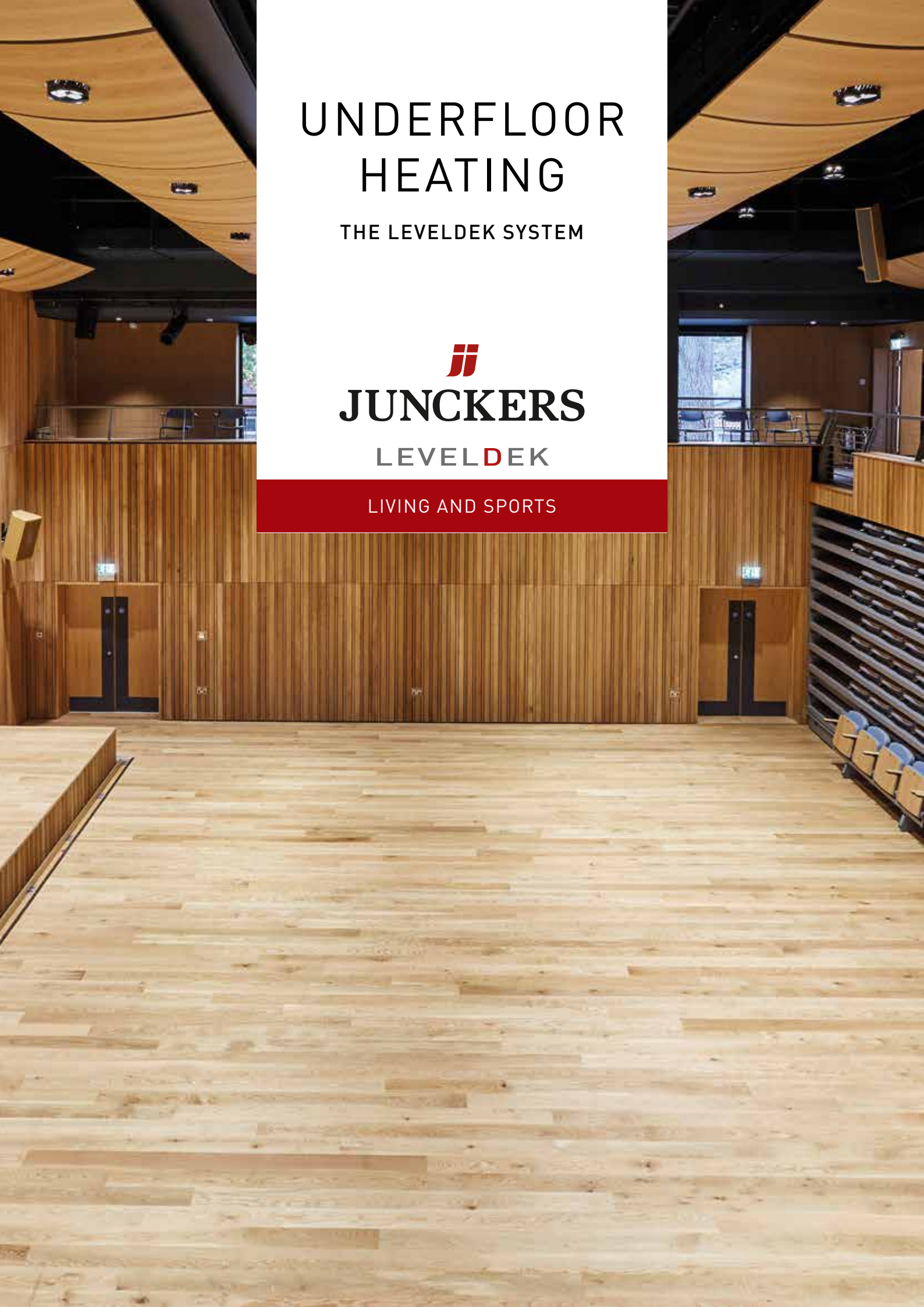


UNDERFLOOR HEATING

THE LEVELDEK SYSTEM

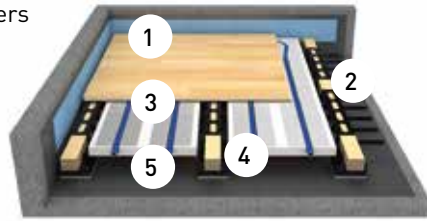

JUNCKERS
LEVELDEK

LIVING AND SPORTS



SYSTEM COMPONENTS

1. 20.5mm or 22mm thick Junckers solid hardwood floor boards
2. Saddle and batten
3. Heating panel including heating pipes
4. Levelling Cradle
5. Moisture barrier



