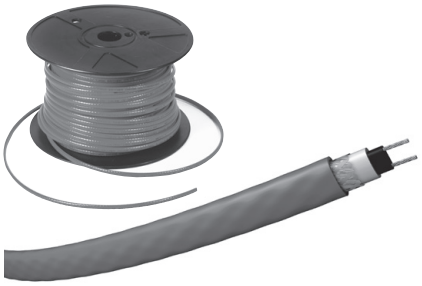
“Zero Height” Installation for Underfloor Heating

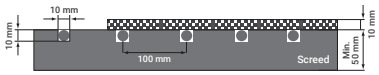


nVent RAYCHEM offers a smart solution to solve this problem by installing the underfloor heating system direct in pre-cut grooves with the self-regulating heating cable T2Red.

- nVent RAYCHEM T2Red heating cable.
- Connection and end seal.
- Thermostat.
- Sensor conduit.
- Milling machine/cutter + circular blade = 10 mm thick.
- Vacuum cleaner.
- Ear protectors.

Renovation situation A

- The existing screeded floor cannot be raised.

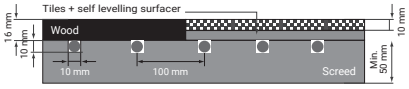


Renovation situation B

- Existing floor construction height can not be increased
- Surface level has to be unchanged in the same room
- The top floor finishes vary in material and in thickness e.g.

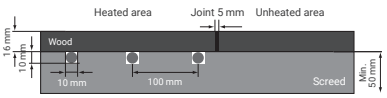
  - Wood Thickness = 16 mm

  - Tiles Thickness = 10 mm

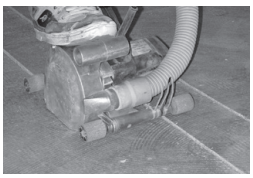


Renovation situation C

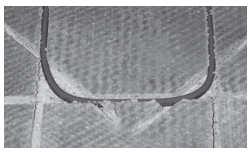
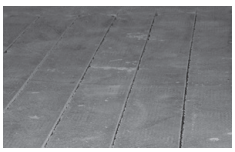
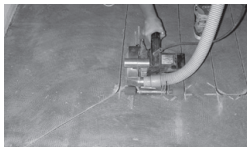
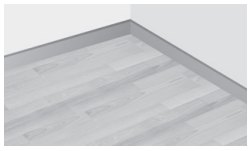
- Existing floor construction height can not be increased
- Surface level has to be unchanged
- Customer desires a heated and an unheated area (Perhaps under fixed furniture.)



HOW TO INSTALL T2RED IN PRE-CUT GROOVES?

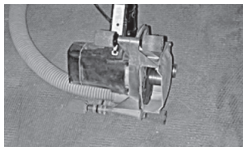
Working steps	Description B	
1. Sub floor preparation	**Sub floor type:** • Cement screed • Anhydrite screed Minimum thickness of the screed has to be checked: • Minimum > = 50 mm	The sub floor has to be stabile, even and clean, free of dust and the surface must be suitable for bonding.
2. Determine Heating area	Mark the floor with the desired cable layout, including the desired spacing (Spacing is dependent on the required heat output.) A division in the top floor may be left between heated and unheated area.	
3. Cable spacing	 Cut the groove in a straight line using the Milling machine.	 Maintain the spacing as required for the desired floor heating output.
	 Continue the cutting process until the desired heated area is completely marked out.	

4. Cable direction change	 To make a cable turn, and additional two diagonal cuts should be made, as shown (Far right.)	 Chisel out the screed in the diagonal cuts to allow a clear path for the cable.	

Working steps	**Description B**				
5. Clean the grooves		All dust and excess material should be removed from the grooves with a vacuum cleaner.			
6. Laying T2Red heating cable		T2Red heating cable may then be installed by pressing the cable careful in the cut grooves		The cable return may be made as shown above.	 The T2Red heating cable will then fit level with the sub floor.
7. Thermostat connection		Cut two grooves to the wall where the thermostat and the power supply are to be located.			
8. Sensor tube		Install the sensor within the conduit provided and lay in one of the grooves. Seal the end of the conduit with tape. Ensure the conduit is seated level with the floor and is at an equal distance between two runs of T2Red cable. After the installation and testing of the cable circuit, the cable grooves should be made level to the surface. This can be done by adding a self levelling compound over the cable in the grooves. Allow the self levelling compound to cure as per the manufacturers instructions.			
9. Top floor installation		Depending on the kind of top floor, installation may start immediately after the floor heating installation. This installation type is suitable for all floor surfaces: tiles, natural stone, laminate, wood, linoleum, Carpet*. *Carpet must be suitable for floor heating.			

NB: The testing and commissioning procedure for the installation of the floor heating should be strictly adhered to. The commissioning of this electrical system should be carried out by an approved electrician.

Which tool can you use?

Circular saw		with exhaust adapter
Mill cutter plate		Saw plate min 10 mm thick; or use a double plate a 5 mm thick suitable for screed/concrete
Vacuum cleaner		Wet/dry cleaner optimised for vacuuming stone and fine dusts

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