive the waterproofing system and floor surfacing. Remove any mortar deposits or other accumulated surface debris and drive fasteners 2mm to 3mm below the board surface. Sand where necessary. The floor should be dry, clean and free of any surface contamination.

Neatly cut any holes in the floor to receive service pipes, drains or waste outlets.

The holes should not be roughly punched through the floor. Installed pipes may be secured to the structural sub floor members with brackets.

They should not penetrate through the members unless allowance has been made for the penetrations in the structural design. Before installing waterproofing systems or shower bases/trays, seal all cut edges of the product, including holes for service pipes, with epoxy resin. Construction grade adhesive may also be used.

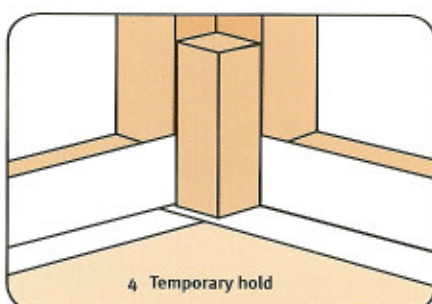
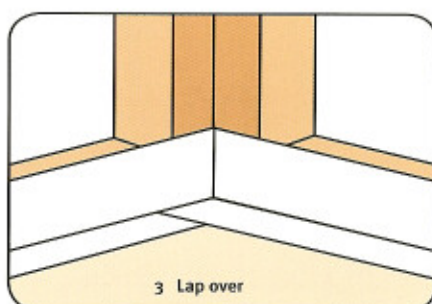
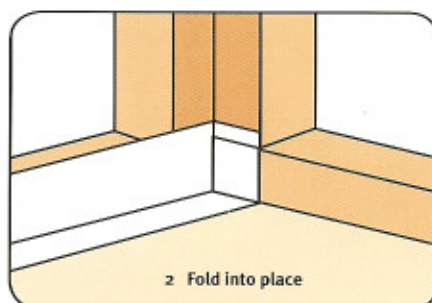
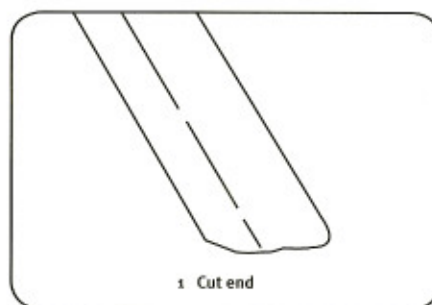
Perimeter Flashing

Perimeter flashing should be applied to all internal angles formed between the floor and walls. Use P.V.C. angles or waterproof flashings.

Flashing materials must be waterproof, sufficiently flexible to accommodate movement at floor/wall joints and suitable for bonding with waterproof adhesive. They should also be tough enough to resist damage during the installation of other waterproofing materials and floor surfacings.

Cut and fold the flashing to suit the wall length as illustrated.

Perimeter Flashing



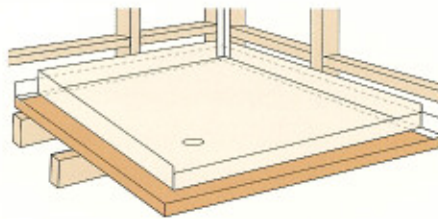
Bond the flashing to the floor using a waterproof adhesive and apply the adhesive in a continuous bed, 65 mm wide by 3mm deep, using a 3mm notched spreader.

Bed the flashing into the adhesive and ensure corner joints are thoroughly sealed.

Do not continuously bond the flashing to the bottom wall plate. The flashing is required to provide a bond break in the event of wall/floor joint movement. Spot bonding to the bottom plate at 600mm centres is sufficient.

Vertical Corners

Flash vertical corners before fixing wall sheeting. Vertical flashings should extend down into external shower trays or over the recessed edge of precast shower bases or baths.



