



**CONNECT AND PROTECT**

# Handbook For Comfortable Warm Floors

  
nvent

**RAYCHEM**

## ABOUT THIS HANDBOOK

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We all know, that when our feet are cold, our whole body feels cold ... Smart underfloor heating is the answer.

Put those woollen socks away, your children can play comfortably on the floor ... even the cat will be grateful!

This handbook shows how to choose the right underfloor heating system, gives you information about the installation and many smart tips. Once you have selected the right system go to page 42 to draw your project and request a **free design**.



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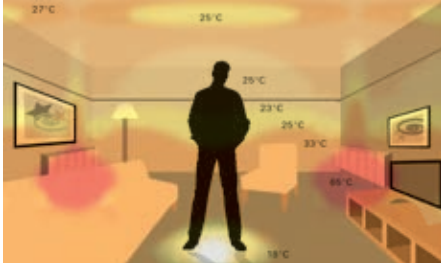
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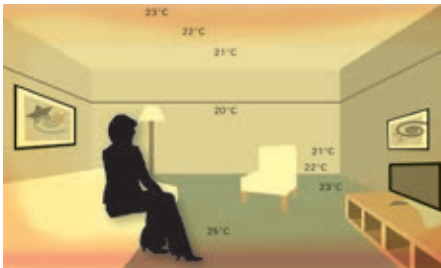
The Smart Tip provides you with extra information.

# Why Electrical Underfloor Heating?

Comfort is everything, especially in the home. With nVent RAYCHEM's smart electrical underfloor heating, you can offer a beautiful warm floor, hassle free, to your customers!



Heat radiation from a conventional heating system with radiators. Large temperature variations (18–65°C) in the room.



Heat radiation from an underfloor heating system. Small temperature variations (20–25°C) and heat where you need it.



## 5 good reasons to choose nVent RAYCHEM smart underfloor heating:

- 1 Comfortable and safe.
- 2 Hassle free installation and maintenance free.
- 3 Energy-efficient and cost saving.
- 4 Can be installed under all floor coverings.
- 5 Total Care Warranty.

## INCREASED COMFORT WHILST SAVING ON HEATING COSTS

### Underfloor heating brings great comfort and helps to save on heating costs!

Electric underfloor heating is installed close to the floor surface resulting in a quick warm-up of the room. Thanks to the uniform heat distribution across the floor, it is possible to set the thermostat 2 degrees lower than usual, without any loss of comfort or warmth.

It is an excellent system to provide complete room heating or to compliment the existing heating system. During spring or autumn, you can turn off the conventional heating, and keep your floors warm, comfortable, and cosy. The dog will confirm this!

### Insulation boards for energy efficiency

Every nVent RAYCHEM system can be combined with an insulation layer to obtain significant energy savings by shortening the heat-up time to reach the desired temperature. An insulation board also improves the insulation for insufficiently insulated subfloors and will lead to cost savings during the operation of an electric underfloor heating system.

## THERMOSTATS

### Accurate heating control for increased comfort whilst saving money

Electrical floor heating is controlled with individual programmable thermostats in each room. Based on differing occupancies and desired temperatures, the thermostats will achieve improved comfort tailored to each room and energy savings.

On top of this, nVent RAYCHEM WIFI thermostats offer the ability to fine tune these temperatures from a distance. This will even more improve on comfort while saving money.

## CLEAN AND SAFE HEATING

### Dry floors: more hygienic and easier to clean

Electrical underfloor heating causes less air movement, hence less dust. Another advantage can be found in the bathroom or wet rooms. Wet floors will dry much faster, bath mats in the bathroom will as well and there will be less risk of mildew or mites. A dry floor is also easier to keep clean as the dust doesn't "stick" to the floor.

### Negligible electro-magnetic fields

Household appliances and home electronics can produce electro-magnetic fields. nVent RAYCHEM products emit the lowest possible electro-magnetic fields thanks to the twin wire construction.



## **EASY-TO-INSTALL AND SUITED TO ALL FLOOR TYPES**

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Smart underfloor heating can be installed under any floor. It does not take up any space in your living area, giving the freedom to position furniture freely.

At home or in the office, in the bathroom or in the living area, nVent RAYCHEM smart underfloor heating systems provide a warm floor and a pleasant room temperature. Our various systems can be installed under all floor coverings like tiles, marble, wood, laminate or carpet.

## **EASY AND HASSLE FREE**

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nVent RAYCHEM systems can be fitted directly on the existing floor (wood, plaster, concrete). Avoiding unnecessary dust, dirt or noise!

The nVent RAYCHEM QuickNet mat is only 3.5 mm thick, so floor height gain is not a problem. Even the self-regulating system T2Red and Reflecta is a mere 13 mm thick.

Ask your local supplier which system is most appropriate for you.



# The Right System for each Application

There is a nVent RAYCHEM smart underfloor heating solution for every situation: renovation and new construction.

## T2RED

### The intelligent underfloor heating system

The T2Red self-regulating system senses other heat sources such as solar radiation, electrical appliances and lighting and it automatically **adjusts its heat output** accordingly. More heat is produced in colder areas –such as near windows or doors- and less heat is produced in warmer areas –such as under rugs and furniture.

There is **no risk of overheating** which gives unlimited flexibility for moving furniture around.

It can be **installed on all subfloors** (plastic, concrete, wood) -in dry or wet areas- and it can be easily adapted to all room sizes and shapes.



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## T2RED WITH REFLECTA

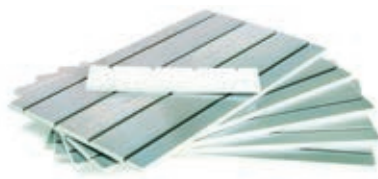
### The energy-saving underfloor heating system

This system combines the self-regulating T2Red heating cable with Reflecta, the pre-grooved, thermally insulated, aluminium-covered plate.

It provides extra **energy savings of 20% or more.** (it even achieves energy savings up to 65% during the heat-up phase)

The thermal insulation and aluminium plates reduce heat losses and provide an even heat distribution.

The T2Red with Reflecta system is the first choice for wooden or laminate floors and is recommended by many wood flooring manufacturers. It can be adapted to **all room sizes** and can **be installed on most subfloors.**



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## QUICKNET

### The thin, self-adhesive heating mat

The thin, self-adhesive QuickNet mat is the ideal solution for renovation. Not only can it be installed under tiles, parquet, laminate and wood flooring, the mat can also be fitted easily around obstacles by only two cuts in the mesh.

The range is composed of mats of different power outputs (90 and 160W/ m<sup>2</sup>) and lengths (from 1m<sup>2</sup> to 12m<sup>2</sup>) with or without underfloor heating thermostat included in the packs.

**QuickNet 90** can be used on all timber and solid subfloors.

When more power output and faster heat up time is required, **QuickNet 160** is the preferred option. QuickNet 160 can be used on all solid and non-combustible subfloors.



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A system for every top floor	Floor covering						
	Tiles	Natural stone	Laminate	Wood	Linoleum	Plastic floor covering	Textile floor coverings**
T2Red in filler	☺☺☺	☺☺☺	☺☺☺	☺☺☺	☺☺☺	☺☺☺	☺☺☺
T2Red with Reflecta	☺☺☺	☺☺☺	☺☺☺	☺☺☺	☺☺	☺☺	☺☺
QuickNet 90	☺☺☺	☺☺☺	☺☺	☺☺	☺☺	☺☺	☺☺
QuickNet 160*	☺☺☺	☺☺☺	–	–	–	–	–
T2Blue 10	☺☺☺	☺☺☺	☺☺	☺☺	☺☺	☺☺	☺☺
T2Blue 20	☺☺☺	☺☺☺	–	–	–	–	–
T2Green	☺☺☺	☺☺☺	–	–	–	–	–
T2Black 12	☺☺☺	☺☺☺	☺☺	☺☺	☺☺	☺☺	☺☺
T2Black 20*	☺☺☺	☺☺☺	–	–	–	–	–

☺☺☺ Very good • ☺☺ Good • – Not applicable

\* QuickNet 160 or T2Black 20 can only be installed on non combustible floors. Temperature sensitive floor coverings should not be fitted above QuickNet 160 or T2Black 20.

\*\* Must be suitable for underfloor heating (maximum resistance to heat transfer 0,15 m<sup>2</sup>K/W).

# Make your Choice...

## T2BLUE

### The flexible in screed underfloor heating cable

The flexible underfloor heating cable is the first choice for complex ground plans. T2Blue can be installed on all conventional and stable substructures. The heating cable is embedded in the levelling compound, screed or concrete, with the floor covering on top.

T2Blue is available in two power outputs: T2Blue 10 W/m is used for standard floor constructions, and T2Blue 20 W/m is the preferred solution in areas where higher power is required.



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## T2GREEN

### The underfloor heating cable for low energy houses

T2Green is the ideal floor heating system for additional comfort heating installations in newly constructed buildings. This floor heating cable is applied in well insulated new construction applications such as low energy buildings and passive houses.

T2Green has a constant power output of 5 W/m. The heating cable is designed to be embedded in a screed (15-30 mm).



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## T2BLACK

### The essential underfloor heating cable, ideal for decoupling membranes

T2Black is the ideal floor heating system for installation in newly constructed buildings or renovation. This cable is particularly well suited to be used in combination with anti-fracture membranes. The range is composed of cable with different outputs (12W/m and 20W/m). T2Black kits exist in variants containing NRG-DM digital electronic thermostat and variants without thermostat. All T2Black cables are delivered pre-terminated and on a spool in a handy installer friendly box containing all necessary installation accessories.



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## THERMOSTATS

### Wide range of thermostats for increased comfort and energy savings

Each underfloor heating system needs to be controlled by a thermostat. A wide range of nVent RAYCHEM programmable thermostats are available in order to suit your specific needs such as ease of use, look and feel and distance control.



GREEN LEAF



SENZ



NRG-DM



SENZ WIFI APP

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# nVent RAYCHEM Self-Regulating Technology

## What does self-regulating mean?

Many years ago, nVent RAYCHEM developed self-regulating heating cables. They automatically adjust their power output to compensate for temperature changes.

The outer jacket, braid and inner jacket provide mechanical, chemical and electrical protection... but the magic happens in the conductive core. The conductive core is extruded over the two, parallel conductors.

As the ambient temperature drops, the core contracts microscopically and the number of electrical paths through the core increases. More heat is produced. Conversely, as the ambient temperature rises, the core expands and has fewer electrical paths. Less heat is produced.

A self-regulating heating cable adjusts its power output along its entire length. That's what makes it a safe and reliable solution for many applications.

## The advantages of a self-regulating underfloor heating system

### 1. Safety and reliability



- Avoids overheating.
- The cable can be closely spaced.
- Maintenance-free.

### 2. Easy installation

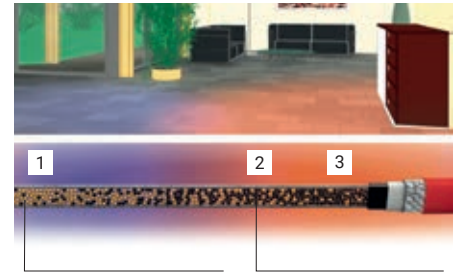


- The cable can be cut-to-length (e.g. when it needs to be adjusted to complex room shapes).
- The cable can be installed directly on the existing subfloor.

### 3. Energy efficiency



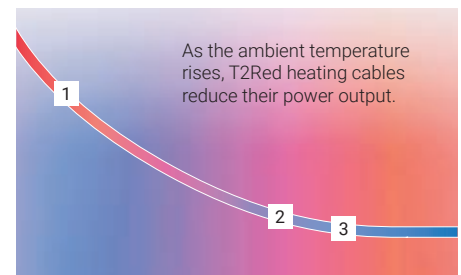
- By adjusting its output to the room temperature, the energy consumption is optimised.



In colder areas, (e.g. near doors or windows), more heat is produced.

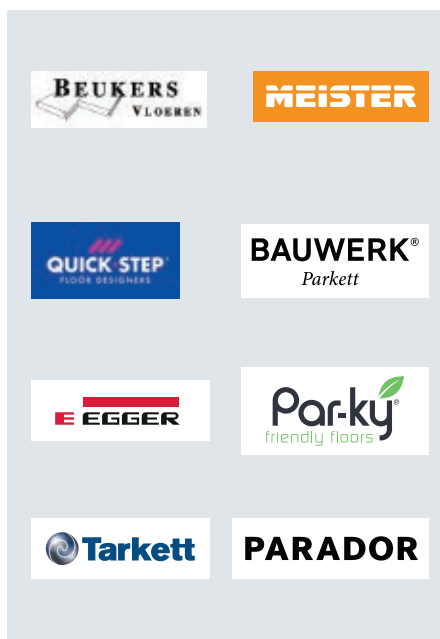
In warm areas, (e.g. in the middle of the room or under carpets and furniture), less heat is produced.

### Power output



As the ambient temperature rises, T2Red heating cables reduce their power output.

Ambient temperature



## nVENT RAYCHEM SELF-REGULATING ELECTRIC UNDERFLOOR HEATING CERTIFIED FOR WOODEN FLOORS

Leading manufacturers of wooden flooring have now certified nVent RAYCHEM's self-regulating electric underfloor heating Reflecta system as suitable for use under wooden floor coverings.

The nVent RAYCHEM system offers a reliable and durable solution, especially for parquet and laminate floors which expand and contract depending on the humidity and temperature.

After the system is switched on, the T2Red heating cable heats up slowly to ensure that the wooden floor is not damaged by abrupt temperature changes. Once the desired operating temperature is reached, the system provides a uniform heat distribution across the entire floor.

Prior to the certification, leading manufacturers of wooden flooring throughout Europe extensively tested the Reflecta system, and it has been proven that the system can be used under wooden floor coverings without concern.

Further information is available from [nVent.com](http://nVent.com)



# A Unique Technology for more Comfort and Safety



Near the door there is a cold draught.

- The cable senses the need for more heat and increases its heat output.



During the day, the sun heats the floor next to the window.