JUNCKERS WOODEN FLOORS

A uniquely solid relationship with underfloor heating

The beauty of a Junckers solid hardwood floor is a natural partner for the reassuring comfort of underfloor heating.

Junckers wooden floors have for many years been recognised by clients, architects and the heating industry as the only type of solid hardwood floors on the market so stable that they can be guaranteed for use with underfloor heating. This has been a fact for almost 30 years.

With a heritage in hardwood floors which goes back to the 1930's and drawing upon

a long Danish tradition of high quality wood products, Junckers is the only wood floor manufacturer with the knowledge and experience to manufacture solid boards which can be used in this way.

This is achieved by drying the timber in a very uniform and precise way and by manufacturing the boards to the closest machining tolerances.



The mark of responsible forestry



Ask Junckers for FSC® certified products



THE LEVELDEK SYSTEM - ONE SOLUTION FROM A SINGLE POINT OF SUPPLY

The Junckers Leveldek system is a fully integrated solid hardwood floor and heating system. Any of the 22mm or 20.5mm thick floor boards from Junckers' vast range of finishes may be used, so there is a floor to suit any taste and style of interior.

Traditionally timber floor finishes and heating systems are specified separately and supplied and installed by different companies. Junckers Leveldek offers a versatile levelling system, underfloor heating and a solid hardwood floor finish from a single point of supply.

ENERGY EFFICIENCY AND FAST WARM UP

Specify a Junckers Leveldek floor system and you can be sure that the greatest

energy efficiency and fastest warm-up time will be achieved because of the unique way the heating pipes are supported directly beneath the floor boards. The heating panels are insulated and reinforced, and have aluminium heat diffusion plates.

They are pushed upwards against the underside of the floor boards by the support saddles and this "close contact" gives the best heat output possible. This also means that the Leveldek heating pipes cannot sag or move, so the heating will give the same reliable efficiency for its whole life.

CONSISTENTLY ACCURATE OUTPUT CALCULATIONS

The design of the Leveldek system means that the response time and heat output can be calculated accurately, so the heating engineer can be sure that the predicted performance will be what

the client will actually get. With many other systems such accuracy is often not achievable.

With many heating systems the pipes are set some distance below the boards or not supported evenly. If the pipes should sag over time, this makes the heating very inefficient and any accurate calculation of the output impossible. This leads to client complaints that they cannot heat the building properly.

INCLUDE OTHER SERVICES

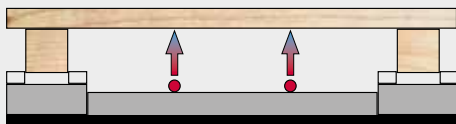
The heating panels and battens are supported above the subfloor, therefore it is very easy to include other services beneath the floor prior to installation of the hardwood floor boards.

Leveldek works perfectly when a "sprung" floor is needed because the heating panels will flex along with the whole floor system.

HEAT OUTPUT COMPARISON

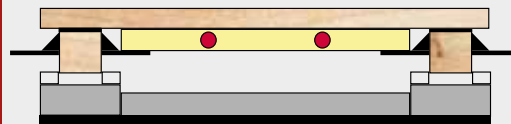
There is a significant difference between a conventional underfloor heating system with an air gap between pipe and floor board, and a Leveldek floor. We tested them and measured the heat output over a four hour period.