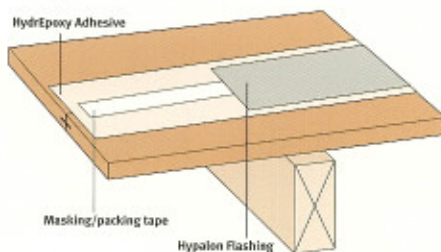
Vertical Flashing

The vertical flashing should extend over the perimeter floor/wall flashing where internal shower trays are used and at joints around fixed vessels (Category 2 wet areas). Ensure that the surface and vertical joints of shower recess wall linings are sealed with a waterproof sealer and compatible ceramic tile adhesive.

Joints

Apply flashing over all joints. They should be bedded into a 140mm wide by 3mm deep bed of epoxy adhesive applied by notched spreader.

Place a 25mm wide strip of masking or packing tape centrally over the joint and the adhesive prior to positioning the flashing. Ensure the top surface of the tape is kept clean of adhesive. Use a weighted roller to press the flashing into the adhesive.



Sheet Joint Flashing

Proprietary liquid internal shower tray membranes should be isolated from sheet joints with a bond breaker or separating tape. The tape width will depend on the flexibility of the membrane. Apply the separator and reinforce the membrane

in accordance with the membrane manufacturer's recommendations.

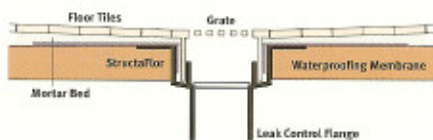
Floor/shower Wastes

Seal edges of holes which are cut through the product for waste outlets with epoxy or construction grade adhesive.

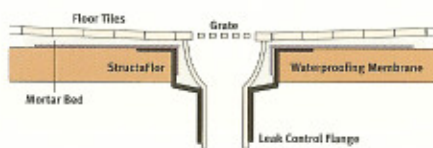
Preformed shower bases should be fitted with shower outlets which are part of the base design. With prefabricated external shower trays, waste outlet fittings must form a waterproof seal with the tray.

Sheet membrane or liquid in situ trays are normally applied to the product surface. For best results, the waste pipe should be fitted with a leak control system.

The flange on the system is bonded to the product with waterproof adhesive and covered by the waterproof membrane which is dressed down into the leak control system.



Floor Waste Outlet



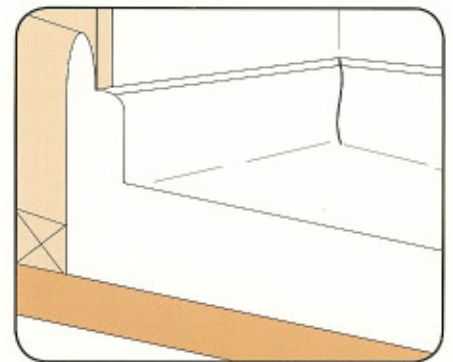
Shower Floor Waste Outlet

Shower Areas

Precast shower bases: Fit precast moulded bases including porcelain enamelled steel, acrylic, polyester and ceramic types, into the walls. Wall linings and flashings should extend into the top recessed edge of the base and be sealed with silicone or other waterproof sealer.

Ensure the tray base and sides are adequately supported and restrained against movement or distortion. Always install shower bases in accordance with the manufacturer's instructions.

Seal the surface of the product with an epoxy sealer before fixing bases which create a cavity between the base and floor. Also use the sealer when laying a mortar bed to support the shower base. The sealer should be tacky when the mortar is applied.

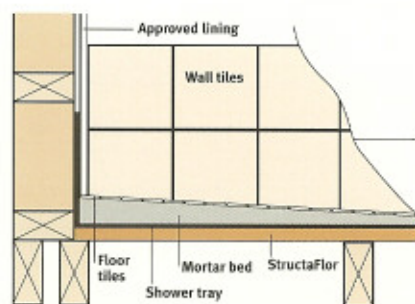


Precast Shower Base

Prefabricated shower trays: Fix the approved external prefabricated shower tray to the product to form the shower recess base. Bed the tray in epoxy adhesive applied by notched spreader. The adhesive should cover the entire recess area and extend to the floor/wall joint flashings.