- The cable will lower its heat output automatically.
- No risk of overheating.

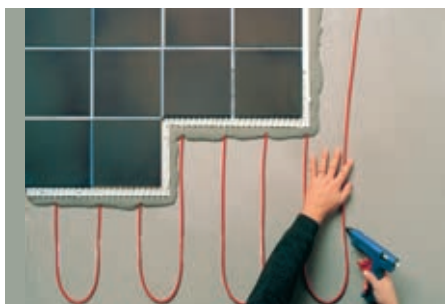


Under the carpet, there is less need for heat.

- The cable will sense this and lower its heat output accordingly.
- There is no risk of overheating or damage to the floor.

# nVent RAYCHEM T2Red: The Intelligent Underfloor Heating System

## T2RED



T2Red is a self-regulating underfloor heating cable for reduced height installation. The cable can be installed under any type of floor surfaces without a risk of overheating. The intelligent heating cable is ideal for improved living comfort in the entire house, from bathroom to children's room.

- **Easy-to-design:** one heating cable for all shapes of rooms.
- **Flexible:** cut-to-length, no cold lead needed.
- **Ideal for renovation:** reduced height cable thickness 8mm.

## APPLICATIONS

Living rooms, kitchens, bathrooms, dining rooms, children's room, conservatories:

- **Top floor:** Tiles, marble, stones, parquet, engineered wood, laminate, carpet or vinyl floors\*.
- **Subfloor:** Cement screed, anhydrite screed, wooden floor, gypsum board, timber floor board, asphalt screed.

\* For tiles, marble, stones: max. 30 mm thickness  
For parquet, engineered wood, laminate, carpet or vinyl floors: maximal thermal resistance (R-value) of 0,15 m<sup>2</sup>K/W

## EMBEDDING OPTIONS

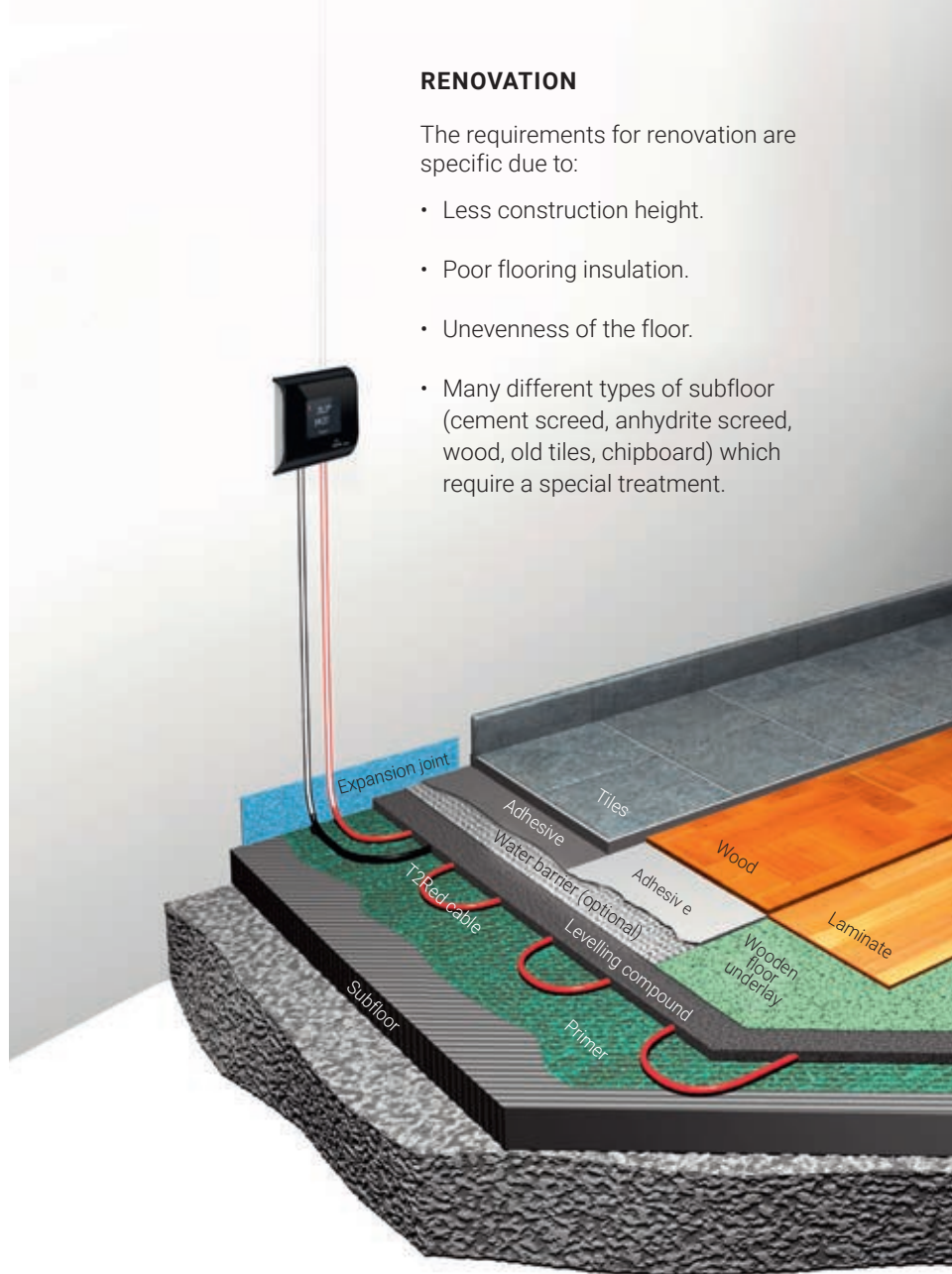
Height*	T2Red
15-30 mm	😊😊😊
30-50 mm	😊😊

\* floor covering not included

## RENOVATION

The requirements for renovation are specific due to:

- Less construction height.
- Poor flooring insulation.
- Unevenness of the floor.
- Many different types of subfloor (cement screed, anhydrite screed, wood, old tiles, chipboard) which require a special treatment.

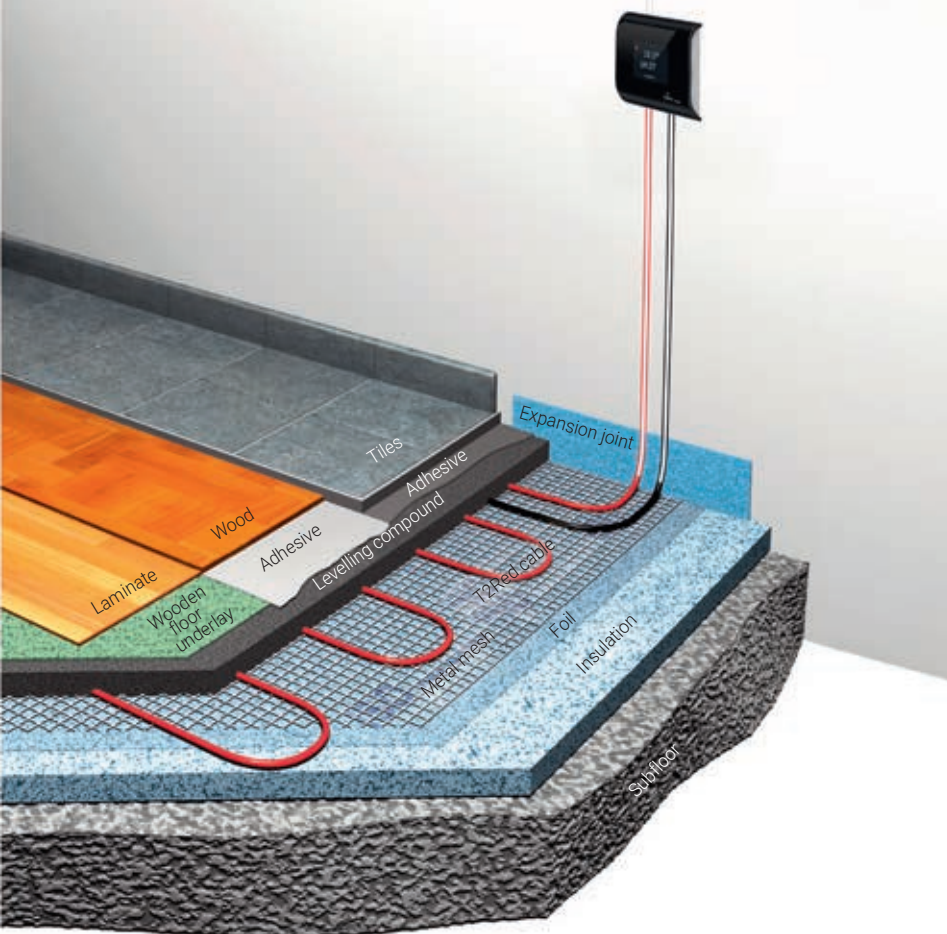


## RENOVATION

Floor construction	Approx. output (W/m <sup>2</sup> )	Heating cable length (m/m <sup>2</sup> )	Cable spacing (mm)
15 mm cover plus tiles, marble, stones	100	10	100
	90	8	120
	80	7	140
	70	6	160
	60	5	180
15 mm cover plus parquet, engineered wood, laminate, carpet or vinyl floors	100	10	100
	80	8	120
	70	7	140
	60	6	160
	50	5	180

## NEW CONSTRUCTION

- Screed thickness 50 mm.
- New construction of floor construction including insulation in respect to the building regulations. Installation of cable will be embedded in a layer of 5 cm screed.



## NEW CONSTRUCTION

Floor construction	Approx. output (W/m <sup>2</sup> )	Heating cable length (m/m <sup>2</sup> )	Cable spacing (mm)
30-50 mm cover plus tiles, marble, stones	100	8	120
	90	7	140
	80	6	160
	70	5	180
30-50 mm cover plus parquet, engineered wood, laminate, carpet or vinyl floors	90	8	120
	80	7	140
	70	6	160
	60	5	180

## Which power output do I need?

### 1. New construction – good insulation

35 W/m<sup>2</sup> - 60 W/m<sup>2</sup>.

### 2. Renovation – good insulation

60 W/m<sup>2</sup> -100 W/m<sup>2</sup>.

### 3. Insufficient insulation – more output required >100 W/m<sup>2</sup>.

The above values are for comfort underfloor heating. Make a heat-loss calculation if in doubt (insulation, room size, number of windows, ...) or contact us at 0800 969 013.

## Which quantity do I need?

### 1. Select the required power output and required cable length per m<sup>2</sup>

The table below shows the spacing and required cable length per m<sup>2</sup> and the spacing between the cables. The power output gives approx. 20–25°C (depending on the subfloor construction). For higher power output, contact us at 0800 969 013.

### 2. Multiply the cable length per m<sup>2</sup> by the total floor surface (m<sup>2</sup>)

**Example:** Renovation of bathroom (5 m<sup>2</sup>) with tile floor.

1. Select '15 mm cover plus tiles'.
2. Select '80 W/m<sup>2</sup>' → 7 m cable needed /m<sup>2</sup>. Spacing between two cable runs is 140 mm.
3. Required cable length = 7 x 5 = 35 m T2Red heating cable + 2 m for connection in junction box = 37 m.

## TECHNICAL DATA

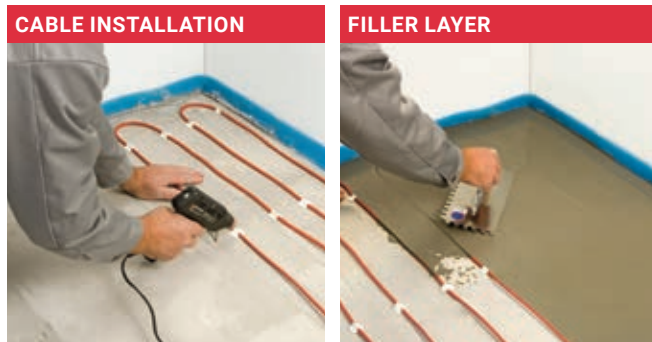
T2Red	
Power output	50 – 100 W/m <sup>2</sup> (5-15 W/m) *
Voltage	AC 230 V
Max. heating cable circuit length	100 m @ 10 A
Min. bending radius	35 mm
Max. self-generating temperature	45°C
Max. exposure temperature	65°C
Max. dimensions (width and height)	6,0 mm x 8,7 mm
Thermostat (see p. 36-41)	NRG-DM, GREEN LEAF, SENZ or SENZ WIFI

\* depending on the cable spacing/floor construction and covering. Values stated in stable conditions at 25°C floor temperature.



# nVent RAYCHEM T2Red: The Intelligent Underfloor Heating System

## HOW TO INSTALL IN RENOVATION?



Clean the floor. Apply a layer of adhesive primer. Attach the cable (eg. use glue gun) on the floor.

Carefully apply an even layer of filler on top of the cable. Let it cure according to the manufacturers' instructions.

### Attention:

- All electrical work must be performed by an authorised electrician.
- In general it is to be ensured that only floor coverings which are suitable for underfloor heating are used.



The Senz and Senz WIFI thermostats have a first warming function which helps to cure the cement screed in 21 days.

### Floor coverings:

- Tiles
- Natural stone
- Laminate
- Wood
- Linoleum
- Plastic floor covering
- Textile floor covering\*\*

\*\* Must be suitable for underfloor heating (maximum resistance to heat transfer 0,15 m<sup>2</sup>K/W).

## HOW TO INSTALL IN NEW CONSTRUCTION?



Determine the position of the heating zones before starting the installation of the heating cable and screed layer, in agreement with the planner/architect.

Attach the cable on a metal mesh (with KBL-10 cable ties) using the desired cable spacing.

Carefully apply a screed on top of the cable. Let it cure according to the manufacturers' instructions. Depending on the type of screed this process can start after 7 days (anhydrite screed) or 21 days (cement screed). The first heating up and down procedure of the screed has to be agreed with the supplier and documented.

