underfloor heating

Underfloor heating may be a comparatively recent phenomenon in the UK, but it has been in wide use elsewhere for decades. As a result, Element7 is able to draw on nearly 40 years' experience in this field, from continental Europe to the world's most extreme climates.

Understanding wood and heat

Owing to its inherent characteristics, any type of wood flooring, wherever it is to be used, must be very carefully specified, selected and installed. This is never more critical than when it is to be installed over an underfloor-heating system. The close proximity of the heating source and the use in effect of the floor as a large radiator can give rise to serious problems. Because floor planks expand and contract dramatically across their grain with corresponding increases and decreases in moisture content, they are liable to distortion and can generate enormous compressive forces: and the wider the plank, the greater the distortion proportionally. With underfloor heating, only the very best engineered wide-plank wood floors must be specified if you are to confidently overcome these problems. Non-engineered (solid) wood or poor-quality engineered wood floors are simply not an option in these circumstances; a correctly engineered premium product is essential.

Achieving wood floor stability on underfloor heating

The wood engineering technology used in the construction of an Element7 wide plank is internationally recognised as offering complete stability. It is the stablest of all the engineered products available, making it the most informed choice for use above underfloor heating.

To achieve complete stability, the planks should be constructed of three layers of wood. The core, or inner, layer of this 'sandwich' should have its grain oriented at right angles to the two outer layers, and be made up of softwood blocks whose grain directions are themselves alternately opposed. The three layers of wood are then pressure-bonded together to form an exceptionally strong and dimensionally stable plank. The outer layers are equally important: many manufacturers of engineered wood flooring reduce their costs by using an inferior timber for the bottom layer in the mistaken belief that, being out of sight, it does not matter if it is made of a low-grade material. The result is warping and distortion of the kind suffered by non-engineered wood planks, albeit slightly reduced.

To ensure that any stress and strain forces are cancelled out through the core layer, it is crucial that the top and bottom layers are of the same wood species and therefore have identical expansion and contraction characteristics. Only this type of engineered construction provides the dimensional integrity necessary for a wood floor to withstand the extreme humidity and temperature changes caused by underfloor heating.

Many different claims have been made about the type of plank construction best suited for use above underfloor heating. All Element7 can do by way of response is to point to the success of the technology it employs, which has seen literally thousands of wide-plank wood floors installed above radiant heating with complete and lasting success worldwide.