



# ENGINEERED DESIGN FLOORING - GLUE DOWN INSTALLATION GUIDELINES

- Includes Herringbone, Chevron, Cube, Hexagon, Mansion Weave, Continuous Versailles and Panels

**The following should be used for guideline purposes only, as it is the responsibility of the installation contractor to ensure that floors are installed correctly and safely, subject to the relative site conditions, sub floor and specified finish.**

These guidelines are designed to complement the current British Standard BS8201 and any other relevant standards of manufacturer's instruction.

## SITE CONDITIONS

Before materials are delivered to site, all wet trades should be complete and dried out. The building must be weather tight, i.e. doors and windows fully fitted.

Site conditions should be checked to ensure the humidity levels are - and are maintained at - between 45% and 65% RH, and the room temperature between 15°C and 25°C.

Extremes of temperature / humidity will affect the stability of wood flooring. Low humidity can cause the wood to shrink, and a high level to cause expansion. Typical causes of low humidity are the use of heating at too high a temperature, open fires and wood burners.

We recommend using a thermometer / hygrometer to monitor temperature and humidity. A humidifier / de-humidifier can be used to control the ambient conditions.

As a general guide, areas should be adequately ventilated to prevent a build-up of moisture in the atmosphere. Wood will naturally change its size during the progress of the seasons. In the summer, the humidity is generally at its highest level and wood joints should be reasonably tight together.

During the winter, when heating is typically used, the humidity levels are generally lower and wood flooring will naturally show small gaps between the joints.

This is natural movement and not a manufacturing or installation fault.

The wood flooring should acclimatize in the room where the wood is to be fitted for at least 72 hours prior to installation to balance with the environment it is going to be used in. It should be stored out of direct sunlight, away from walls and radiators and on battens fully supporting the wood to prevent a build of heat on the bottom boards.

## UNDER FLOOR HEATING

Ensure that the system is fully commissioned, tested, run for a full cycle to a maximum of 27°C floor temperature and left running for 2 weeks prior to installation. Floor probes should be installed

and connected to room thermostats for each zone to ensure the subfloor surface temperature doesn't exceed 27°C as this may cause shrinkage / delamination. The manifold flow rate of the water temperature should be suitable for timber flooring in accordance with the manufacturer's recommendations.

During installation the ambient room temperature should be maintained between 15°C and 25°C. On completion the floor temperature should be increased by no more than 3°C day to a maximum of 27°C. Always increase / decrease temperature using this method, to minimise movement within the floor.

We recommend installing Fidbox temperature & humidity recording devices in the back of the flooring to provide evidence of the readings below and above the floor.

**NOTE** Never have under floor heating turned on whilst the floor is protected.

## SUBFLOOR REQUIREMENTS

The subfloor must be sound, clean, dry and flat to British Standard SR1 tolerance: a maximum 3mm gap under a 2m long straight edge at any point across the sub floor.

### ◆ TIMBER SUBFLOOR

Timber subfloors must be sound and level. It should be tested using a Protimeter or similar moisture meter. The moisture content of the timber subfloor must be less than 14% WME.

All suspended wood floors must have suitable through ventilation, usually delivered by air bricks in the outside walls. Any wood subfloor that has a moisture level in excess of 14% should be investigated. It must also be free of infestation such as wood-rotting fungi and boring insects. We would recommend installing a plywood of minimum 6mm thickness, complying with BS EN 314-1:2004 Class 3 (formerly referred to as WBP) over all timber subfloors, laid at 90° to the run of existing floorboards.

### ◆ CEMENTITIOUS (SAND AND CEMENT) / CALCIUM SULPHATE (ANHYDRITE) SUB FLOOR

The subfloor should be dry - less than 65% RH (or less than 75% RH



if a vapour check membrane or surface damp proof membrane is applied over the subfloor) - and must be free from laitance, dust and cracks. The moisture content of solid subfloors must be checked using a hygrometer, and be in accordance with British Standards Annex A.

If the subfloor is an anhydrite/calcium liquid type screed, the surface needs to be sanded to remove the laitance and a suitable primer applied before installation to improve adhesion of the adhesive.