### Electrical connection

Max. circuit length	100 m
Cold lead	Not required, direct connection possible in junction box or to thermostat
Circuit breaker	10 A (Type C)
Earth leakage current breaker (rcd)	30 mA, 100 ms

Installation of thermostat + sensor (see page 34–39)



"Zero height" installation. Install T2Red directly into pre-cut grooves. Call 0800 969 013.



## WHAT DO I NEED TO ORDER?

### 1. T2Red self-regulating cable on spool

Product name	Part number	Description
T2Red on spool	948739-000	T2Red floor heating cable 5-15 W/m 230 V



### 2. Components

Product name	Part number	Description
CE-T2Red	323608-000	T2Red Connection and End Seal Kit
Sensor installation conduit	6012-8949541	2,5 m flexible plastic conduit for installation of the floor sensor

### 3. Thermostat (see page 36-41)

Product name	Part number	Description
<b>NRG-DM</b>	1244-015152	Intuitive electronic thermostat with flexible weekly schedule and 1.8" display. Easy to use and to program.
<b>GREEN LEAF</b>	1244-017312	Attractive electronic thermostat with 4 event weekly schedule
<b>SENZ</b>	1244-017777	Programmable touchscreen thermostat combining ease of use and aesthetic design for maximum comfort from your underfloor heating.
<b>SENZ WIFI</b>	1244-017778	WIFI enabled programmable touchscreen thermostat combining app enabled remote control, ease of use and aesthetic design for maximum comfort from your underfloor heating.



## PRE-TERMINATED T2RED PACKS

### Include:

- Pre-terminated T2Red cable with end seal.
- Thermostat SENZ.
- 2 extra front plates.
- 1 sensor cable 3,0 m.
- Sensor installation conduit.
- 1 sensor end plug.
- Glue sticks.
- 3 installation manuals.
- 1 commissioning report.



Product name	Part number	Length (m)
<b>R-RD-B-16M/SENZ</b>	1244-019773	16 m
<b>R-RD-B-23M/SENZ</b>	1244-019774	23 m
<b>R-RD-B-30M/SENZ</b>	1244-019775	30 m
<b>R-RD-B-37M/SENZ</b>	1244-019776	37 m
<b>R-RD-B-44M/SENZ</b>	1244-019777	44 m
<b>R-RD-B-58M/SENZ</b>	1244-019778	58 m
<b>R-RD-B-72M/SENZ</b>	1244-019779	72 m
<b>R-RD-B-86M/SENZ</b>	1244-019780	86 m
<b>R-RD-B-100M/SENZ</b>	1244-019781	100 m

## ACCESSORIES

Product name	Part number	Description
<b>CE-T2Red</b>	323608-000	T2Red Connection and End Seal Kit
<b>S-T2Red</b>	397408-000	T2Red Splice Kit
<b>T2Red starter-pack 300 m</b>	821116-000	Complete starter pack: 300 m heating cable, 5 thermostat, 10 connection and end seal kit-kits, trolley
<b>T2Red trolley</b>	701370-000	T2Red trolley
<b>T2Red hot glue sticks</b>	503052-000	70 pcs in 1 box
<b>KBL-10</b>	102823-000	100 Cable ties
<b>Sensor installation conduit</b>	6012-8949541	2,5 m flexible plastic conduit for installation of the floor sensor

# nVent RAYCHEM T2Red with Reflecta: The Energy-Efficient System

## T2RED WITH REFLECTA



### System components

- T2Red self-regulating heating cable.
- Reflecta plate:
  - With installation grooves.
  - With insulation + integrated aluminum heat distribution layer.
- End plates.

### Applications

Living rooms, kitchens, bathrooms, dining room, children's rooms, conservatories:

- **Top floor:** Tiles, marble, stones, parquet, engineered wood, laminate, carpet or vinyl floors\*.
- **Subfloor:** Cement screed, anhydrite screed, wooden floor, gypsum board, timber floor board, asphalt screed.

\*For tiles, marble, stones: max. 30 mm thickness

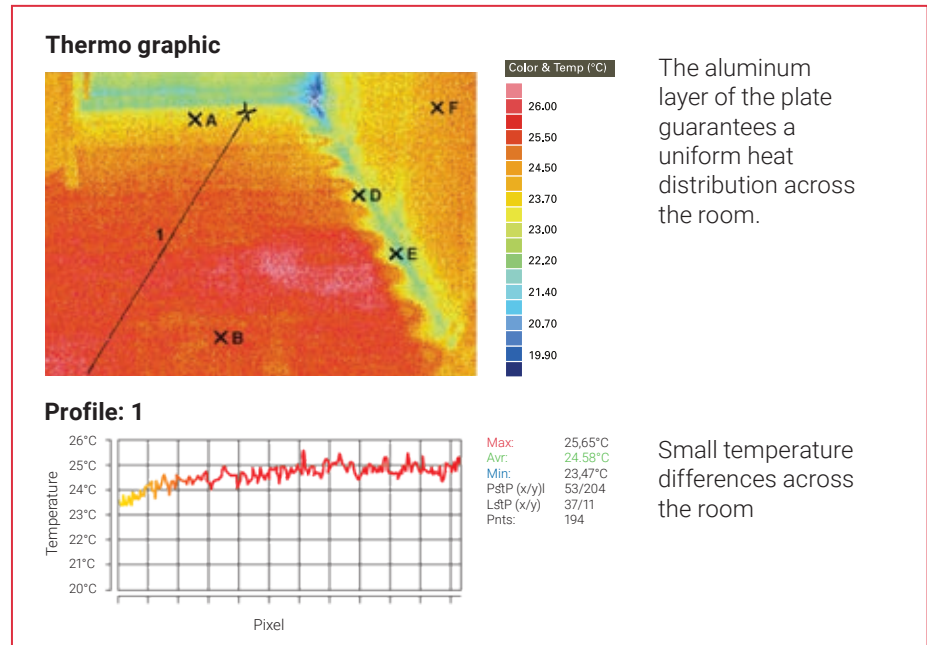
For parquet, engineered wood, laminate, carpet or vinyl floors: maximal thermal resistance (R-value) of 0,15 m2K/W

### The energy-efficient system

- 20% extra energy saving through integrated insulation.
- Even and adaptive heat distribution in floor.
- Flexible interior design. Thanks to the self-regulating effect, there is no risk for overheating under rugs, furniture, etc.
- Automatic self-regulating output depending on environment (more output in cold zones, less output in warm zones).
- No measurable electro-magnetic fields.
- Long life and maintenance free.

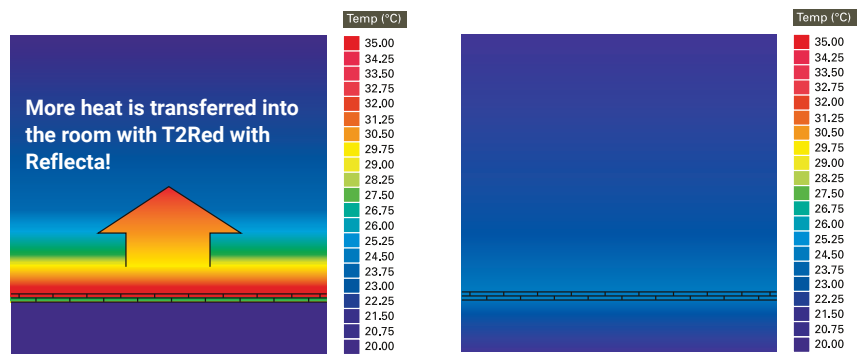
### Advantages

Uniform temperature levels across the room.



### Extremely fast heat up

Heat transportation in stationary air, after 1 hour operation.

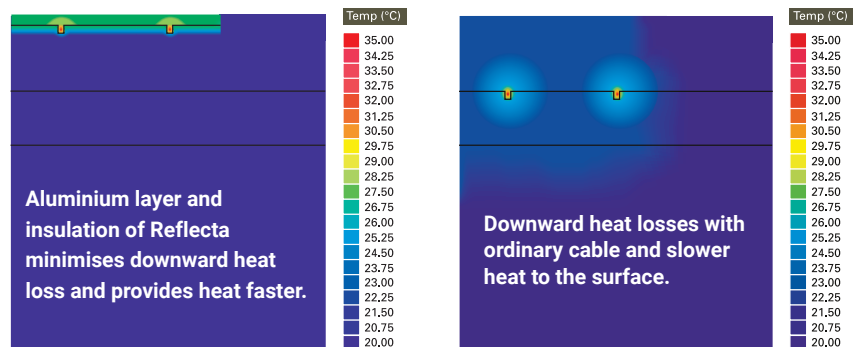


T2Red with Reflecta - 100 W/m<sup>2</sup> under tiles (after 1 hour operation).

Heating cable in filler - 100 W/m<sup>2</sup> under tiles (after 1 hour operation).

### Reduced heat-loss

Heat where it matters: under the top floor.



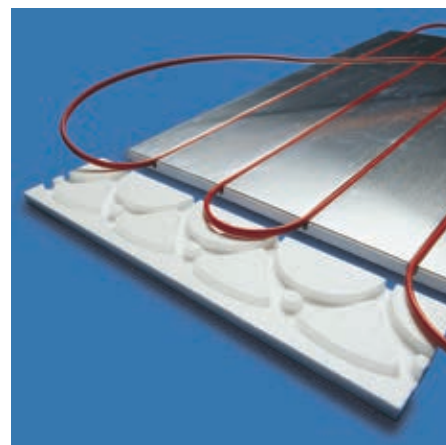
T2Red with Reflecta on concrete.

Heating cable in filler on concrete subfloor.

## Which power output do I need?

<b>1. New construction – good insulation</b>	35 W/m <sup>2</sup> - 60 W/m <sup>2</sup>
<b>2. Renovation – good insulation</b>	60 W/m <sup>2</sup> - 100 W/m <sup>2</sup>
<b>3. Insufficient insulation – more output required</b>	>100 W/m <sup>2</sup>

The above values are for comfort underfloor heating. Make a heat-loss calculation if in doubt (insulation, room size, number of windows, ...) or contact us at 0800 969 013.



Top floor type	Approx. output (W/m <sup>2</sup> )	Heating cable length (m/m <sup>2</sup> )	Cable spacing (mm)
tiles, marble, stones	45	3,3	300
	70	5	200
	100	10	100
parquet, engineered wood, laminate, carpet or vinyl floors	35	3,3	300
	50	5	200
	70	10	100

## TECHNICAL DATA

Reflecta plate	
<b>Materials</b>	Alu (0,5 mm thickness) & EPS (12,5 mm)
<b>Plate dimensions</b>	720 mm x 400 mm x 13 mm
<b>End plate dimensions</b>	100 mm x 400 mm x 12,5 (no alu)
<b>Fire classification</b>	DIN 4102-B1
<b>U-value</b>	2,33 W/m <sup>2</sup> K
<b>Thermal conductivity</b>	0,033 W/(mK)
<b>Thermal expansion coefficient</b>	2,4 x 10 <sup>5</sup> 1/K
<b>Long term pressure capability</b>	140 kPa (14000 kg/m <sup>2</sup> )

Technical data of the T2Red cable see page 11.

## Which quantity do I need ?

### 1. Select the required power output and required T2Red cable length per m<sup>2</sup>

The table below shows the required spacing and cable length per m<sup>2</sup> and the spacing between the cables. The power output gives approx. 20–25°C.

### 2. Determine the required number of Reflecta insulated plates

One Reflecta insulated plate package covers 3,12 m<sup>2</sup>.

It consists of 10 Reflecta plates (720 x 400 mm) and six end plates (100 x 400 mm).

**Example:** Entrance hall of 5 m<sup>2</sup> with wooden floor:

1. Select '70 W/m<sup>2</sup>' power output → 10 m T2Red cable per m<sup>2</sup>. Spacing between two cable runs is 100 mm.

2. Number of Reflecta insulated plates = 5 ÷ 3,12 = 1,6 → 2 packs.

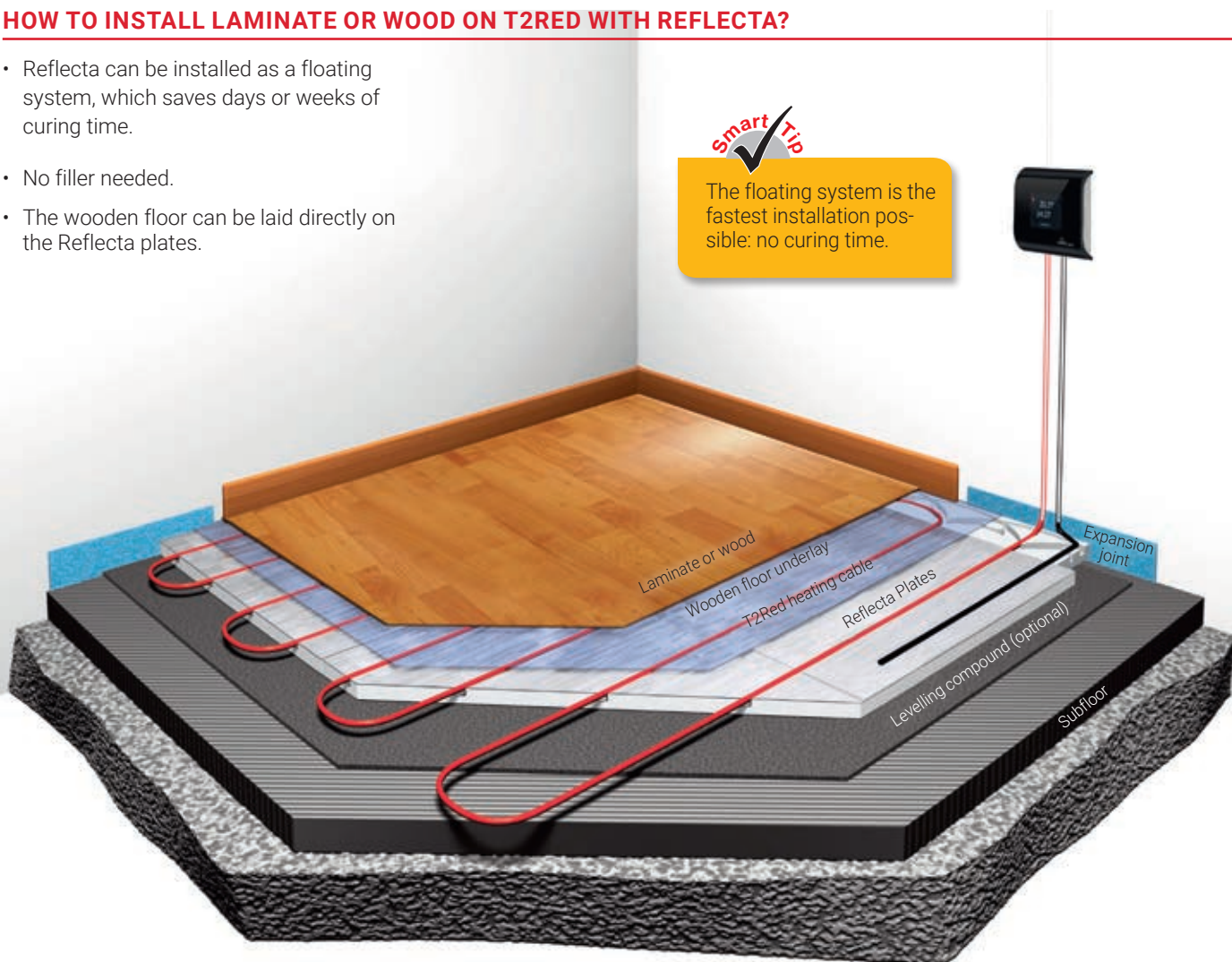
# nVent RAYCHEM T2Red with Reflecta: The Energy-Efficient System

## HOW TO INSTALL LAMINATE OR WOOD ON T2RED WITH REFLECTA?

- Reflecta can be installed as a floating system, which saves days or weeks of curing time.
- No filler needed.
- The wooden floor can be laid directly on the Reflecta plates.