Typical trays are manufactured from copper, stainless steel or fibreglass. Check with your local building authority regarding tray approval. Follow the tray manufacturer's installation instructions.

Brick hobs should be set inside the tray. Alternatively set split bricks on either side of the tray upturn. Ensure the hob junctions with the floor and walls are thoroughly flashed and sealed.



Shower Tray

Sheet membrane trays: External in situ sheet membranes should be bonded to the floor with waterproof adhesive applied by notched spreader. Use a weighted roller to bed the membrane into the adhesive. At corners, fold the membrane and bond with adhesive to form the tray up stand. The up stands should only be spot bonded to the wall frame.

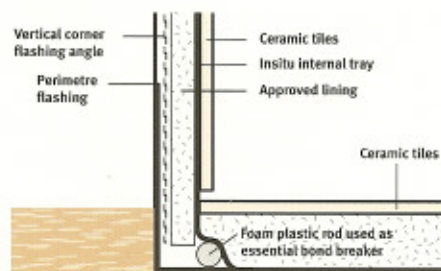
Fix corner flashing to angles formed between the floor, walls and shower hob or riser. Care must be taken to ensure good bonding and sealing of the flashing at any joints in the membrane.

In situ internal trays: The trays consist of proprietary liquid membranes that are applied to the floor and wall lining surfaces. They may require reinforcement and all

floor/wall joints should be formed over an essential bond breaker such as plastic foam rod. Flexibility should also be provided over the StructaFlor sheet joints by means of separating tape or flashing (refer page 11).

The liquid membranes may be used over entire room areas, including shower recesses. They can be dressed down into floor waste outlets which should be fitted with a leak control system (refer "Floor/Shower Wastes"). Always install the liquid membrane in accordance with the manufacturer's instructions.

Some membranes require professional installation.



In Situ Internal Tray

Note: In situ membrane materials should be approved by regulatory authorities and be installed in accordance with AS 3740-2004. They should also have a satisfactory ABSAC appraisal for use over particleboard flooring or a State or National Certificate of Accreditation.

Wet Area Surfacing

In shower areas (Category 1 wet areas), ceramic tiles are usually laid in a mortar bed applied over the shower tray. Where the ceramic tile application extends over the wet area room and Category 2 areas, the product should be waterproofed with an in situ sheet membrane or proprietary liquid membrane as in the shower area.

Alternatively, the floor surface outside the shower area should be sealed with an epoxy sealer. Apply a second coat of sealer and place the mortar, usually 3 parts sand to 1 part cement, while the epoxy sealer remains tacky.

In accordance with Australian Standard AS 3958-1991, Guide to the Installation of Ceramic Tiles, mortar beds should be reinforced with galvanised 50mm x 50mm welded wire mesh, 2.5mm diameter. A minimum mortar bed thickness of 40mm is recommended.

Some floor surfaces which are outside the shower area may not be required to slope to a floor waste outlet. Please check with your local building authority. Where 6mm fibre cement is applied over the product as a base for ceramic tiles or resilient sheet or tile floor coverings, fix sheet strictly in accordance with the manufacturer's instructions.

Alternative Applications

Both StructaFlor & TermiFlor are suitable for alternative flooring applications to restore old floors, upgrade concrete floors, reduce sound transmission or accommodate sub floor services for computers, telephones, plumbing, etc.

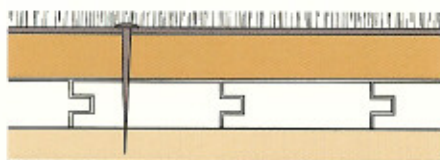
Timber Floor Restoration

StructaFlor can be laid over severely worn or cupped timber floors which are structurally adequate.

Preparation: Before installing, check the sub floor conditions. Where dampness exists, the source of moisture must be corrected and the sub floor and timbers allowed to dry. In some circumstances it may be necessary to provide additional sub floor ventilation.