Liquid moisture suppressant products cannot be used on anhydrite/calcium liquid type screeds and can only be used on standard concrete in accordance with the manufacturer's recommendations.

## INSTALLATION

As a general rule of thumb, subject to site conditions and overall width span of area, an expansion gap of 1.5mm per linear metre run throughout the expanse of the flooring is required to the perimeter of the floor, with a minimum expansion gap of 10mm. Dependant on the size of the floor area to be laid some provision may also be required within the body of the floor. This is to allow for changes in ambient conditions, especially changes in humidity, which can cause wood floors to move appreciably. Unless suitable provision is made to accommodate movement, the stability of surrounding walls can be affected or undesirable changes in the floor surface might result.

Expansion gaps should also be provided at all other abutments such as radiator pipes, thresholds, door linings, floor sockets, etc.

Expansion gaps can be covered using scotia / quadrant / flat bead / skirting. For areas where these products cannot be used, for example in front of a stone fireplace, an alternative such as a cork expansion strip or mastic joint can be used.

Threshold profiles should be installed in all doorways, arches or narrow sections that lead from one room / area to another. These thresholds must allow for the required expansion and contraction. Door frames and architraves can be undercut to allow the wood to slide underneath, still allowing for expansion.

All design flooring must be fully glued down to a suitable subfloor with the appropriate flexible adhesive.

For further information on expansion gaps see the [BSI website](#); BS 8201:2011.

Newel posts should never be undercut, as these are structural sections of the stairs.

The flooring should be taken from three separate packages and not all from one pack, to avoid areas being installed from the same batch of wood.

The wood flooring should be fully bonded to the prepared subfloor using a suitable flexible adhesive. This should be applied using a notched trowel, following adhesive manufacturer's instructions, including for notch size.

When planning the layout of the areas, you may wish to dry lay the components across the room to ensure the cuts are aesthetically pleasing.

If you choose to install a perimeter border detail mark the border line around the perimeter of the room on the sub floor and glue up to these lines during installation. Lay the blocks over these lines and leave the glue to dry and then transfer the lines with a chalk line on top of the blocks.

Using a plunge saw (Festool TS55/75), cut to the chalk line around the perimeter of the room using a reciprocating saw (Fein Multimaster) to cut the corners.

If the components have micro bevelled edges, recreate this bevel to the perimeter cut edge with a router and bevel cutter. This will need to be touched in with coloured/clear oil to match the floor finish, prior to continuing with the border.

Using a router and a groove cutter, cut a groove to the side edge of the perimeter, cut flooring to match the tongue of the border flooring.

Finally apply adhesive to the sub floor and install the perimeter border blocks or planks fitting the tongues into the new groove which you have created, to avoid issues with the border sitting at a different level to the main floor.

Borders should be wedged in off the perimeter using spacer blocks / wedges until glue sets, these should then be removed.

**NOTE** Some Design Floors may come with additional false tongues which should be used where a groove is adjoining a groove to keep the integrity of the T&G system throughout.

## SANDING & TREATMENT (UNFINISHED PRODUCTS)

Once installed the flooring should be left to acclimatize for a further 10 x days, prior to sanding and finishing.

The flooring should be sanded flat progressively through sandpaper grits, filled with a resin mixed with fine sawdust and then fine sanded and finished with a trio or similar machine.

Aged & Distressed products should be lightly buffed (not fully sanded or filled) to prepare the surface for finishing.

The chosen stain, oil or lacquer product should then be applied in accordance with the manufacturer's recommendations.

## ONGOING CONDITIONS

The most critical time for newly installed wood flooring is during and for 48 hours after the installation. Allowing the temperature or humidity to alter, particularly overnight when temperature can drop can cause the wood to lift slightly away from adhesive, affecting the bond.

Throughout the life of the floor, we recommend that the temperature should be maintained between 15°C and 25°C, and relative humidity levels between 45% and 65%, which will keep any movement within the floor to a minimum and ensure that the floor remains stable. As with any wooden floor, if humidity levels rise or fall outside of these parameters, a greater degree of shrinkage or expansion would be expected to occur. ■