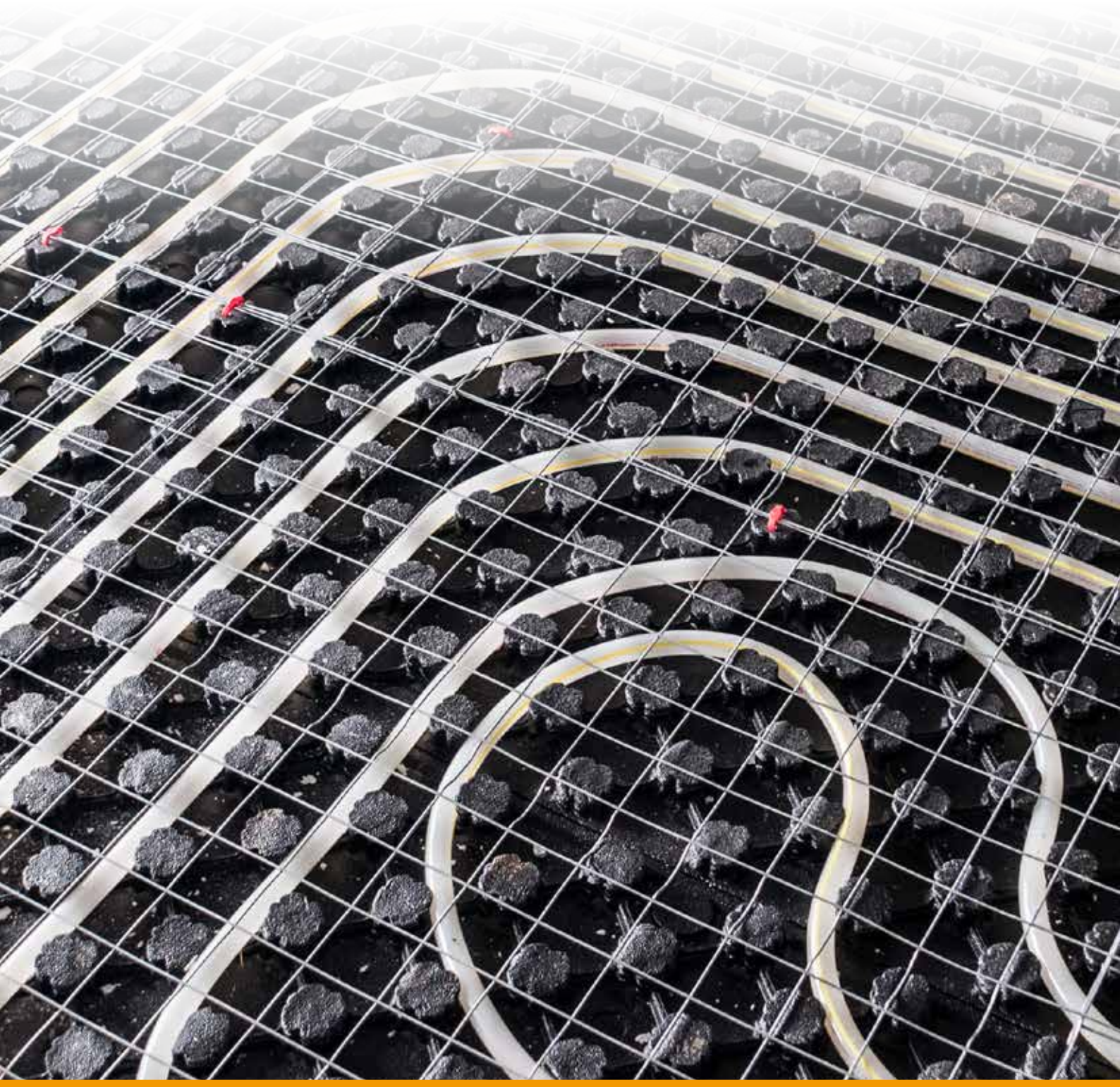
VAN SPEIJCK
exclusive



Subfloor Heating Guide

You wood like it

Subfloor Heating Guide

Under-floor (radiant heating) is growing in popularity for use with wooden flooring in both residential and commercial installations. Van Speijck engineered flooring can be installed over radiant heat provided certain conditions are met - an understanding of radiant heat and how it can impact wood flooring is vitally important. Van Speijck engineered flooring is created by bonding a hardwood top layer to a premium grade plywood base. This forms a dimensionally stable product, which provides the appearance of a traditional solid wood floor whilst also providing excellent installation stability. These boards are suitable for installation over water-based radiant heating systems only. For information or advice regarding other systems please contact Van Speijck Exclusive BV.

Wood as an Insulator

Unlike a stone floor, wood does not feel cold underfoot - it is an outstanding thermal insulator. Although slightly slower to heat up, wood retains the heat for longer thanks to its excellent insulating properties. However, to ensure good heat emission, the conductivity resistance (Rc value) of the wooden floor should not be too high. This is determined by the thickness and composition of the engineered board. If it is established at an early stage that the Rc value is more than permitted, the maximum allowable Rc value could be raised. Possible adjustments to inflow and outflow temperature, the between-centres distance of pipes or the thickness of the layer on top of the pipe to the surface of the topping should then be carefully assessed and modified as necessary.