The floating system is the fastest installation possible: no curing time.



## FLOATING SYSTEM



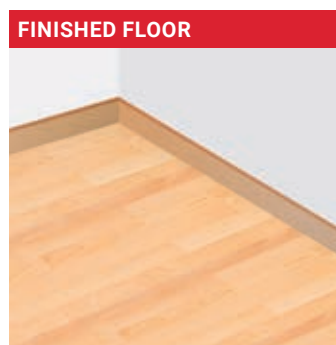
Lay out the Reflecta plates (no need to screw or glue them) on the subfloor.



Place the T2Red heating cable into the grooves. The desired heat output is determined by the spacing of the cable.



Place a wood floor underlay on top of the Reflecta plates and then lay the new wooden or laminate floor according to the instructions of the manufacturer.



Your customers can enjoy the nice warm floor straight away.

### Attention:

- All electrical work must be performed by an authorised electrician.
- Make sure to use a floor covering that is suitable for underfloor heating.



# nVent RAYCHEM T2Red with Reflecta: The Energy-Efficient System

## HOW TO INSTALL TILES OR NATURAL STONE ON T2RED WITH REFLECTA?



nVent RAYCHEM systems are certified with building materials from leading brands.

→ More on **page 43** or [nVent.com](http://nVent.com)



### INSTALLATION OF PLATES



Apply Reflecta Adhesive A-FIX onto the subfloor (or use 15 screws per plate for wooden subfloors). Place the Reflecta plates on top of the glue.

### INSTALLATION OF CABLE



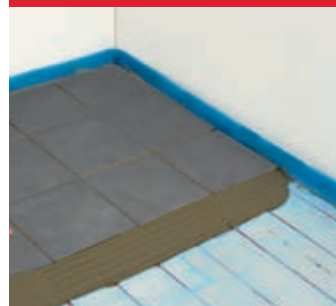
Place the T2Red heating cable in the grooves. The desired heat output is determined by how closely you space the cable (100, 200 or 300 mm).

### APPLY PRIMER WITH A ROL



Apply the Primer P-Fix on the aluminum layer.

### INSTALLATION OF TILES





Tiles are placed directly on top of the Reflecta plates with tile adhesive, according to the instructions. Approximately 24 hours after grouting the tiles, you can enjoy your nice warm floor.

### Attention:

- All electrical work must be performed by an authorised electrician.
- Make sure to use a floor covering that is suitable for underfloor heating.

# nVent RAYCHEM T2Red with Reflecta: The Energy-Efficient System

## Choose your fixing system for Reflecta plates

Working steps	Reflecta Fix-System for standard installation
Fix the plates to the subfloor	Reflecta A-Fix Cement-based adhesive Walk on 24 hours 
Apply primer on the Reflecta Plates	Reflecta P-Fix Special primer 
Install the tiles	Any flexible tile adhesive or natural stone adhesive
Total curing time	More than 24 hours

## WHAT DO I NEED TO ORDER?

### 1. Reflecta insulation plates

Product name	Part number	Description
<b>Reflecta-pack 3,0 m<sup>2</sup></b>	450052-000	10 pcs of Reflecta-plates (720 mm x 400 mm) and 6 pcs of end plates (100 mm x 400 mm) for 3,12 m <sup>2</sup>
<b>Reflecta-pack 1,0 m<sup>2</sup></b>	6012-8946251	3 pcs of Reflecta-plates (720 mm x 400 mm) and 2 pcs of end plates (100 mm x 400 mm) for 0,944 m <sup>2</sup>
<b>Reflecta-end plates-pack</b>	241662-000	6 pcs of extra end plates (100 mm x 400 mm)



### 2. T2Red self-regulating cable on spool

Product name	Part number	Description
<b>T2Red on spool</b>	948739-000	T2Red floor heating cable 5-15 W/m 230 V
Components	Part number	Description
<b>CE-T2Red</b>	323608-000	T2Red Connection and End Seal Kit
<b>Sensor installation conduit</b>	6012-8949541	2,5 m flexible plastic conduit for installation of the floor sensor



### 3. Accessories

#### Fixing materials for tiles and natural stone tiles

Product name	Part number	Description
<b>Reflecta A-Fix</b>	1244-001372	Adhesive for gluing Reflecta plates on the subfloor, 15 kg paper bag for 6 m <sup>2</sup> . Consumption: 2,2 kg/m <sup>2</sup> with 6 mm tooth comb
<b>Reflecta P-Fix</b>	1244-020806	Primer for the aluminium layer of the Reflecta plates to apply standard natural stone or tile adhesive: 3 kg bucket for 18m <sup>2</sup> . Consumption: 150g/m <sup>2</sup> .



### 4. T2Red & Reflecta packs

Product name	Part number	Description
<b>Reflecta-Laminate-10Plus</b>	1244-002561	Complete pack for 10 m <sup>2</sup> . (T2Red 100 m heating cable, 1 CE-Kit, 4 Reflecta packs = 33 Reflecta plates and 20 end plates)
<b>Reflecta-Tiles-10Plus</b>	1244-002564	Complete pack for 10 m <sup>2</sup> . (T2Red 100 m heating cable, 1 CE-Kit, 4 Reflecta packs = 33 Reflecta plates and 20 end plates; 2 Adhesive A-FIX, 1 Primer P-FIX)



### 5. Thermostat (see page 36-41)

Product name	Part number	Description
<b>NRG-DM</b>	1244-015152	Intuitive electronic thermostat with flexible weekly schedule and 1.8" display. Easy to use and to program.
<b>GREEN LEAF</b>	1244-013810	Attractive electronic thermostat with 4 event weekly schedule
<b>SENZ</b>	1244-017777	Programmable touchscreen thermostat combining ease of use and aesthetic design for maximum comfort from your underfloor heating.
<b>SENZ WIFI</b>	1244-017778	WIFI enabled programmable touchscreen thermostat combining app enabled remote control, ease of use and aesthetic design for maximum comfort from your underfloor heating.



# nVent RAYCHEM QuickNet: The Thin, Self-Adhesive Heating Mat

## QUICKNET



The range is composed of mats of different power outputs (90 and 160W/m<sup>2</sup>) and sizes (from 1m<sup>2</sup> to 12m<sup>2</sup>). If needed, multiple mats of the same power output can be combined to cover bigger surfaces.

**QuickNet 90** can be used on all timber and solid subfloors.

When more power output and faster heat up time is required, **QuickNet 160** is the preferred option. QuickNet 160 can be used on all solid and non-combustible subfloors.

## FAST FACTS

Especially suitable for renovation, but also for new build – only 3.5 mm thin!

### Ease of installation

- Self-adhesive mat with improved adhesion for faster installation
- No need for return cable
- Mat simply needs to be rolled out
- More easy to fit around obstacles (by only two cuts in the mesh)

### Increased flexibility

- Can be installed on all well insulated subfloors
- Can be used in shower areas (wet rooms)
- Many sizes available, even for the smallest rooms

### High Reliability

- Maintenance-free

## INSTALLATION HEIGHTS

Height*	QN90	QN160
0-15 mm	☺☺☺	☺☺☺
15-30 mm	☺☺☺	☺☺☺
30-50 mm	-	-

\* floor covering not included



QuickNet heating mats can be installed directly underneath the tile top floor close to bath tubs and showers and in walk-in showers.



Area (m <sup>2</sup> )	QuickNet-90 Output (W)	QuickNet-160 Output (W)	Dimensions (W x L)
1	90	160	0,5 x 2,0
1,5	135	240	0,5 x 3,0
2	180	320	0,5 x 4,0
2,5	225	400	0,5 x 5,0
3	270	480	0,5 x 6,0
3,5	315	560	0,5 x 7,0
4	360	640	0,5 x 8,0
4,5	405	720	0,5 x 9,0
5	450	800	0,5 x 10,0
6	540	960	0,5 x 12,0
7	630	1120	0,5 x 14,0
8	720	1280	0,5 x 16,0
9	810	1440	0,5 x 18,0
10	900	1600	0,5 x 20,0
12	1080	-	0,5 x 24,0





### Which quantity do I need?

Calculate the heated area in m<sup>2</sup> and select the QuickNet mat which is closest in size (slightly smaller). The heated area of the room should exclude areas beneath counters, fixed furniture, or any other areas where QuickNet will not be installed.

**Example:** Renovation of bathroom (9,4 m<sup>2</sup>) with tile floor. Select QuickNet pack for 9 m<sup>2</sup>.






nVent RAYCHEM systems are certified with building materials from leading brands.

→ More on [page 43](#) or [nVent.com](#)

### TECHNICAL DATA

QuickNet heating mat composition		
	QuickNet-90	QuickNet-160
Heating cable	Constant wattage cable: 8,1 W/m	Constant wattage cable: 11,2 W/m
Power output	90 W/m <sup>2</sup>	160 W/m <sup>2</sup>
Voltage	AC 230 V	AC 230 V
Cable spacing	90 mm	70 mm
Insulation outer jacket	LS0H	LS0H
Cold lead length	2,5 m	5 m
Heating cable diameter	3,4 mm	3,4 mm
Min. bending radius	30 mm	30 mm
Mat material	Fibreglass; self-adhesive	Fibreglass; self-adhesive
Net width	50 cm	50 cm
Thermostat (see page 34–39)	SENZ	SENZ-WIFI

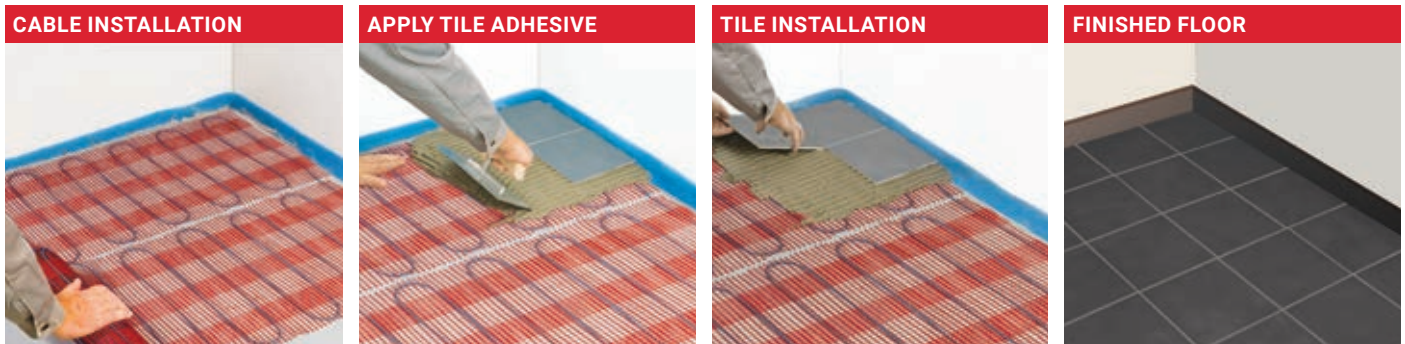
	QuickNet 90	QuickNet 160
<b>Power Output W/m<sup>2</sup></b>		
	90 W/m <sup>2</sup>	160 W/m <sup>2</sup>
<b>Cable Spacing</b>		
	90 mm	70 mm
<b>Tile</b>		
	✓	✓
<b>Wood/Laminate</b>		
	✓	✗
<b>Cold Lead Length</b>		
	2.5 m	5.0 m



For maximum energy savings (up to 65% during the heat-up phase) combine QuickNet with insulation boards

# nVent RAYCHEM QuickNet: The Thin, Self-Adhesive Heating Mat

## HOW TO INSTALL QUICKNET?

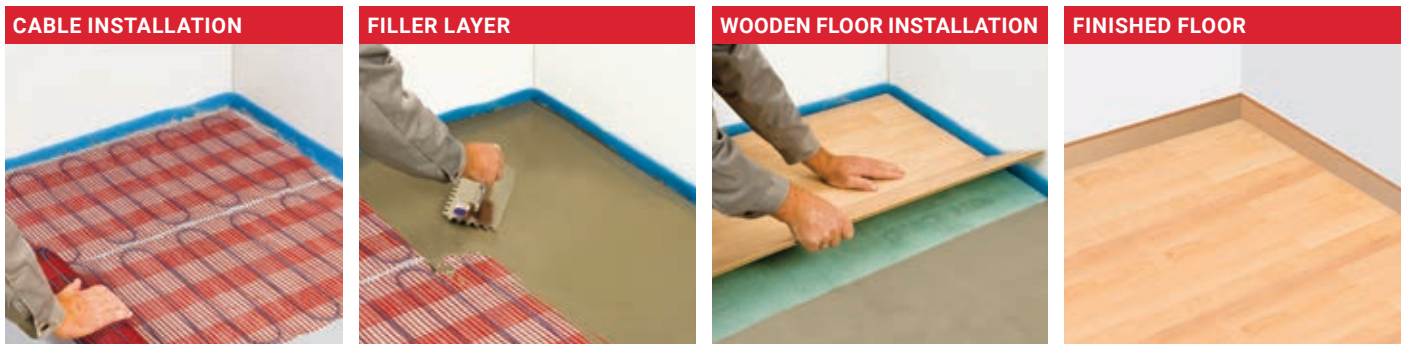


**CABLE INSTALLATION**  
Clean the floor. Apply a layer of adhesive primer. Roll out the heating mat on the floor.

**APPLY TILE ADHESIVE**  
Apply the tile adhesive directly on the QuickNet mat. In wet areas, apply a filler and watertight coating before the tile adhesive.

