Underfloor heating

Kaindl Laminated and Real Wood Flooring can be installed without problems over hot water under floor heating systems. However, according to information available to us, the installation of Kaindl Laminated Flooring on electric under floor heating systems should be avoided except it can be controlled like described in this information.

Our Kaindl Flooring has a favourable thermal resistance for the economical operation of your under floor heating. Because of the natural warmth of Kaindl Flooring, it is also possible to switch off heating earlier during transitional periods. Underfloor heating means lower heating costs. It also means that you can achieve a more even surface temperature.

For efficient heating in a room the thermal conductivity of the floor should not be higher than 0,15 m² K/W Kaindl flooring has a thermal conductivity rating of between 0.06-0.09 m² K/W - well within this range.
If more heat than 65 watts / m2 is required we suggest using additional heating appliances.

All in all, Kaindl Laminated and Real Wood Flooring is ideally suitable for use with your under floor heating system. However, please take careful note of the following installing instructions;

Screeds must be installed in accordance with industry standards. All mineral sub-floors must be heated before the installation of Kaindl floors, so that no more harmful moisture can be released. This heating process is required throughout all the seasons. Cement screeds can be heated three weeks after installation, anhydrite screeds after just one week.

The temperature must be raised by increments of 5°C/9°F per day until the maximum heating output is reached. This is also important for all the following heating periods. The time you have to maintain the maximum heating by running full load depends on type and thickness of the screed.

Cement screed:	per cm screed thickness	1 day
Anhydrite screed:	per cm screed thickness	2 days

After this full load heating phase the temperature has to be decreased by reductions of 5°C/9°F per day. For reasons of security it is necessary to repeat the procedure of heating the screed.

If the heating and cooling procedure is carried out by the heating installation contractor he should automatically compile and submit a heating report. Questions should always be raised if this report is missing.

Before the installation, moisture should be tested with CM-machines at the points marked by the screed installers and the heating installation contractors. The permissible moisture for cement screed is max. 1.8 CM-% and for anhydrite screed max. 0.3 CM-%.

Important: to test the dryness of the screed bedding, lay out several pieces of PE foil (ca. 50 x 50 cm/20 x 20") and seal off the edges. If no condensation has collected, it is clear that the screed is dry and the installation process can be started.
The temperature of the under floor heating system could be raised again progressively to the required output 24 hours after the Kaindl floor is installed
Note: This also applies for the beginning of each heating period.

And please note one further fundamental rule:
The surface temperature of your laminated floor covering should not exceed 26°C/79°F. An ideal climate during the heating period is a temperature of 20 - 22°C/68 – 72°F and a humidity of 50 - 60%.
Please note: it is imperative that a non-pervious building foil with a thickness of at least 0,2mm is laid over the whole surface.
The chosen footstep sound insulation can now be laid on the building foil. If it is not possible to maintain a constant room temperature, a slight opening of joints may occur. This joint opening is not a defect, it is a consequence of the natural properties of wood and wood products. This should be borne in mind particularly during changes of climate.

Electric under floor heating systems:

When using electric underfloor heating systems, we only can recommend products with the following characteristics:

The used system needs to consist of connectable mats which include the sound insulation, aluminium foil, PET plastic and the heating cable.

IP class: IPx7
Pressure density: <3 mm with pressure of 2kN (area = 100 x 100 mm)
Max Output pr. m²: 55W

The controller of the heating system needs to be a wireless remoted device.
The connections of the single mats should have prefabricated connection system, in order to ensure a complete level surface. For cold and not heated areas proper filling elements are needed.

HEATING RECORD

Premises: _____

_____

_____

_____

1. • On ..... (date) ..... the screed work was completed.
   • There is a ..... screed
   • Average thickness of this screed is ..... cm

2. • On ..... (date) ..... the under-floor heating below the floor construction was switched on and heating temperature increased at the rate of 5 °C per day
   • the max. achieved lead temperature was ..... °C
   • this maximal temperature was maintained for ..... days without any reduction during the night periods
   • From ..... (date) ..... to ..... (date) ..... the temperature was reduced by 5 °C/day
   • From ..... (date) ..... to ..... (date) ..... the heating was left switched off
   • On ..... (date) ..... the under-floor heating below the floor construction was again switched on and increased at the rate of 5 °C/day until a max. lead temperature of ..... °C was achieved
   • This max. temperature was maintained constantly for ..... hours
   • On ..... (date) ..... the temperature was reduced each day by 10 °C max. and then maintained at 15–18 °C for the laying of the Kaindl Laminate Flooring.

3. • Were the rooms ventilated and drafts avoided during the heating up and the cooling down periods?
   Yes / No
   • Were the heated surfaces free from building materials and other covering materials?
   Yes / No

Confirmations

for the Builder / Client:

(Place/Date)	(stamp/Signature)

for the Architects:

(Place/Date)	(stamp/Signature)

for the Heating & Ventilating Engineers:

(Place/Date)	(stamp/Signature)