Technical values, +/- 10%

Rc value of VS Engineered 20mm (¾"):	0,118 m² K/W +/-
Rc value of VS Engineered 15mm (⅝"):	0,088 m² K/W +/-
Rc value of oak mosaic subfloor 8mm (5/64"):	0,044 m² K/W +/-
Rc value of chipboard subfloor 8mm (5/64"):	0,050 m² K/W +/-

It is IMPORTANT that you read and understand the following information completely prior to commencement, since improper installation can void any warranties.

Heating up prior to Floor Installation

- Before the subfloor heating system is used for the first time, the sand/cement screed should be least six weeks old. Set the system temperature to 20 °C (68 °F) on the first day of use, and then raise it with increments of 1 or 2 degrees per day.
- Ensure that the supply water temperature does not exceed 45°C (113°F). Maintain this maximum temperature for at least 24 hours per centimeter (25/64") of floor thickness.
- Lowering of the water temperature should also be in increments of 2 degrees per day until a water temperature of 20 °C (68 °F) is achieved.
- The entire heating process takes approximately 14 days – ensure good ventilation during this period to allow moisture to escape. The concrete/screed should be checked for residual moisture following this process. Using the CM method this must not exceed 1.8% for a concrete subfloor and 0.3% for an anhydrite (calcium sulphate) floor. If a liquid moisture barrier (DPM) is used, the maximum is 3% or 75% using the RH method. Ensure compliance with manufacturers' instructions when using primers and DPM's.
- With water-heated systems, it is strongly advised a pressure test must be performed and documented by a qualified plumber or the system installer prior to beginning the installation of the wood flooring. Electric under floor systems are NOT suitable for use with Van Speijck engineered floors. Check heating system manufacturers' guidelines.

NOTE: In geographic areas which experience extreme temperature and humidity conditions, it is natural, due to the inherent properties of wood, for some minor expansion and contraction to occur which could result in visual changes such as gapping or cupping. These are not covered by warranty but should self-correct with seasonal climate changes. To minimize this visual change it is important that the relative humidity in the room never falls below 40% or exceeds 65%.

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Heating up after laying Van Speijck Engineered Boards

During installation of the floor, the concrete/screed should be between 15 and 18ºC (59-64ºF). Maintain this temperature for at least 5 days after laying, then slowly raise the temperature 1 or 2 degrees per day, until the desired temperature is reached.

NOTE: The maximum contact temperature of the concrete subfloor is 27ºC (82ºF). The contact temperature is the temperature of the surface of the concrete / anhydrite floor, measured 3 heating days after setting the temperature (depending on the depth of the pipes).

Heating during the Season

A subfloor heating system is a slow system, meaning it takes longer for a room to reach the desired temperature and also for the heat to dissipate. To minimize the effect that rapid changes in temperature will have on the moisture content of the wood floor, it is recommended that an outside thermostat be installed. Unlike conventional heating systems, which switch on as needed, radiant systems work most effectively and with less stress to the wood floor if the heating process is gradual, based on small incremental increases in relation to the outside temperature.

- Raise the temperature very gradually at the start of the heating season, and lower it again very gradually at the end (1 or 2 degrees per day).
- To keep the floor as stable as possible, do not create significant variations in day and night temperatures.
- Seasonal gapping can be expected.

For the boards to remain in good condition, the indoor temperature must remain stable. Sudden fluctuations in temperature and relative humidity will cause the flooring to shrink, expand, contract, crack, cup and bow excessively.

Key Points

- It is highly recommended that the heating system be designed specifically to accept a wooden floor.
- Install heat sensors for temperature measurement and data collection. We recommend Fidbox®. Visit www.floor-protector.at for further information.
- The Relative Humidity (RH) in the room must be between 40% and 65%. Measure the RH using a well-calibrated measuring hygrometer in a non-draughty room 15 cm (6”) above the floor. If the RH is too low, cracks may form.
- Use of an in-floor temperature sensor as well as a separate thermostat for the individual room is required.
- Radiant heat is dry heat. A humidification system may be necessary to maintain wood flooring in its comfort zone.
- The cover on water pipes must be at least 30mm thick to ensure a good distribution of heat.
- The maximum contact temperature of the cement screed and underside of the wooden floor is 27ºC (82ºF).
- Heat the room at a steady temperature.
- Follow the heating protocol before, during and after installation.
- When you begin to turn up the subfloor heating again in winter, do so gradually (raise the temperature approximately 1 or 2 degrees per day).
- Fixed cabinets or kitchen islands should NOT be installed over wooden flooring.
- Do not place cupboards directly onto the floor with no space underneath.
- Insufficient RH and/or an excessively high flooring temperature can lead to cracks and shrinkage.

Warranty information!

Van Speijck Exclusive BV guarantees its engineered flooring to be a stable product and provide a guarantee against delamination, excessive deformation and cracking. To form part of the guarantee, heat sensors must be installed to monitor and record temperatures. Van Speijck Exclusive BV may reject claims where sensors have not been installed or based upon reports of sensor temperature recordings.

Van Speijck Exclusive BV will not be responsible for any claims arising resulting from incorrect installation/adherence to Van Speijck Exclusive BV Installation Instructions. Any costs resulting from a rejected warranty claim will be the responsibility of the claiming party.