Replace any damaged or decayed timber and re-nail loose floorboards. Punch protruding nails below the floorboard surface.

Fixing: Use StructaFlor tongue and grooved, laid in rows in a brickwork pattern with the long edges at right angles to the floor joists. Fix directly into joists. Allow 10mm minimum clearance at the room perimeter.

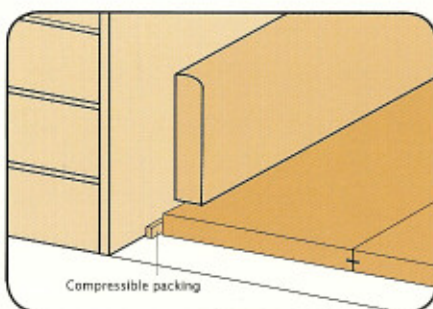


Timber Floor Restoration

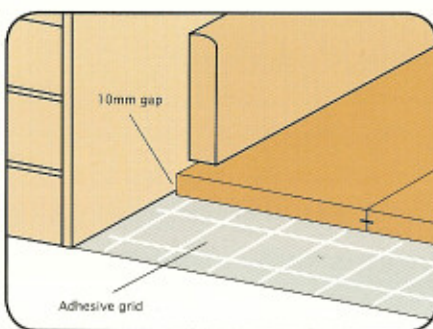
Concrete Surfacing

Concrete floors in domestic, commercial and industrial buildings can be upgraded with StructaFlor to change the surface characteristics and adapt the floor for special purposes, eg. work areas, goods storage, display, sport or recreation, children's play areas, etc. StructaFlor provides a uniform, comfortable "walk on" surface and the feeling of warmth associated with wood.

Concrete Surfaces: The concrete should be dry, reasonably flat and clean of dirt, oil, grease or fatty substances. A moisture impervious membrane should be located beneath slabs on the ground.



StructaFlor on Concrete Loose Laid

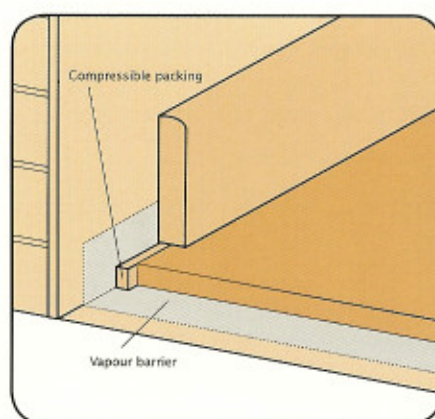


StructaFlor on Concrete Adhesive Bonded

Fixing: Use tongue and grooved StructaFlor, arranged in rows in a brickwork pattern. Provide 10mm clearance at the room perimeter. The sheets may be loose laid or adhesive bonded with construction grade adhesive. Pack the room perimeter clearance around loose laid sheets with pieces of compressible material, eg. Cane-ite, polystyrene, etc. Use adhesive to bond the tongue and grooved joints between loose laid sheets.

When using adhesive, fix one sheet of StructaFlor at a time. Apply adhesive to the concrete in continuous, 6mm diameter beads in a grid pattern. Use the "contact bond" method of fixing in accordance with the adhesive manufacturer's instructions. Carefully position each sheet before making final contact bond.

Vapour Barriers: An impervious moisture barrier, eg. 0.2mm polyethylene, should be laid over any concrete surfaces subject to dampness. Lap and tape all joins and fold the barrier up walls. Loose lay the sheets as outlined under "Fixing".



Vapour Barrier

Uneven Surfaces: These should be brought to a reasonable level or covered with resilient material before laying the product. The preparatory method will depend on the extent of surface irregularity.

Fill small depressions with a proprietary levelling compound. Ensure the compound is dry before laying the product.

A screed of consolidated dry sand, over an impervious vapour barrier, is a European system for overcoming severe irregularities.