“Air-Gap” System



Time interval	Flow Temp. °C	Return Temp. °C	Surface Temp. °C
09:00h	35	20	19,4
10	45	40	19.4
20	44	44	20.0
30	44	44	20.0
40	45	44	20.3
50	44	43	20.5
60	43	43	20.8
70	45	42	21.3
80	44	44	21.5
90	44	42	21.7
100	44	41	21.9
110	44	42	22.0
120	44	42	22.1
180	44	41	22.5
240	44	40	22.5

Leveldek System



Time interval	Flow Temp. °C	Return Temp. °C	Surface Temp. °C
09:00h	35	20	19,4
10	45	32	19.6
20	44	33	23.3
30	44	33	23.6
40	45	32	24.3
50	44	33	25.0
60	44,5	33	25.7
70	45	32	25.8
80	44	33	25.9
90	44	33	26.1
100	44	33	26.3
110	44	33	26.4
120	44	33	26.4
180	44	33	26.5
240	44	33	26.6

This shows very clearly that if both systems have the same water temperature the “air gap” system will waste a significant amount of energy. For the same target room temperature the Leveldek system needs a lower water temperature than other systems, and therefore uses less energy.



THE **LEVELDEK SYSTEM** WILL NOT ONLY WARM UP THE ROOM MORE QUICKLY, BUT WILL USE LESS ENERGY IN DOING SO.

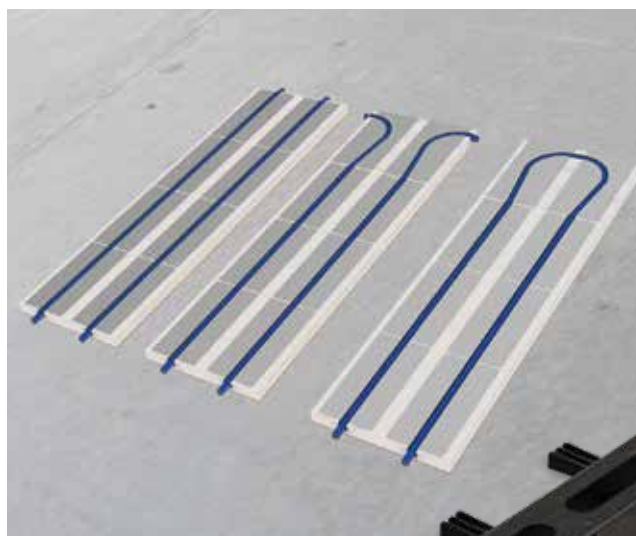


HEATING COMPONENTS

The heating components are fully integrated with the batten system and this makes the installation process very precise, quick and easy.

The reinforced and insulated heating panels are supported on patented saddles which fit on top of the battens. The heating panels have a strong fibre board bottom layer and moulded rigid insulation on top, channelled to support the heating pipes.

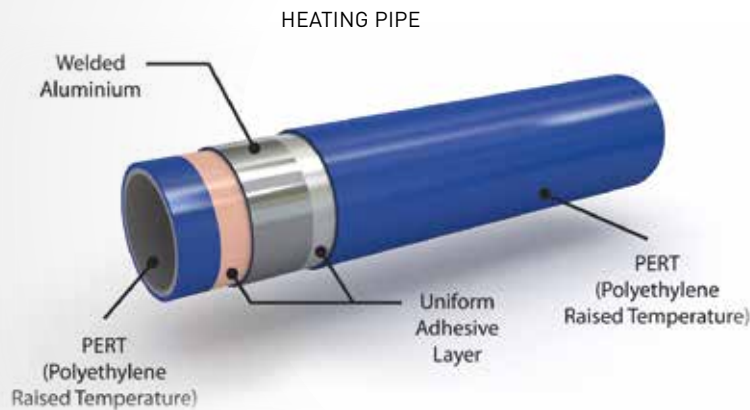
On top of the insulation are aluminium heat emission plates which spread the heat evenly across the floor. The saddles hold the panels firmly against the underside of the floor boards, guaranteeing the fastest response time and lowest heat losses.



HEATING PANELS

SUPPORTING SADDLE





FIVE LAYERED HEATING PIPES

The heating pipes are of a five-layer composite design. The solid aluminium core prevents oxygen ingress and corrosion. The pipes are manufactured in Germany to the highest standards and have a design life in excess of 100 years.