**TILE INSTALLATION**  
Spread the tile adhesive and let it cure according to instructions. Then install the tiles.

**FINISHED FLOOR**  
Seal tiles with silicone. Allow the floor to cure completely before turning the underfloor heating system on.



**CABLE INSTALLATION**  
Clean the floor. Apply a layer of adhesive primer. Roll out the heating mat on the floor.

**FILLER LAYER**  
Carefully apply an even layer of filler on top of the mat. Let it cure according to the manufacturer's instructions.

**WOODEN FLOOR INSTALLATION**  
Install the laminate or the wooden floor according to the manufacturer's instructions on the completely cured levelled floor.

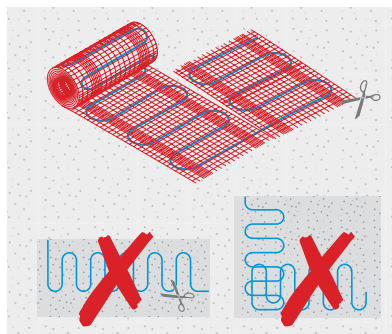
**FINISHED FLOOR**  
Make sure the thermostat is working in floor sensing mode or in room sensing mode with the floor limiter set to 27°C.

### Attention:

- All electrical work must be performed by an authorised electrician.
- Make sure to use a floor covering that is suitable for underfloor heating.



To repair a broken cable use the QUICKNET repair kit.  
→ See accessories **page 25**



To make a turn, cut the mat (avoid damaging the cable) and turn.

### Electrical connection QuickNet

Heating connection to the thermostat		
Max. load without contactor	3000 W	
Thermostat	NRG-DM, GREEN LEAF, SENZ or SENZ WIFI (see page 36-41)	
Electrical connection QuickNet		
	QuickNet 90	QuickNet 160
Maximum heated area for 3000 W load	33 m <sup>2</sup>	18 m <sup>2</sup>
Cold lead length	2,5 m	5 m
Circuit breaker	13 A max.	13 A max.
Earth leakage current breaker (rcd)	30 mA, 100 ms	30 mA, 100 ms

# nVent RAYCHEM QuickNet: The Thin, Self-Adhesive Heating Mat

## HEATING MAT PACK

### QuickNet 90 kit (With or without SENZ thermostat)

#### Pack contents:

- 1 self-adhesive QuickNet 90 W/m<sup>2</sup> mat, 1 cold lead 2,5 m.
  - (1 thermostat SENZ + sensor)\*.
  - (1 extra front plate)\*.
  - 1 sensor end plug.
  - 1 sensor installation conduit.
  - 1 installation manual.
  - 1 commissioning report.
- \* Kits with and without thermostats are available



QuickNet 90					
Product Name	Without thermostat	With SENZ thermostat	Area	Output	Dimensions (W x L in m)
R-QN-N-1,0M2	SZ18300279	SZ18300246	1	90	0,5 x 2,0
R-QN-N-1,5M2	SZ18300280	SZ18300247	1.5	135	0,5 x 3,0
R-QN-N-2,0M2	SZ18300281	SZ18300248	2	180	0,5 x 4,0
R-QN-N-2,5M2	SZ18300282	SZ18300249	2.5	225	0,5 x 5,0
R-QN-N-3,0M2	SZ18300283	SZ18300250	3	270	0,5 x 6,0
R-QN-N-3,5M2	SZ18300284	SZ18300251	3.5	315	0,5 x 7,0
R-QN-N-4,0M2	SZ18300285	SZ18300252	4	360	0,5 x 8,0
R-QN-N-4,5M2	SZ18300286	SZ18300253	4.5	405	0,5 x 9,0
R-QN-N-5,0M2	SZ18300287	SZ18300254	5	450	0,5 x 10,0
R-QN-N-6,0M2	SZ18300288	SZ18300255	6	540	0,5 x 12,0
R-QN-N-7,0M2	SZ18300289	SZ18300256	7	630	0,5 x 14,0
R-QN-N-8,0M2	SZ18300290	SZ18300257	8	720	0,5 x 16,0
R-QN-N-9,0M2	SZ18300291	SZ18300258	9	810	0,5 x 18,0
R-QN-N-10,0M2	SZ18300292	SZ18300259	10	900	0,5 x 20,0
R-QN-N-12,0M2	SZ18300293	SZ18300260	12	1080	0,5 x 24,0

## HEATING MAT PACK

### QuickNet 160 kit (With or without SENZ-WIFI thermostat)

#### Pack contents:

- 1 self-adhesive QuickNet mat 160 W/m<sup>2</sup>
- 1 cold lead 5 m.
- (1 thermostat SENZ-WIFI + sensor)\*
- (1 extra front plate)\*
- 1 sensor end plug.
- 1 sensor installation conduit.
- 3 installation manuals
- 1 commissioning report.
- \* Kits with and without thermostats are available



QuickNet 160					
Product Name	Without thermostat	With SENZ-WIFI thermostat	Area	Output	Dimensions (W x L in m)
R-QN-P-1,0M2	SZ18300294	SZ18300261	1	160	0,5 x 2,0
R-QN-P-1,5M2	SZ18300295	SZ18300262	1.5	240	0,5 x 3,0
R-QN-P-2,0M2	SZ18300296	SZ18300263	2	320	0,5 x 4,0
R-QN-P-2,5M2	SZ18300297	SZ18300264	2.5	400	0,5 x 5,0
R-QN-P-3,0M2	SZ18300298	SZ18300265	3	480	0,5 x 6,0
R-QN-P-3,5M2	SZ18300299	SZ18300266	3.5	560	0,5 x 7,0
R-QN-P-4,0M2	SZ18300300	SZ18300267	4	640	0,5 x 8,0
R-QN-P-4,5M2	SZ18300301	SZ18300268	4.5	720	0,5 x 9,0
R-QN-P-5,0M2	SZ18300302	SZ18300269	5	800	0,5 x 10,0
R-QN-P-6,0M2	SZ18300303	SZ18300270	6	960	0,5 x 12,0
R-QN-P-7,0M2	SZ18300304	SZ18300271	7	1120	0,5 x 14,0
R-QN-P-8,0M2	SZ18300305	SZ18300272	8	1280	0,5 x 16,0
R-QN-P-9,0M2	SZ18300306	SZ18300273	9	1440	0,5 x 18,0
R-QN-P-10,0M2	SZ18300307	SZ18300274	10	1600	0,5 x 20,0

# nVent RAYCHEM QuickNet: The Thin, Self-Adhesive Heating Mat

## EASIER TO INSTALL, EASIER TO FIT

### QUICKNET INSTALLATION



The QuickNet Mat is a highly flexible, thin, self-adhesive system with a patented design reducing installation time, preparations and cost.

The enhanced adhesive bonds cables to sub floors more securely, cables do not require additional fixation nor become detached. The QuickNet self-adhesive



net band also allows for quicker installation of underfloor heating in irregularly shaped rooms.

The nVent RAYCHEM QuickNet Electrical Floor Heating Mat offers improved adhesion and a uniform cable spacing, resulting in a faster installation with a perfect fit.



The QuickNet 90 kit contains the nVent SENZ thermostat. The QuickNet 160 kit has the WIFI-enabled SENZ-WIFI thermostat included. QuickNet kits without thermostat can be combined with any nVent RAYCHEM thermostat of your choice.



**QuickNet 160 W/m<sup>2</sup>  
+ SENZ-WIFI  
thermostat**  
or  
**QuickNet 90 W/m<sup>2</sup>  
+ SENZ thermostat**

### SENZ WIFI INCLUDED IN QUICKNET 160 KIT

- Week Timer
- Predictive Heating
- Open Window
- Distance Control

touch

swipe

easy

wifi

app

32 zones

efficient

Ecodesign  
Compliant

### SENZ INCLUDED IN QUICKNET 90 KIT

- Week Timer
- Predictive Heating
- Open Window
- Distance Control

touch

swipe

easy

efficient





Ecodesign  
Compliant

### ECO-design compliant

The combination of QuickNet with a thermostat equipped with energy saving features, like the ability to detect an open window or predict when to start heating, results in a system that is compliant with Eco-Design regulations that require heating apparatus to meet a certain level of energy efficiency.



## Thermostat (see page 36–41)

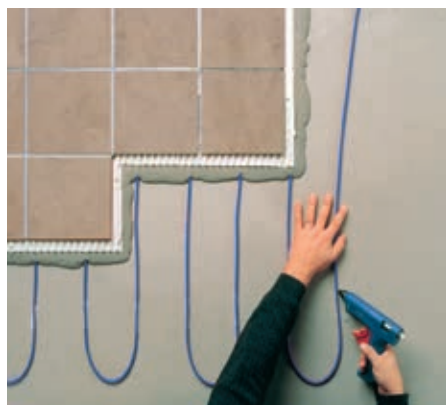
Product name	Part number	Description	
<b>NRG-DM</b>	1244-015152	Intuitive electronic thermostat with flexible weekly schedule and 1.8" display. Easy to use and to program.	
<b>GREEN LEAF</b>	1244-017312	Attractive electronic thermostat with 4 event weekly schedule	
<b>SENZ</b>	1244-017777	Programmable touchscreen thermostat combining ease of use and aesthetic design for maximum comfort from your underfloor heating.	
<b>SENZ WIFI</b>	1244-017778	WIFI enabled programmable touchscreen thermostat combining app enabled remote control, ease of use and aesthetic design for maximum comfort from your underfloor heating.	

## Accessories

Product name	Part number	Description
<b>QuickNet Repair kit</b>	1244-008869	Repair and Extension kit for QuickNet

# nVent RAYCHEM T2Blue: The Flexible Underfloor Heating Cable

## T2BLUE



The flexible underfloor heating cable is suitable for installation directly in a levelling compound, screed, or concrete.

- Heating cable with pre-fabricated power cable.
- Ideal for complex floor layouts.
- Power output flexibility by varying the distance between heating cables.
- Suitable for laying in milled grooves in the screed/concrete without increasing the total height of the floor structure.

### Applications

Bathrooms, stairs, living areas, conservatories.

- **Floor covering:** Suitable for most floor coverings, subject to installation guidance and floor covering manufacturer approval.
- **Subfloor:** Cement screed floor; concrete.

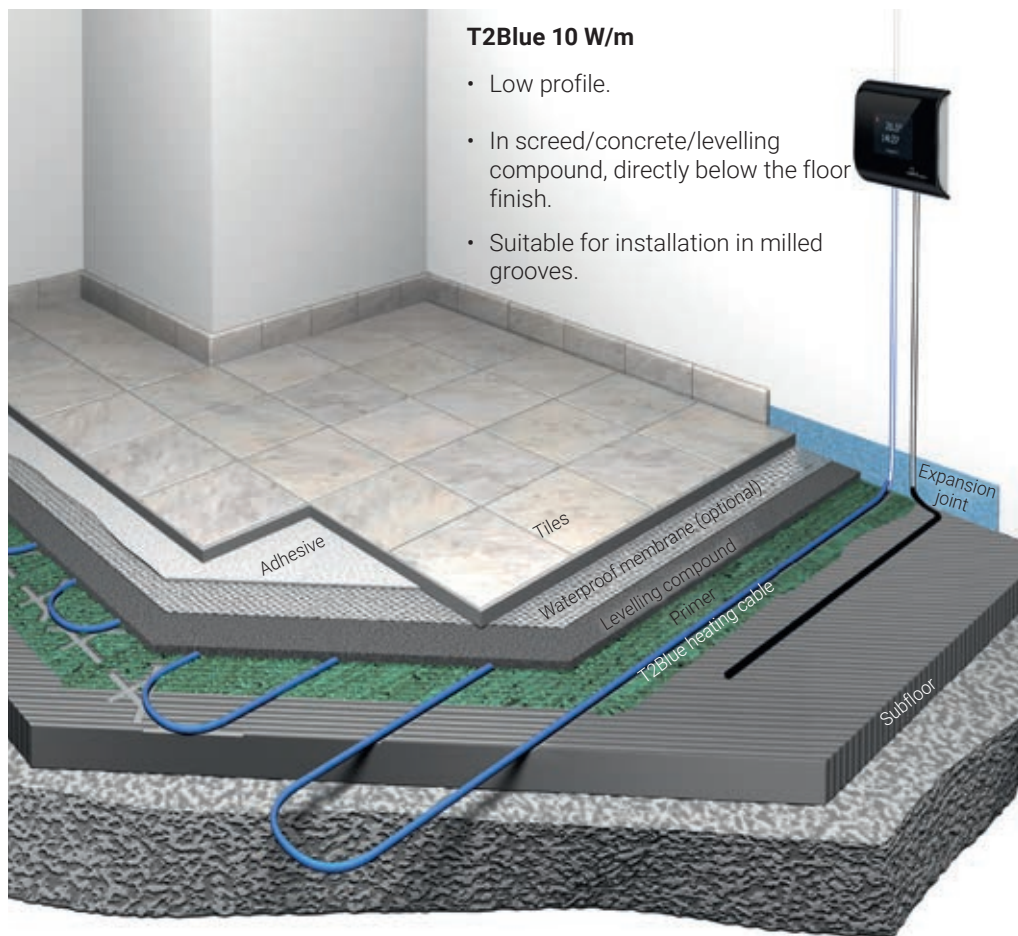
### INSTALLATION HEIGHTS

Height*	T2Blue-10	T2Blue-20
10-15 mm	☺	–
15-30 mm	☺☺☺	–
30-50 mm	☺	☺☺☺

\* floor covering not included



For maximum energy savings (up to 65% during the heat-up phase) combine T2Blue with insulation plates (e.g. WEDI boards)



