



## GRANORTE FLOATING FLOORS OVER UNDERFLOOR HEATING

GRANORTE floating floors are normally suitable to be used in rooms with floor heating. Most common underfloor heating systems are cast in a concrete floor or in a thin layer of filler on the surface of a concrete subfloor. There are also systems installed under a wood subfloor or installed on the surface of the subfloor as electrical matting.

To ensure a proper operation of the underfloor heating systems, the thermal resistance of the floor covering should not exceed approx.  $0.15 \text{ K.m}^2/\text{W}$  ( $0.85 \text{ °F.ft}^2.\text{h}/\text{BTU}$ ).

As cork is a natural insulator it will affect slightly the transmission of heat. It is normal that a floor with cork takes longer to warm up. GRANORTE floating floors have the following thermal resistance values:

- $R = 0.08 \text{ K.m}^2/\text{W}$  ( $0.45 \text{ °F.ft}^2.\text{h}/\text{BTU}$ ) for 9.5 mm (24/64") thickness floating floors;
- $R = 0.10 \text{ K.m}^2/\text{W}$  ( $0.57 \text{ °F.ft}^2.\text{h}/\text{BTU}$ ) for 10.5 mm (26/64") thickness floating floors;
- $R = 0.12 \text{ K.m}^2/\text{W}$  ( $0.68 \text{ °F.ft}^2.\text{h}/\text{BTU}$ ) for 13.5 mm (34/64") thickness floating floors;

Normally, GRANORTE floating floors do not need any underlay as it has already integrated a cork underlay underneath. However, if an additional underlay is considered, it has to be paid attention to the increase of the thermal resistance that the underlay could introduce, in order to maintain the total thermal resistance value of the floor covering below  $0.15 \text{ K.m}^2/\text{W}$  ( $0.85 \text{ °F.ft}^2.\text{h}/\text{BTU}$ ).

Certain important precautions with the subfloor need to be taken before starting the installation of floating floors over a radiant floor system:

- Follow the instructions from the supplier of the floor heating system.
- Concrete subfloors must be installed and cured with no heat transfer for a minimum of 60 days.
- After the curing time there should be a preparatory heat-up phase with the following steps:
  - Increase the temperature of the heating system by  $10^\circ\text{C}$  ( $50^\circ\text{F}$ ) each day, starting from  $25^\circ\text{C}$  ( $77^\circ\text{F}$ ) until  $55^\circ\text{C}$  ( $131^\circ\text{F}$ ) – or the system maximum if less than  $55^\circ\text{C}$  ( $131^\circ\text{F}$ ).
  - Maintain the heating for 14 days without interruption at maximum system temperature or  $55^\circ\text{C}$  ( $131^\circ\text{F}$ ).
  - Reduce heat by  $10^\circ\text{C}$  daily until temperature drops to  $25^\circ\text{C}$  ( $77^\circ\text{F}$ ).
- After the completion of the preparatory heat-up phase, the subfloor must be tested for moisture content. The concrete subfloor is ready for laying the floor covering when the measurement shows a moisture value of:
  - Cement screed max. 1.5% CM;
  - Anhydrite screed max. 0.3% CM.
- If the test shows that the subfloor is not yet ready for laying the floor covering, the heating should continue at a temperature of about  $40^\circ\text{C}$  ( $104^\circ\text{F}$ ) until the subfloor has the limit moisture content required for installation.

Once the subfloor is perfectly dry, solid, even and clean, the installation of the floor covering can begin according to applicable laying instructions. Laying over underfloor heating requires special attention:

- The heating system should be set and maintained to an installation temperature of about  $25^\circ\text{C}$  ( $77^\circ\text{F}$ ) and floor temperature around  $18^\circ\text{C}$  ( $64^\circ\text{F}$ );
- Relative air humidity must be between 35% and 65%;
- The floor panels need to be acclimated in the room for about 3 days prior to installation;



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- A "vapour barrier" should be laid down between the subfloor and the floor covering. A 0.2 mm (8 mils) thick polyethylene (PE) film must be laid. The rolled lengths of foil should overlap about 20 cm (8"), running up the walls about 3 cm (1 3/16"), and then be fastened with adhesive tape;
- Heating should be turned on in steps not earlier than 72 hours after installation;
- The flooring surface temperature should never be above 28°C (82°F).

Like almost all materials in the home, flooring expands and contracts due to changes in temperature and humidity. On radiant floors, heat source is directly beneath the floor covering which may gain moisture or dry out faster than in a home with a conventional heating system. Floating floors move as a unit since they are not attached to the subfloor. That means that visible signs of expansion/contraction take place at the edges of the room. An expansion gap of 10-15 mm (3/8" - 5/8") should be maintained at walls and also around pipes and door frames. Failure to meet this requirement can result in flooring buckling.

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