Resilient materials include Cane-ite insulating board, polystyrene, resin bonded fibreglass or mineral wool insulation (see also "Raft and Floating Floors").

Surface Finishing

StructaFlor & TermiFlor are an ideal base for underlayments, floor coverings and finishes. Surface treatments include carpet, vinyl sheet or tile, cork, linoleum, quarry or ceramic tile and clear or tinted paint coatings.

Apply the covering or finish in accordance with the manufacturer's instructions. The installation should also meet the requirements of the relevant Australian Standards, eg.

AS/NZS2455-1995, Textile Floor Coverings – Installation Practice.

AS/NZS2311-2000, The Painting of Buildings.

AS3958.1-1991, Ceramic Tiles – Guide to the Installation of Ceramic Tiles.

AS3958.2-1992, Ceramic Tiles – Guide to the Selection of a Ceramic Tiling System.

Preparation

Preparation of both StructaFlor & TermiFlor to receive floor coverings will depend on the type of covering or finish and the effect of weather exposure on the floor.

Preparatory work should be undertaken only when the building is closed and weather tight. Product which has been wetted must be allowed to dry to a moisture content below 13%.

Check that the product is fixed tightly to floating joists, as per "Installation Manual" page 8.

Drive fasteners below the floor surface to facilitate sanding and minimise "nail popping" in the event of substructure shrinkage.

Sanding

Sand the surface of the product to level sheet joints and fixing points, even out irregularities and remove any loose weathered particles. For general purpose sanding use 40-60 grit closed coat paper.

Heavier sanding, with maximum 40 grit paper, may be required on floors which have been exposed to severe wetting. Avoid excessive sanding and limit to a 1mm maximum cut over general floor areas, 2mm maximum cut over supported sheet joints, in accordance with AS1860.

For clear and tinted paint finishing, the product should be fine sanded with 100 grit closed coat paper.

After sanding remove all dust, preferably by vacuum cleaning. The prepared surface should be dry, clean and free of any surface contamination, ie. paint, oil, etc.

Carpet

Lay carpet and soft underlays directly over the prepared surface. Most underlays can be spot fixed with staples, panel pins or adhesive. Crumb, foam and synthetic underlays are usually loose laid and perimeter stapled. Joints should be taped firmly together.

Carpet may be fixed to the product using perimeter stapling or tacking, tackless systems such as Robert's Smoothedge or adhesive installation methods. The surface of the product may require priming before applying adhesive. Follow textile manufacturer's instructions.

Quarry And Ceramic Tiles

Carter Holt Harvey recommend the use of a fibre cement underlay in all ceramic tile applications.

Underlay/Mortar Beds: For monocatura, quarry, slate, marble, or soft biscuit type tiles, an underlay or mortar bed must be applied over the product. Mortar beds are primarily used in wet areas where a fall to

floor waste pipe is required. Refer "Wet Area Installations".

Typical underlays for general living areas, kitchens, hallways and entrance foyers include fibre cement sheet or flexible levelling compounds. The flexible compounds have adhesive qualities and are applied in liquid form over primed surfaces. Fix 6mm fibre cement sheet with screws or nails. Sheet underlay should be arranged so that the joints do not coincide with joints in the flooring.

It is important that the tile supplier's recommendations be followed in relation to the selection and application of primers, underlay, adhesives and ceramic floor tiles.

Note: Select only ceramic tiles which are suitable for flooring. The selected tile and tiling system must be capable of withstanding imposed floor loads, deflection and potential dimensional movement of the substructure.

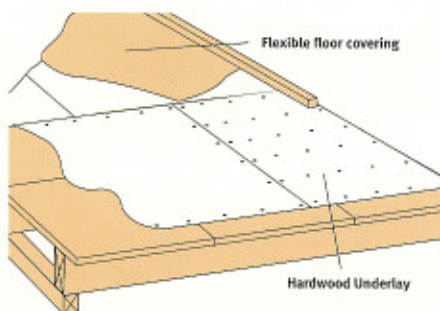
Tiling: Carefully bed the tiles into adhesive applied over the underlay or directly into adhesive type underlay compounds. Ensure that there are no voids between the tiles. The adhesive bed thickness will depend on the rib or recess depth on the back of the tiles.