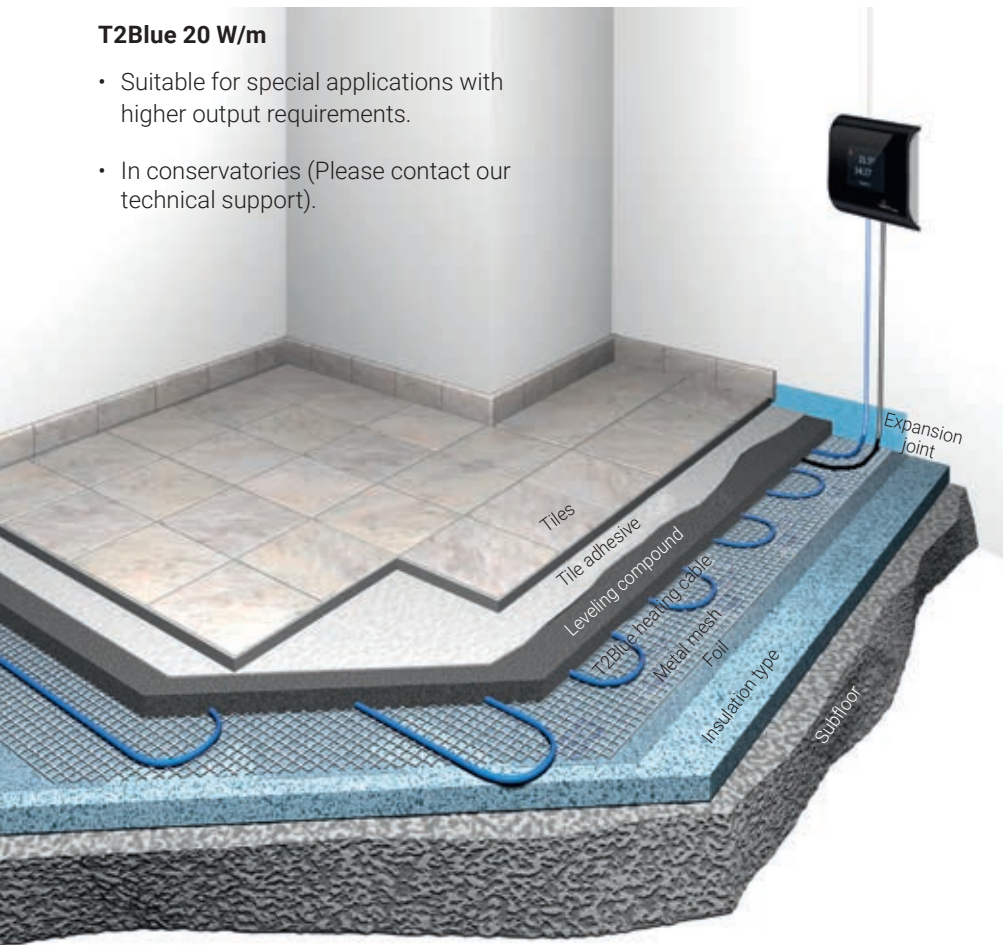
### T2Blue 10 W/m

- Low profile.
- In screed/concrete/levelling compound, directly below the floor finish.
- Suitable for installation in milled grooves.

T2Blue 10 W	P heating power (W)	L length (m)	A area (m <sup>2</sup> )				
			60 W/m <sup>2</sup>	70 W/m <sup>2</sup>	80 W/m <sup>2</sup>	100 W/m <sup>2</sup>	125 W/m <sup>2</sup>
T2Blue-10-10 m	100	10	1,7	1,4	1,3	1	0,8
T2Blue-10-15 m	150	15	2,5	2,1	1,9	1,5	1,2
T2Blue-10-20 m	200	20	3,3	2,9	2,5	2,0	1,6
T2Blue-10-25 m	250	25	4,2	3,6	3,1	2,5	2
T2Blue-10-30 m	305	30	5,1	4,4	3,8	3,0	2,4
T2Blue-10-40 m	400	40	6,7	5,7	5,0	4,0	3,2
T2Blue-10-50 m	505	50	8,4	7,2	6,3	5,0	4,0
T2Blue-10-60 m	605	60	10,1	8,6	7,6	6,0	4,8
T2Blue-10-70 m	700	70	11,7	10,0	8,7	7,0	5,6
T2Blue-10-80 m	805	80	13,4	11,5	10,0	8,0	6,4
T2Blue-10-90 m	890	90	14,8	12,7	11,0	9,0	7,1
T2Blue-10-101 m	1010	101	16,8	14,4	12,6	10,0	8,1
T2Blue-10-121 m	1215	121	20,2	17,4	15,2	12,0	9,7
T2Blue-10-142 m	1420	142	23,7	20,3	17,8	14,2	11,4
T2Blue-10-160 m	1600	160	26,7	22,9	20,0	16,0	12,8
T2Blue-10-180 m	1800	180	30,0	25,7	22,6	18,0	14,4
T2Blue-10-200 m	2000	200	33,3	28,6	25,0	20,0	16,0
<b>Calculate heating cable spacing</b>		(mm) = $x = \frac{A}{L} \times 1000$	<b>+/-160 mm</b>	<b>+/-140 mm</b>	<b>+/-120 mm</b>	<b>+/-100 mm</b>	<b>+/- 80 mm</b>

## T2Blue 20 W/m

- Suitable for special applications with higher output requirements.
- In conservatories (Please contact our technical support).



### Which power output do I need?

- 1. New construction – good insulation** 35 W/m<sup>2</sup> - 60 W/m<sup>2</sup>.
- 2. Old building renovation – good insulation** 60 W/m<sup>2</sup> -100 W/m<sup>2</sup>.
- 3. Old building renovation – less well insulated** 125 W/m<sup>2</sup> -150 W/m<sup>2</sup>.

The specified values are recommended values and apply for comfort heating.

A minimum installation depth of 30–50 mm must be provided when using T2Blue 20.

### Which cable do I need?

1. Determine the room area in m<sup>2</sup>: e.g. 13.5 m<sup>2</sup>.
2. Determine the (free) area in m<sup>2</sup> to be heated: e.g. 10 m<sup>2</sup>.
3. Select the total power output required for the area in W. e.g. 1,200 W.
4. Calculate the power per square meter: e.g.: 1,200 W/10 m<sup>2</sup> = 120 W/m<sup>2</sup>.
5. Select the product with the nearest total power from the table below T2Blue-10: e.g. T2Blue 10-121M = 1,215 W/230V (121 W/m<sup>2</sup>).
6. Define the heating cable spacing: 10 m<sup>2</sup>/121 m heating cable length = 0.08 m (approx. 82 mm).
7. Select your thermostat NRG-DM, GREEN LEAF, SENZ or SENZ WIFI.

## TECHNICAL DETAILS

T2Blue 20 W	P heating power (W)	L length (m)	A area (m <sup>2</sup> )			
			80 W/m <sup>2</sup>	100 W/m <sup>2</sup>	125 W/m <sup>2</sup>	150 W/m <sup>2</sup>
T2Blue-20-14 m	285	14	3,6	2,9	2,3	1,9
T2Blue-20-21 m	435	21	5,4	4,4	3,5	2,9
T2Blue-20-28 m	575	28	7,2	5,8	4,6	3,8
T2Blue-20-35 m	720	35	9,0	7,2	5,8	4,8
T2Blue-20-43 m	845	43	10,6	8,5	6,8	5,6
T2Blue-20-50 m	980	50	12,3	9,8	7,8	6,5
T2Blue-20-57 m	1130	57	14,1	11,3	9,0	7,5
T2Blue-20-63 m	1270	63	15,9	12,7	10,2	8,5
T2Blue-20-71 m	1435	71	17,9	14,4	11,5	9,6
T2Blue-20-86 m	1710	86	21,4	17,1	13,7	11,4
T2Blue-20-101 m	2015	101	25,2	20,2	16,1	13,4
T2Blue-20-115 m	2300	115	28,8	23,0	18,4	15,3
<b>Heating cable spacing</b>	<b>(mm) = x = <math>\frac{A}{L}</math> x 1000</b>	<b>+/- 250* mm</b>	<b>+/- 200* mm</b>	<b>+/- 160 mm</b>	<b>+/-135 mm</b>	



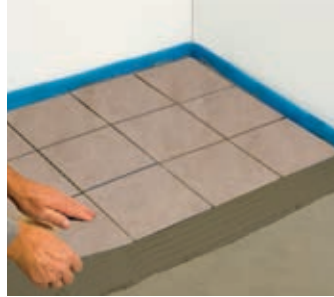

\* Only recommended with subfloor of 50 mm

T2Blue	
Heating power T2Blue-10	10 W/m; constant wattage heating cable with electrically protective covering
T2Blue-20	20 W/m; constant wattage heating cable with electrically protective covering
Voltage rating	AC 230 V
Min. bending radius	30 mm
Minimum heater spacing	50 mm
Rated maximum temperature	90°C
Heating cable external diameter	5,5 mm
Outer jacket material	LSOH
Heating conductor insulation	Fluoropolymer
Length of connecting cable	2,5 m
Approvals	VDE; SEMKO; CE, UkrSEPRO and EAC
Thermostat (see page 36-41)	NRG-DM, GREEN LEAF, SENZ or SENZ WIFI





# nVent RAYCHEM T2Blue: The Flexible Underfloor Heating Cable

## HOW IS T2BLUE-10 INSTALLED IN THE RENOVATION OF A BUILDING?

HEATING CABLE INSTALLATION	APPLYING LEVELLING COMPOUND	INSTALLATION OF TILES	FINISHED FLOOR
			
<p>Apply a layer of adhesive primer. Attach the heating cable (e.g. use hotglue gun) on the clean floor.</p>	<p>Carefully apply an even layer of levelling compound on top of the heating cable. Let it cure according to the manufacturer's instructions.</p>	<p>Spread the tile adhesive and then lay out and grout the tiles. In wet areas, apply a watertight coating before the tile adhesive.</p>	<p>Seal between tiles and walls with a silicon sealant. Allow the floor to cure completely before turning the underfloor heating system on.</p>

## HOW IS THE T2BLUE-20 HEATING SYSTEM INSTALLED IN A 30-50 MM SCREED?

HEATING CABLE INSTALLATION	SCREED INSTALLATION	INSTALLING THE NATURAL STONE	FINISHED FLOOR
			
<p>Determine the position of the heating zones before starting the installation of the heating cable and screed layer in agreement with the planner/architect.</p>	<p>Apply the screed carefully without damaging the heating cable. Let the screed cure according to the manufacturer's instructions.</p>	<p>Spread the natural stone adhesive and then lay out and join the natural stone. In wet areas, apply a watertight coating before the natural stone adhesive.</p>	<p>Seal between the natural stone and walls with a silicon sealant. Allow the floor to cure completely before turning the underfloor heating system on.</p>

### Attention:

- All electrical work must be performed by an authorised electrician.
- The suitability of the floor covering in conjunction with floor heating should be verified with the manufacturer.

## ELECTRICAL CONNECTIONS

Installation of the heating cable + sensor		
Maximum load without power contactor	3000 W	
	T2Blue-10	T2Blue-20
Maximum heating cable length	200 m	115 m
Cold lead	2,5 m	2,5 m
Circuit breaker	Max.13 A	
Earth leakage current breaker (rød)	30 mA, 100ms	

Installation of thermostat + sensor (see page 36-41)



Repair a damaged heating cable with the T2Blue repair kit.  
→ See accessories **page 30**



"Zero millimetre installation height" Install the T2Blue heating cable directly in milled installation grooves in the screed. Call us!



The nVent RAYCHEM Senz and Senz WIFI thermostats have a first warming function which helps to cure the cement screed in 21 days.



