Kronofloor

T&G FLOORING

Kronofloor Selection

Kronofloor is available in two thicknesses, 18 and 22mm.

Use Kronofloor P5 18mm for domestic floating floors and Kronofloor P5 22mm for non-domestic floating floors or for floors requiring restricted deflection.

Use Kronofloor P5 18mm for domestic applications with a maximum joist/batten spacing up to 450mm centres or 22mm for joist/batten spacings up to 600mm. (Restricted to uniformly distributed load of 1.5kN/m^2).

Use Kronofloor P5 22mm for non-domestic applications i.e. offices, schools on joist/batten spacings up to 400mm centres. (Restricted to uniformly distributed load of 2.5kN/m^2 and concentrated load of 2.7kN).

For clarification of grade/thickness selection and joist spacings always refer to the British Standard Code of Practice for the Selection and Application of Particleboards, Oriented Strand Board (OSB), cement bonded particleboard and wood fibreboards for Specific Purposes.

Storage & Conditioning

Kronofloor has an ex-works moisture content of approximately 6%. It will expand or contract as it reacts to the atmospheric moisture of its surroundings. As a general guide a 1% change in moisture content will correspond to a 0.3mm per metre dimensional change in the length and width.

More rapid expansion must be expected in the winter period but in environments with higher than average temperatures e.g. Nursing homes, shrinkage can occur.

These changes can be minimised by careful storage and conditioning.

Storage
Following delivery, boards should be stored in a dry/covered building on a flat floor. Any bands should be cut as soon as practicable after delivery.
Where outside storage cannot be avoided, the boards must be covered with secure weatherproof sheeting to prevent the ingress of moisture to all parts of the board and stacked flat, off the ground, on closely spaced bearers.

Conditioning
Conditioning of the boards should take place in the area and atmospheric conditions in which they will be installed.

Store boards with spacers to allow free air movement to both faces.
Store on level bearers to preserve board flatness.
Allow 2-3 days for conditioning.

Laying Kronofloor

Ideally all floors should be installed when the moisture content is the same as the level to which they will be exposed when in service, and only when the recommended conditioning is complete.
It can be beneficial to use a correctly calibrated moisture meter.

The table below shows typically how moisture content is affected by changes in atmospheric conditions.

Conditioning of Building	Relative Humidity @ 20°C	Approximate Equilibrium Moisture Content of Board
Unheated Building (Under Construction)	85%	14%
Intermittent Heating	65%	10%
Continuous Heating	30%	6%

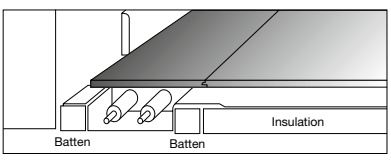
Always ensure that the building is weathertight before installing the floor i.e. roof on and windows and doors fitted, this is a NHBC requirement.

Adopt the following general instructions.

Condition the boards correctly.

Ensure the subfloor is dry. Timber joists should have a moisture content of less than 20% and be level. Shrinkage in joists can lead to distortion of the chipboard decking as they dry.

Plan carefully for all pipes and other services and provide full support on all sides as shown below.



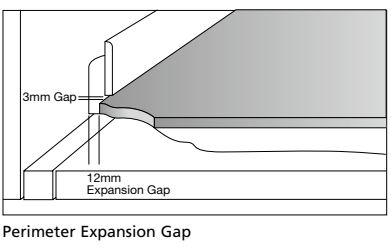
Kronofloor must be installed with the black ink marking on the topside thus ensuring that the tongue and groove profile is correct (see joint profile diagram). Ensure the joints match together securely.
Remember to protect your Kronofloor board before, during and after installation.

Movement

We have already described how Kronofloor will react to changes in moisture.
To eliminate any problems after installation the following instructions must be implemented.

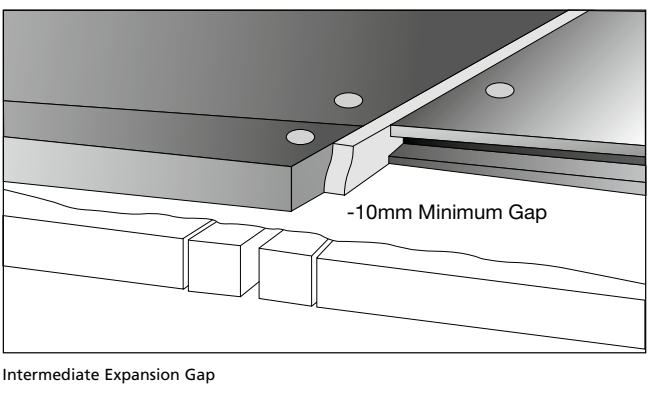
These guidelines apply to both joisted and floating floors.

