sub floors

The following information details industry-standard sub-floor preparation and tolerance requirements.

Cement screed

Screed must measure level +/- 3mm per 2 linear metres in all directions. It must have a maximum moisture level of 4 per cent and an ERH of less than 75 percent when tested with a BS 8203 hygrometer. Hygrometer testing involves drilling into the screed. The screed must be marked to allow for invasive testing without damage to pipes, electrical wiring or membranes within the screed. Fast-dry and rapid-set screed and self-levelling products can accelerate the time taken to achieve the correct moisture levels. If a damp-proof membrane (DPM) is not incorporated within concrete slabs or screeds, a surface DPM must be used.

Joists

Chipboard/plywood sub-floors must be fixed to the joists and measure level +/- 3mm per 2 linear metres in all directions. Chipboard must be tongue-and-grooved and have a minimum thickness of 18mm. The chipboard must be glued at the tongue and groove and screwed to the joists at 300mm centres, and the joints must be staggered. Plywood must have a minimum thickness of 12.5mm for a fixed wood floor, 18mm for a floated wood floor and 18mm for underfloor heating. The plywood must be screwed to the joists at 300mm centres, and the joints must be staggered.

Floorboards

Floorboards above joists must measure level +/- 3mm per 2 linear metres in all directions. They must be fixed with two screws per board at each joist fixing point. Any damaged, rotten, squeaking or creaking boards must be replaced.

Underfloor-heating

For installation of wood floors above underfloor heating, the correct sub-floor preparation is the same as that already outlined for screed and joist-supported sub-floors. The sub-floor support material must be satisfactorily secured and fixed above the heating system.

Operation of underfloor-heating systems prior to the installation of a wood floor covering

The heating system should be activated and the temperature increased in daily increments of 5˚C: i.e., day one at 5˚C, day two at 10˚C, day three at 15˚C, until the maximum temperature is reached. This maximum temperature should then be maintained for at least 48 hours or, in the case of cement screed, until the correct moisture level of 2 per cent and an ERH of less than 75 per cent is achieved. The heating system should then be cooled observing the same 5˚C adjustments per day. When the heating system has returned to its lowest level, the heating system must be switched off for two days, after which the heating system should be reactivated and the temperature once again increased by 5˚C until the installation temperature of 18˚C is reached. This temperature should be maintained throughout the installation period and for a minimum of 24 hours thereafter. Underfloor heating must not be used with floor protection in place.

Post installation environment requirements

The recommended humidity level is 50 percent; it should not be allowed to fall below 40 percent or rise above 60 percent. Programmable humidifiers or vaporisers are recommended. The surface temperature of the floor should never fall below 10˚C or rise above 27˚C. Heating systems can be programmed to remain within these parameters.