## WHAT DO I NEED TO ORDER?

### Underfloor heating cable T2Blue 10 W/m

- with commissioning report
- Warning sign



#### Pack contents:

Product name	Without Thermostat	With SENZ Thermostat	Length in m	Power in W
T2Blue-10-20M	1244-002603	SZ18300219	20	200
T2Blue-10-30M	1244-002604	SZ18300221	30	300
T2Blue-10-40M	1244-002605	SZ18300222	40	400
T2Blue-10-50M	1244-002606	SZ18300223	50	500
T2Blue-10-60M	1244-002607	SZ18300224	60	600
T2Blue-10-70M	1244-002608	SZ18300225	70	700
T2Blue-10-80M	1244-002609	SZ18300226	80	800
T2Blue-10-90M	1244-002610	SZ18300227	90	900
T2Blue-10-101M	1244-002611	SZ18300228	101	1010
T2Blue-10-121M	1244-002612	SZ18300229	121	1210
T2Blue-10-142M	1244-002613	SZ18300230	142	1420
T2Blue-10-160M	1244-002614	SZ18300231	160	1600
T2Blue-10-180M	1244-002615	SZ18300232	180	1800
T2Blue-10-200M	1244-002616	SZ18300233	200	2000

### Underfloor heating cable T2Blue 20 W/m

#### Pack contents:







Product name	Without Thermostat	With SENZ Thermostat	Length in m	Power in W
T2Blue-20-11M	1244-002007	SZ18300275	11	220
T2Blue-20-14M	1244-001918	SZ18300234	14	280
T2Blue-20-18M	1244-002008	SZ18300276	18	360
T2Blue-20-21M	1244-001919	SZ18300235	21	420
T2Blue-20-28M	1244-001920	SZ18300236	28	560
T2Blue-20-35M	1244-001921	SZ18300237	35	700
T2Blue-20-43M	1244-001922	SZ18300238	43	860
T2Blue-20-50M	1244-001923	SZ18300239	50	1000
T2Blue-20-57M	1244-001924	SZ18300240	57	1140
T2Blue-20-63M	1244-001925	SZ18300241	63	1260
T2Blue-20-71M	1244-001926	SZ18300242	71	1420
T2Blue-20-86M	1244-001927	SZ18300243	86	1720
T2Blue-20-101M	1244-002212	SZ18300244	101	2020
T2Blue-20-115M	1244-001928	SZ18300245	115	2300

	Packs without thermostat	Packs with SENZ thermostat
<b>Cable</b>	Prefabricated underfloor heating cable of 10 or 20W/m with 1 power cable 2.5 m	Prefabricated underfloor heating cable of 10 or 20W/m with 1 power cable 2.5 m spooled on a easy to use unspooling system
<b>Conduit</b>	Sensor installation conduit	Sensor installation conduit
<b>End plug</b>	Sensor end plug	Sensor end plug
<b>Sensor</b>	Not included	12kΩ floor sensor
<b>Installation instruction</b>	Installation instruction and commissioning sheet	Installation instructions for cable and thermostat and commissioning sheet
<b>Glue sticks</b>	Not included	Number of glue sticks dependent on the size of the cable
<b>Safety</b>	Warning sign	Warning sign
<b>Thermostat</b>	Not included	SENZ thermostat with white frame and front and extra frame for polar white compatibility



## Thermostat (see page 36-41)

Product name	Part number	Description	
<b>NRG-DM</b>	1244-015152	Intuitive electronic thermostat with flexible weekly schedule and 1.8" display. Easy to use and to program.	
<b>GREEN LEAF</b>	1244-017312	Attractive electronic thermostat with 4 event weekly schedule	
<b>SENZ</b>	1244-017777	Programmable touchscreen thermostat combining ease of use and aesthetic design for maximum comfort from your underfloor heating.	
<b>SENZ WIFI</b>	1244-017778	WIFI enabled programmable touchscreen thermostat combing app enabled remote control, ease of use and aesthetic design for maximum comfort from your underfloor heating.	

## Accessories

Product name	Item number	Description
<b>Hot glue rods</b>	503052-000	70 pcs. in 1 box
<b>Hot glue rods</b>	6012-8949540	10 pcs. in 1 bag
<b>KBL-9</b>	941735-000	100 Cable ties
<b>Sensor installation conduit</b>	6012-8949541	2,5 m flexible plastic conduit for installation of the floor sensor
<b>T2Blue repair kit</b>	1244-008869	Repair kit for T2Blue



# nVent RAYCHEM T2Green: The Underfloor Heating Cable for Low Energy Houses

## T2GREEN



The flexible underfloor heating cable is suitable for very well insulated properties installed directly in a levelling compound.

- Heating cable with pre-fabricated power cable.
- Ideal for complex floor layouts.
- Power output flexibility by varying the distance between heating cables.
- Ideal floor heating system for comfort heating in newly constructed buildings.

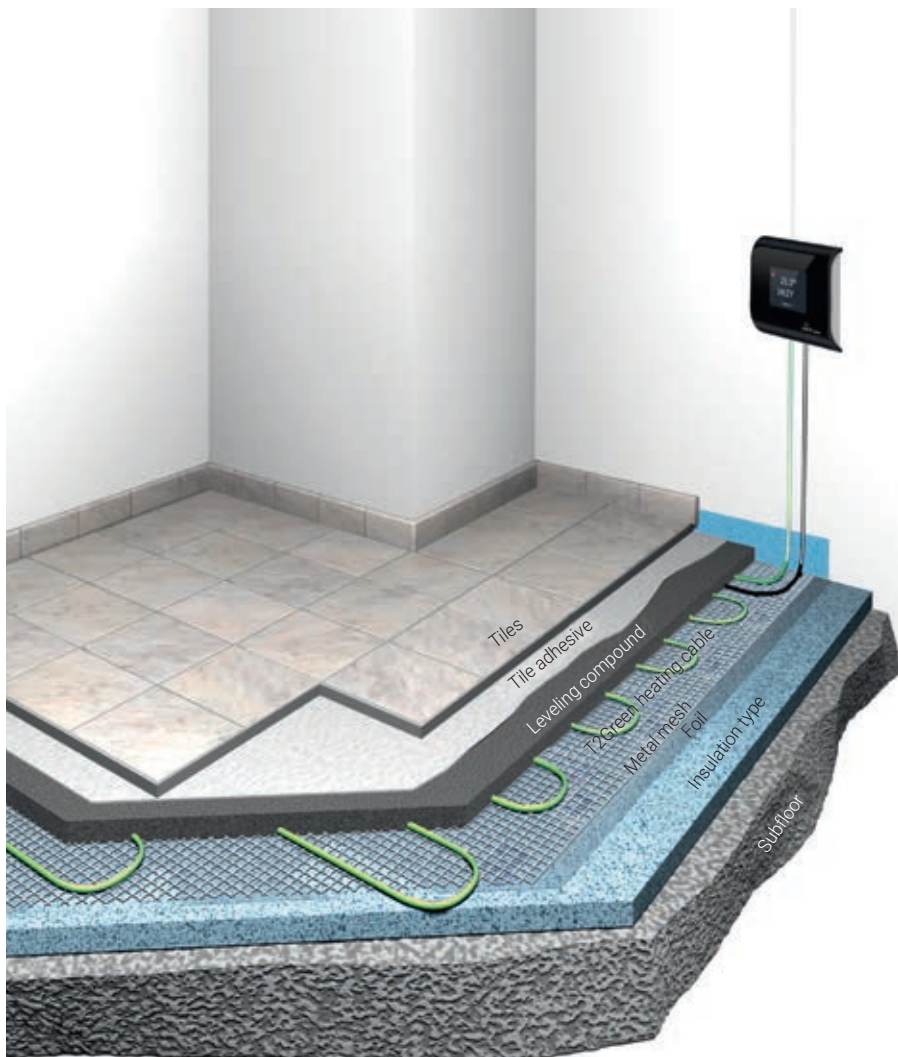
### Applications

Bathrooms and living areas.

- **Floor covering:** Tiles, marble, stones. Max. 30 mm thickness

$\lambda$  -value 1,0 W/mK

- **Subfloor:** compatible with all stable subfloors e.g. concrete, anhydrite, asphalt, plaster, ceramic underfloor, wooden subfloors.



## INSTALLATION HEIGHTS

Height**	T2Green*
10-15 mm	☺
15-30 mm	☺☺☺
30-50 mm	☺

\*for very well insulated floors only

\*\* floor covering not included



Ideal cable for low energy buildings and passive houses

T2Green-5	P heating power (W)	Length (m)	Area (m <sup>2</sup> )			
			30 W/m <sup>2</sup>	40 W/m <sup>2</sup>	50 W/m <sup>2</sup>	60 W/m <sup>2</sup>
T2Green-5-15 m	65	15	2,2	1,65	1,3	1,1
T2Green-5-20 m	110	20	3,7	2,8	2,2	1,9
T2Green-5-25 m	160	25	5,3	4,0	3,2	2,7
T2Green-5-35 m	180	35	5,9	4,5	3,6	3,0
T2Green-5-40 m	230	40	7,6	5,7	4,6	3,8
T2Green-5-50 m	245	50	8,2	6,1	4,9	4,1
T2Green-5-60 m	340	60	11,3	8,5	6,8	5,7
T2Green-5-70 m	360	70	12,0	9,0	7,2	6,0
T2Green-5-85 m	425	85	14,2	10,6	8,5	7,1
T2Green-5-100 m	490	100	16,3	12,3	9,8	8,2
T2Green-5-115 m	560	115	18,7	14,0	11,2	9,3
<b>Cable spacing (mm) =</b> <b>x [area (m) / length (m)] x 1000</b>			+/-170	+/-130	+/-100	+/-90



## WHAT DO I NEED TO ORDER?

Product name	Length in m	Item number	Power in W
T2Green-5-15 m	15	SZ18300122	65
T2Green-5-20 m	20	SZ18300123	110
T2Green-5-20 m	25	SZ18300124	160
T2Green-5-20 m	35	SZ18300125	180
T2Green-5-20 m	40	SZ18300126	230
T2Green-5-20 m	50	SZ18300127	245
T2Green-5-60 m	60	SZ18300128	340
T2Green-5-70 m	70	SZ18300129	360
T2Green-5-85 m	85	SZ18300130	425
T2Green-5-100 m	100	SZ18300131	490
T2Green-5-115 m	115	SZ18300132	560

## ELECTRICAL CONNECTIONS

Installation of the heating cable + sensor	
Maximum load without power contactor	3000 W
Maximum heating cable length	115 m
Cold lead	2,5 m
Circuit breaker	Max.13 A
Earth leakage current breaker (rcd)	30 mA, 100ms

## HOW TO INSTALL IN NEW CONSTRUCTION?



Determine the position of the heating zones before starting the installation of the heating cable and screed layer in agreement with the planner/architect. Attach the cable on a metal mesh (with KBL-10 cable ties) using the desired cable spacing.



Carefully apply a screed on top of the cable. Let it cure according to the manufacturer's instructions. Depending on the type of screed this process can start after 7 days (anhydrite screed) or 21 days (cement screed). The first heating up and down procedure of the screed has to be agreed with the supplier and documented.

## Which cable do I need?

1. Determine the room area in m<sup>2</sup>: e.g. 6,5 m<sup>2</sup>
2. Determine the (free) area in m<sup>2</sup> to be heated: e.g. 4,8 m<sup>2</sup>
3. Select the total power output required for the area in W. e.g. 220 W.
4. Calculate the power per square meter: e.g. 220 W/4,8 m<sup>2</sup> = 45 W/m<sup>2</sup>
5. Select the product with the nearest total power from the table on the previous page: e.g. 230 W.
6. Define the heating cable spacing: e.g. 4,8 m<sup>2</sup>/40 m heating cable length x 1000 = 120 mm.
7. Select your thermostat NRG-DM, GREEN LEAF, SENZ or SENZ WIFI.

## TECHNICAL DETAILS

T2Green	
Heating power T2Green	4,4-6,3W/m; constant wattage heating cable with electrically protective covering
Voltage rating	AC 230 V
Min. bending radius	30 mm
Minimum heater spacing	50 mm
Rated maximum temperature	90°C
Heating cable external diameter	5,5 mm
Outer jacket material	LSOH
Heating conductor insulation	Fluoropolymer
Length of connecting cable	2,5 m
Approvals	SEMKO & CE
Thermostat (see page 34-39)	NRG-DM, GREEN LEAF, SENZ or SENZ WIFI

# nVent RAYCHEM T2Black: The Essential Floor Heating Cable

## T2BLACK



- Only 4mm thick heating cable
- Supplied in an easy spool box containing all the installation accessories (including NRG-DM thermostat\*)
- Flexible cable with twisted pair construction for easy bending of the cable
- Exists in 2 power output variants 12W/m and 20W/m

\* kits available with and without NRG-DM thermostat

### Applications

Bathrooms, kitchens, living areas, conservatories.

Particularly useful for irregular shaped floor areas

- **Floor covering:** Tile and natural stone, vinyl matting, wooden and laminate floors\*

\* T2Black 20 only allowed under tiles and natural stone

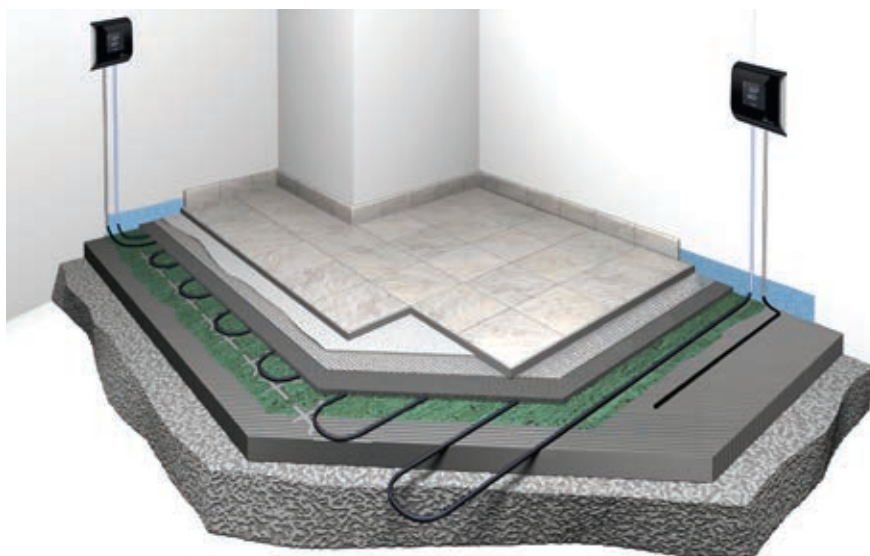
- **Subfloor:** all stable subfloors including cement, screed, insulation board (Wedi) and timber floor\*.

\*When installed on a wooden subfloor, the maximum output per m<sup>2</sup> should be limited to 100 W/m<sup>2</sup>.

### INSTALLATION HEIGHTS

Height*	T2Black 12	T2Black 20
0-15 mm	☺☺☺	—
15-30 mm	☺☺☺	☺
30-50 mm	☺	☺☺☺

\* floor covering not included



### TECHNICAL DETAILS

T2Black	
Heating Power	
T2Black-12	12W/m; constant wattage heating cable with electrically protective covering
T2Black-20	20W/m; constant wattage heating cable with electrically protective covering
Voltage rating	AC 230V
Min. Bending radius	30 mm
Minimum heater spacing	50 mm
Rated maximum temperature	65°C
Heating cable external diameter	4mm
Outer jacket material	PVC
Heating conductor insulation	Fluoropolymer
Approvals	CE
"Thermostat (see page 36-41)"	NRG-DM, GREEN LEAF, SENZ or SENZ WIFI

### Which power output do I need?

- 1. New construction - good insulation** 35 W/m<sup>2</sup> - 60 W/m<sup>2</sup>
- 2. Old building renovation - good insulation** 60 W/m<sup>2</sup> - 100 W/m<sup>2</sup>
- 3. Old building renovation - less well insulated** 125 W/m<sup>2</sup> - 150 W/m<sup>2</sup>

The specified values are recommended values and apply for comfort heating.