Allow a clear movement gap of 2mm per metre run of floor at each wall and an absolute minimum gap of 12mm at each wall. Gaps should be left around rigid upstands including pipes.



Perimeter Expansion Gap

For floors where the movement gap cannot be dealt with at the perimeter alone or which are in excess of 6 meters long. e.g. corridors, intermediate expansion gaps (minimum 12mm), should be incorporated. Expansion gaps can be hidden at door thresholds.



Intermediate Expansion Gap

Do not allow the movement gap to be obstructed with debris and maintain perimeter gaps using packers or wedges. Remove immediately after adhesive has set.

Protect the floor from wet trades and any water spillage at all times. In areas with higher than average temperatures. e.g. nursing homes, hospitals, etc. it is vital that careful attention is given to conditioning. Ensure heating is increased gradually. There is a greater risk of board shrinkage so movement provision may have to be adjusted accordingly.

Fixing Kronofloor

Kronofloor can be used on Floating floors, Battened floating floors and joisted floors. In floating floors the short joints should be layed in a brick bond fashion, with staggered short end joints and should not coincide with joints in insulation.

In battened/joisted floors the boards are laid with the long edge across the supporting batten/joist. Short joints should be staggered and supported along the centre line of a batten/joist.

Where joints do not coincide with a joist, they must be supported by a separate nogging, in accordance with NHBC requirements.

All joints must be glued with a suitable adhesive, which should be liberally applied to coat both surfaces of the tongue. Gluing will strengthen the joint and reduce the risk of squeaking. PVAC adhesive to durability class D3 of BS EN 204:1991 is recommended.

Only flat headed annular ringshank, or other improved nails with superior holding power and corrosion resistance should be used. Four nails at equidistant centres should be used on each short joint, 25mm from short edge.

Minimum nail length should be 2.5 times the board thickness and minimum diameter 3mm. All nail heads should be punched home. should be minimum No8 Particleboard screws, length 2.5 times the board thickness.

Finishing

Before any overlay finishes are fitted it is essential that the entire floor area is perfectly flat, clean and dry. Where necessary, it is acceptable to sand off any raised joints before covering the floor. Vinyl sheet flooring or carpet may allow the board joints to telegraph through the overlay, and will tend to show small irregularities in a floor surface to a greater extent than thicker, patterned or textured finishes.

Where vinyl coverings are used, a thin wood based panel overlay e.g. 4mm plywood, should be fixed in position, staggering joints so as not to coincide with those of the chipboard.
BS8203 provides recommendations for the installation of resilient floor coverings.

Where carpet is to be laid and held in place using pre-nailed carpet gripper, adequate edge distance must be left for the gripper nails to avoid splitting the boards.
BS5325 provides recommendations for the installation of textile floor coverings.

Where fully bonded coverings ride over intermediate movement joints, stretching or ridging may occur.

The fixing of ceramic tiles to any chipboard floors, floating or otherwise, is not recommended.

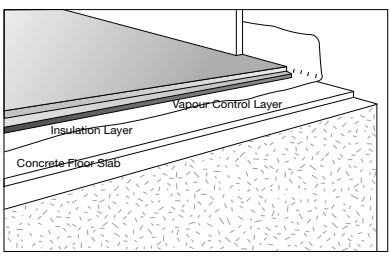
Construction of Floating Floor

All ground supported concrete floor slabs must have a level surface similar to that produced by a float finish.

Any irregularities can telegraph through to the Kronofloor chipboard above. Surface regularity should be class SR2 or better to BS8204 : Part 1 (i.e. maximum deviation of 5mm from under a 3m straightedge). Pre-cast concrete floors should have a level flat surface, if deviations occur a levelling screed may be required.

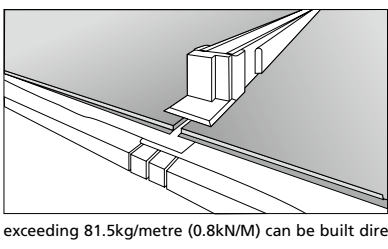
A damp proof membrane (DPM) must be incorporated into the floor slab as detailed in CP102 and BS8102, to protect the chipboard floor from residual ground moisture. A layer of suitable insulation material must be placed onto the floor slab with consideration given to loading, thermal and acoustic requirements. The insulation must be continuous and should be laid so that the joints do not coincide with those of the Kronofloor.