Space tiles evenly apart to accommodate grouting. Joint widths can range from 1.6mm to 12mm depending on the tile type. Apply grout when the adhesive has cured. Additives can be mixed with cement-based grout to increase joint strength and flexibility. Use a compressible grout where tiles are fixed over fibre cement underlay.

Expansion Joints: Expansion joints should be provided between tiles at approximately 5m intervals and at the perimeter of large floors. Extend the joints through to the StructaFlor where fibre cement sheet is used as an underlay. Fill with proprietary materials such as polyethylene foam beading covered with silicone or other suitable sealant.

Resilient Sheet And Tile

Resilient sheet and tile floor coverings, including flexible and semi-rigid PVC, cork, rubber, linoleum and cushioned vinyl require a hard underlay, eg. Hardboard Underlay, to meet Australian Standard and floor covering manufacturer's installation requirements. Hardboard Underlay can be fixed to StructaFlor or TermiFlor with a construction grade adhesive, in combination with varnished coated staples or ring grooved buttress type underlay nails. Ensure underlay joints do not coincide with flooring joints.



Flexible Floor Coverings

In some circumstances, users may elect to lay resilient floor coverings directly over the flooring. Before electing to do this agreement should be obtained from the floor covering manufacturer. Sheet materials, suitable for loose lay or perimeter fixing, are preferred in these applications. Where adhesive is used, it should be a permanently flexible type and compatible with the particular floor covering. The product may require sealing before applying adhesive.

Note: Resilient floor coverings, laid directly on StructaFlor, can be adversely affected by substructure or floor movement. StructaFlor sheet joints may also become visible and show through the covering. The use of an underlay is highly recommended and will minimise these risks. Nail and staple heads as well as underlay joints may still be visible when very thin, soft and flexible resilient floor coverings are laid over underlay sheeting.

Clear Or Tinted Finishes

Polyurethane gloss floor finishes can be applied to prepared surfaces to give an attractive cork-like appearance.

Prepare the product as detailed under "Sanding". Apply a minimum three coats of polyurethane in accordance with the manufacturer's instruction.

Lightly sand between coats and vacuum clean.

Note: Sheets may vary in colour and appearance. The variation will show through clear and tinted finishes.

Following colour selection and mixing, apply one coat and allow to dry. Lightly sand with 100 grit paper. Apply subsequent coats at intervals not greater than 24 hours. The second coat may be clear or tinted.

Apply a minimum of three coats. The final coat should be clear with no stain added.

Maintenance: Sweep regularly and occasionally clean with a damp cloth. Scatter rugs or mats, placed in high traffic areas, will increase the life of the coatings. Use felt pads beneath furniture to minimise surface abrasion and scratching.

Health And Safety

The normal health and safety precautions should be taken when working with wood panel products. Machine tools should be fitted with dust extractors and work areas kept clean. If dust levels exceed Worksafe Australia standards the wearing of a dust mask (AS/NZS 1715-1994 and AS/NZS1716-2003) and safety glasses (AS/NZS1337-1992) is recommended. Storage and work areas should be adequately ventilated.

For more information please telephone 1300 658 828 (toll free) for your copy of the StructaFlor Material Safety Data Sheet.



Available from:

woodlogic Customer Services Centres

Timber and Plywood

22 Prospect Street, Box Hill, Victoria 3128

Timber/Plywood ph. 1800 335 293

Panels

Level 6, Tower A, Zenith Centre

821 Pacific Highway, Chatswood, NSW 2067

ph. 1300 658 828

Further Information

For further information or for a Material Safety Data Sheet (MSDS) please contact woodlogic Customer Services Centres.



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