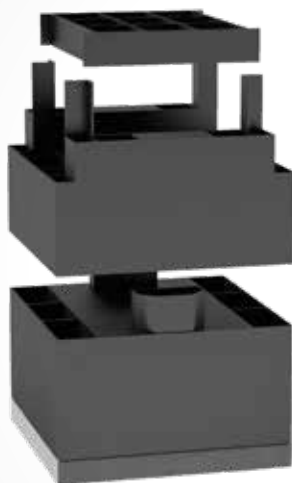
FULL INTEGRATION WITH M & E DESIGN

Full output calculations and pipe layout drawings are included as part of the package and this will help to ensure that the heating system is fully integrated with the rest of the M & E design. All heating controls, manifolds, testing and commissioning are included.



MANIFOLD

LEVELLING CRADLE



SAVE SCREED DRYING TIME WITH THE JUNKERS LEVELLING SYSTEM

At the heart of the Leveldek floor is the Junckers levelling system, which means that the whole floor can be installed on a concrete slab, block and beam or similar uneven base.

There is no need for a screed or levelling compound and this saves many weeks of drying-out time.

It is possible to have the Leveldek floor with a low-level batten system for use on a flat screed base and we also offer solutions for installations where the subfloor may not have dried sufficiently. Contact Junckers Technical Department for advice.

WE PROVIDE ALL NECESSARY DETAILS

Junckers can provide full NBS specification information, specifier's guides, installation and maintenance instructions upon request. To make specification quick and easy details for Junckers systems also appear on RIBA NBS plus and the NBS National BIM Library.



A SOLUTION FOR ANY TYPE OF BUILDING

Junckers Leveldek is a perfect solution for residential and commercial buildings as well as sports and dance.

When used with our 22mm Sylvasport or other sports floor boards the floor will comply with EN 14904 category A4 for multi-purpose sports floors, and Sport England/ Sport Scotland design guidance.



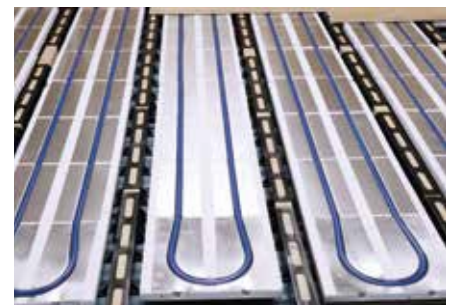
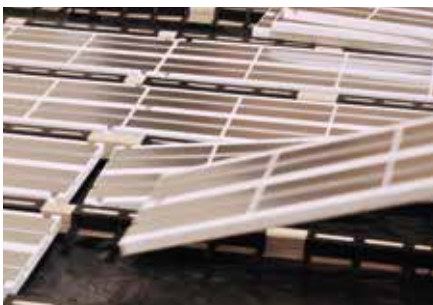
JUNCKERS 22MM SOLID HARDWOOD FLOOR BOARDS

HOW TO INSTALL - OVERVIEW

- 1** The moisture barrier is installed on top of the concrete or screed base. The levelling cradles are set out and packed level, ready for the battens to be fitted.
- 2** The battens are fitted to the cradles.
- 3** Saddles are simply fitted to the top of the battens.



- 4** The prefabricated heating panels are laid between the battens and they are fully supported by the saddles.
- 5** The pipes are then pressed into the grooves on top of the heating panels.
- 6** All pipe connections are made, the system tested, and the the hardwood floor is nailed to the battens.



25
YEAR WARRANTY

25 YEAR WARRANTY

Junckers offers a full guarantee for the system under the Junckers Lifetime Warranty Scheme. This provides a 25 year guarantee for the flooring and installation, 10 years for the pipes and insulated panels and 2 years for all electronic components.

For Additional Information see Junckers Technical Data Sheets

E 4.0 Underfloor Heating,
General Information

E 4.2 Underfloor Heating,
Batten System Information

D 10.2 Specifier's Information,
New Era UnoBat

D 10.2.1 Laying Instruction,
New Era UnoBat

Cleaning & Maintenance

G. 1.0 General Information,
G 2.0 Oiled Floors,
G 4.0 Lacquered Floors,

G 8.0 Sports Floors

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