A moisture and vapour control layer (VCL) providing a minimum vapour resistance of 250MNs/g must be laid above the insulation layer and should be upturned by 38mm around the perimeter walls. 250 micron (1000 gauge) polythene sheet will provide the minimum requirement. Any joints in the sheet should be overlapped by 150mm and taped with vapour resistant tape.



Construction of Floating Floor

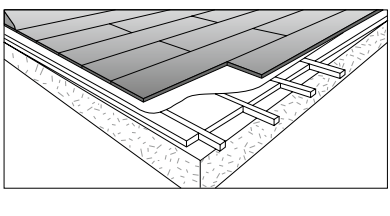
Access for pipes and other services must be pre planned as shown previously. This can be provided by proprietary systems or square edged boards screwed to timber battens. At door thresholds treated timber battens should be inserted to support the Kronofloor on the cut edges and to counteract local compression. A movement gap equal to that on both sides of the threshold should be included.



Construction at Door Threshold

Load bearing partitions must not be built on top of Kronofloor but should be continuously supported from beneath.
Non load bearing partitions not exceeding 81.5kg/metre (0.8kN/M) can be built directly on top of Kronofloor.

As an alternative, in areas where more stability and additional loading is required, treated timber battens can be incorporated into the construction of the floor.



Construction of Timber Battened Floating Floor

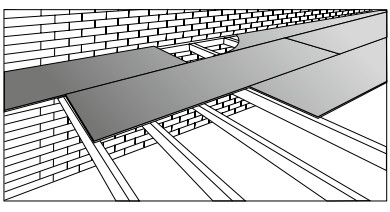
Kronofloor can be laid and fixed onto the battened floating floor following all the instructions provided previously.

Joisted Floors

Joists should be installed as recommended in BS5268 and the appropriate spacings are shown in the table below. Joists must have a moisture content of less than 20%, and must be perfectly level over the floor area.
Suitable insulation material may be fitted between the joists, but it is important to maintain good cross ventilation along the joists.

Kronofloor should be laid and fixed to the joists following all the instructions provided previously. Gluing boards to joists or battens can reduce the risk of squeaking if joist movement occurs.

It is a NHBC requirement that the edges of the panels where they abut a wall are supported and nailed to a timber noggin.



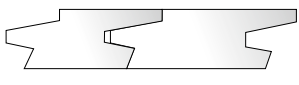
Kronofloor installed on joists

It is essential that square-edged boards are supported continuously along all edges. This is best achieved by positioning them with their long edges butt-jointed on the centreline of a joist/batten and supporting the short edges by noggings or counter-battens.

Kronofloor Technical Specification

Kronofloor is suitable for a wide range of flooring applications including floating and joisted floors. Kronofloor has a tongue and groove profile on all four sides and is available in two thickness' 18 and 22mm.

Kronofloor Joint Profile
Top Side (Marked on Top)



Underside

General Properties

Property	Test	Unit	Specification EN 312)
Thickness (sanded)	EN 324-1	mm	+/- 0.3
Length & Width	EN 324-1	mm	2
Squareness tolerance	EN 324-2	mm/m	2
Formaldehyde Class E1	EN 120	mg/100g	≤8
Moisture Content	EN 322	%	5 to 13

Property	Application	Test Method	Unit	Requirement	To comply with the Building Regulations Part E, use:
Sound Insulation	Internal joisted floors, within a single house	EN 323	kg/m²	≥15	1 layer of 22mm P5
	Internal joisted floors, between apartments	EN 323	kg/m²	≥25	2 layers of 18mm P5

Specific Properties

Property	Test Method	Unit	P5 (18mm)	P5 (22mm)
Internal Bond	EN 319	N/mm²	0.45	0.40
Swelling in Thickness (24hr)	EN 317	%	10	10
Bending Strength	EN 310	N/mm²	16	14
MOE	EN 310	N/mm²	2400	2150
IB after Cyclic test	EN 321	N/mm²	0.22	0.20
Swelling in thickness after Cyclic test	EN321	%	12	11

The values shown are typical test results when tested against the listed method.

The Key Points

Selection, Storage, Conditioning, Laying, Movement, Fixing, Finishing & Floor Construction

Kronofloor Helpline

If you have any further questions about Kronofloor or encounter problems during installation, call our Customer Services Department on: 01691 775 229.