A minimum installation depth of 30-50 mm must be provided when using T2Black 20.





### Which cable do I need?

1. Determine the room area in m<sup>2</sup>: e.g. 8.4 m<sup>2</sup>.
2. Determine the (free) area in m<sup>2</sup> to be heated: e.g. 7 m<sup>2</sup>
3. Select the total power output required for the area in W. e.g. 840 W.
4. Calculate the power per square meter: e.g. 120W/m<sup>2</sup>.
5. Select the product with the nearest total power from the table on the next page. e.g. T2Black 12 - 73m - 895W
6. Define the heating cable spacing:  
 $x = (\text{Area} / \text{Length}) \times 1000$   
 $x = (7 / 73) \times 1000 = 96\text{mm}$
7. Select your thermostat: NRG-DM, GREEN LEAF, SENZ or SENZ WIFI.





### ELECTRICAL CONNECTIONS

Installation of heating cable		
Maximum load without power contactor	3000 W	
	T2Black 12	T2Black 20
Maximum heating cable length	98 m	109 m
Cold lead	2,6 m	2,6 m
Circuit breaker	Max 13A	
Earth leakage current breaker (rcd)	30 mA, 100ms	

## HOW IS T2BLACK 12 INSTALLED FOR THE RENOVATION OF A BUILDING?

HEATING CABLE INSTALLATION	APPLYING LEVELLING COMPOUND	INSTALLATION OF TILES	FINISHED FLOOR
			
<p>Apply a layer of adhesive primer. Attach the heating cable on the clean floor (e.g. use hotglue gun), or attach the cable directly into anti-fracture membrane.</p>	<p>Carefully apply an even layer of levelling compound on top of the heating cable. Let it cure according to the manufacturer's instructions.</p>	<p>Spread the tile adhesive and then lay out and join the tiles. In wet areas, apply a watertight coating before the tile adhesive.</p>	<p>Seal between tiles and walls with a silicon sealant. Allow the floor to cure completely before turning the underfloor heating system on.</p>

## HOW IS T2BLACK 20 INSTALLED IN A 30-50 MM SCREED?

HEATING CABLE INSTALLATION	SCREED INSTALLATION	INSTALLING THE NATURAL STONE	FINISHED FLOOR
			
<p>Determine the position of the heating zones before starting the installation of the heating cable and screed layer in agreement with the planner/architect.</p>	<p>Apply the screed carefully without damaging the heating cable. Let the screed cure according to the manufacturer's instructions.</p>	<p>Spread the natural stone adhesive and then lay out and join the natural stone. In wet areas, apply a watertight coating before the natural stone adhesive.</p>	<p>Seal between the natural stone and walls with a silicon sealant. Allow the floor to cure completely before turning the underfloor heating system on.</p>

T2Black 12W					A area (m <sup>2</sup> )	
Product name	Without thermostat	With NRG-DM thermostat	P Heating power (W)	L Length (m)	100W/m <sup>2</sup>	125W/m <sup>2</sup>
T2Black 12-14.5M	SZ18300317	SZ18300309	180	14,5	1.8	1.4
T2Black 12-20.0M	SZ18300318	SZ18300310	250	20	2.5	2.0
T2Black 12-26.5M	SZ18300319	SZ18300311	325	26,5	3.3	2.6
T2Black 12-35.5M	SZ18300320	SZ18300312	435	35,5	4.3	3.5
T2Black 12-46.0M	SZ18300321	SZ18300313	565	46	5.7	4.5
T2Black 12-55.0M	SZ18300322	SZ18300314	665	55	6.7	5.3
T2Black 12-73.0M	SZ18300323	SZ18300315	895	73	8.9	7.2
T2Black 12-98.0M	SZ18300324	SZ18300316	1210	98	12.1	9.7
Calculate heating cable spacing: (mm) = x = (A/L) x 1000					+/- 120 mm	+/- 100 mm

T2Black 20W					A area (m <sup>2</sup> )	
Product name	Without thermostat	With NRG-DM thermostat	P Heating power (W)	L Length (m)	100W/m <sup>2</sup>	125W/m <sup>2</sup>
T2Black 20-M	SZ18300325	SZ18300334	215	12	2.2	1.7
T2Black 20-M	SZ18300326	SZ18300335	310	16	3.1	2.5
T2Black 20-M	SZ18300327	SZ18300336	410	21	4.1	3.3
T2Black 20-M	SZ18300328	SZ18300337	550	28	5.5	4.4
T2Black 20-M	SZ18300329	SZ18300338	850	43	8.5	6.8
T2Black 20-M	SZ18300330	SZ18300339	1150	57	11.5	9.2
T2Black 20-M	SZ18300331	SZ18300340	1490	74	14.9	11.9
T2Black 20-M	SZ18300332	SZ18300341	1625	82	16.3	13.0
T2Black 20-M	SZ18300333	SZ18300342	2200	109	22.0	17.6
Calculate heating cable spacing: (mm) = x = (A/L) x 1000					+/- 180- 200mm	+/- 140-160mm





# nVent RAYCHEM Floor Heating Thermostat Range

## HOW TO CHOOSE THE RIGHT THERMOSTAT

Some attributes from thermostats are considered as important:

- Design (Look & Feel)
- Ease of use
- Distance control.

Choose the right model of nVent RAYCHEM thermostat by picking the attributes that suit your needs.

		DESIGN	EASE OF USE	DISTANCE CONTROL
SENZ WIFI		😊😊😊	😊😊😊	😊😊😊
SENZ		😊😊😊	😊😊	
NRG-DM		😊😊	😊😊	
GREEN LEAF		😊😊😊	😊	

### Total Care Warranty

More detailed information about Total Care Warranty can be found on page 43.





# nVent RAYCHEM Green Leaf Thermostat

## MODERN FLOOR HEATING COMFORT

The Green Leaf has an elegant and modern design, with a unique user interface.

### Smart features

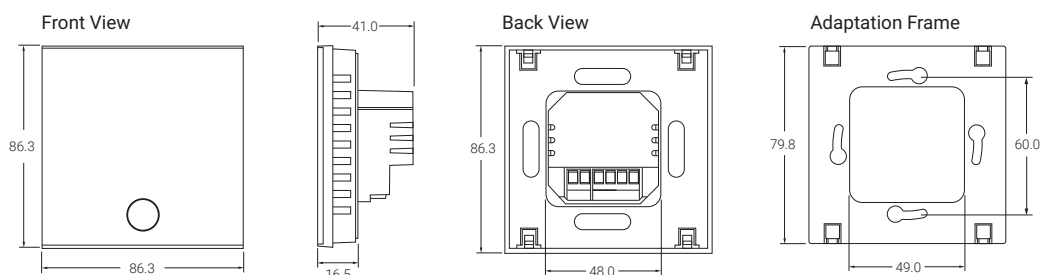
- Green Leaf button to switch on/off and to change temperatures and programmes
- Large and clear display
- 4 preset events
- Easy to upgrade: compatible with existing nVent RAYCHEM 10kΩ floor sensors.

### 3 working modes

- 1 Constant Mode
- 1 Event Mode
- 1 Stand-by Mode

### 2 sensors / 3 sensing modes

- Floor Sensing
- Room Sensing
- Room Sensing with Floor Limiter



### Technical data GREEN LEAF

Supply voltage 230V (+10% / -15%) - 50 Hz

Relay output Maximum 13A

Ingress protection IP 21

**Floor sensor (external sensor)** With 3 metre cable  
 Type NTC 10K @ 25°C  
 Compatible with existing nVent RAYCHEM  
 spare floor sensor  
 (1244-002952)

Internal room sensor



### Ordering information

Product name	Item number	Description
<b>GREEN LEAF</b>	<b>1244-017312</b>	<b>Attractive electronic thermostat with 4 event weekly schedule</b>
Spare floor sensor	1244-002952	nVent RAYCHEM 10kΩ floor sensor

### Approvals



# nVent RAYCHEM NRG-DM Thermostat

## THE INTUITIVE FLOOR HEATING THERMOSTAT

**Large Dot Matrix display (1.8") with blue backlight**

**Extremely simple navigation structure**

**3 working modes**

- 1 Constant Mode
- 1 Event Mode
- 1 Boost Mode

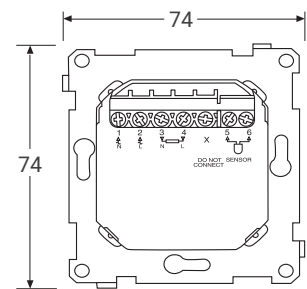
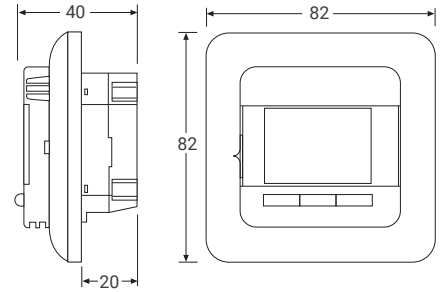
**3 Sets of settings**

- Event setting (programming of the weekly schedule)
- User settings (settings that helps users customizing their thermostat)
- Engineer settings (expert settings that help installers fine tune to specific needs)

**Software in 11 languages**

**2 sensors / 4 sensing modes**

- Floor sensing
- Room Sensing
- Room sensing with floor limiter
- No sensor mode



# nVent RAYCHEM NRG-DM Thermostat

## NRG-DM INTUITIVE AND EFFICIENT TEMPERATURE MANAGEMENT

### Accurate and stable regulation PWM with PI control loop

### Smart and precise adaptive function

- Calculates when to start heating to reach desired temperature when required
- Adapts to the environment
- Adapts to floor construction
- Is calculated 2x per day

### Flexible

- Time schedule with 1 to 6 events/day (1 temperature/event)
- Adjustable boost mode (time and temperature)
- Compatible with most common switch gear frames (including Exxact frames)
- Compatible with other floor sensors (2kΩ, 10kΩ, 12kΩ, 15kΩ and 30kΩ)



### Technical data NRG-DM

Supply capacity / Voltage	13A/230VAC
Temperature range	+5°C to +40°C
Ambient temperature-operation	0°C to 25°C
Ambient temperature-transport	-20°C to +70°C
Sensor Accuracy	0.2°C in the range 0°C to +40°C
Temperature control method	PWM with PI control loop
Control modes	Floor sensor Room sensor Room sensor with floor limiter No sensor
Ingress protection	IP21
Floor sensor	Compatible with floor sensors from 2kΩ to 30kΩ

### Ordering information

Product name	Part number	Description
NRG-DM	1244-015152	Intuitive electronic thermostat with flexible weekly schedule
Spare floor sensor	1244-002952	nVent RAYCHEM 10kΩ floor sensor



The intelligent adaptive function calculates when the heating is to be switched on to make sure that the comfort temperature is reached when required.

### Approvals



\* In case of replacement of the floor sensor by 1244-002952, the "NRG-Temp" sensor needs to be selected in Settings/Engineer settings/Sensor

# nVent RAYCHEM Senz & Senz WIFI

## FLOOR HEATING COMFORT TAKEN TO THE NEXT LEVEL

**SENZ makes modern floor heating comfort simple and efficient**

### Modern design

- Subtle design suited to any style
- Full colour 2" display

### Easy to use

- Swipe navigation, just like smartphones
- Durable and sensitive capacitive touch screen
- Set-up wizard for fast programming
- Pre-set programmes for different users' needs

### Intelligent

- Adaptive function to reach the right temperature when you want it at the desired time
- Energy monitoring to join economy and comfort

### Flexible

- Slick, black nVent RAYCHEM design OR integrated in switch gear frames
- Ideal for renovation and upgrades: works with most floor sensors

### Wireless comfort

Additional features on SENZ WIFI:

- Connects to chosen Wifi
- Change programmes and temperature via smart phone or tablet
- Monitor the efficiency of the installation
- Control up to 32 zones (rooms and/or houses)
- Controllable through open source Rest API (compatible with any cloud to cloud based building management system)
- The floor heating is managed via free app: SENZ WIFI.

ALL THE ADVANTAGES OF  
**NVENT RAYCHEM SENZ & SENZ WIFI...**



**SENZ**



touch



swipe



efficient



easy

**SENZ WIFI**



touch



swipe



efficient



easy



wifi



app



32 zones

### Technical data SENZ & SENZ WIFI

Supply capacity / voltage	13A/230VAC
Temperature range	+5°C to +40°C
Ambient temperature-operation	0°C to +60°C
<b>Ambient temperature-transport</b>	<b>-20°C to +70°C</b>
Sensor Accuracy	0.2°C in a range 0°C to + 40°C
<b>Temperature control method</b>	<b>PWM with PI control loop</b>
Control modes	Floor sensor Room sensor Room sensor with floor limiter No Sensor
<b>Ingress protection</b>	<b>IP21 (IP44 using the IP44 gasket on the nVent RAYCHEM black design)</b>
Floor sensor	Compatible with floor sensors from 2kΩ to 100kΩ

### Approvals





# nVent RAYCHEM Senz & Senz WIFI



nVent RAYCHEM Black










Switch Gear



## FLOOR HEATING COMFORT TAKEN TO THE NEXT LEVEL

### Ordering information

Product name	Item number	Description	
R-SENZ	1244-017777	Thermostat in black design. Supplied with floor sensor and additional white front (RAL9003) to be compatible with switch gear systems.	
R-SENZ-WIFI	1244-017778	Thermostat in black design. Wifi enabled. Supplied with floor sensor and additional white front (RAL 9003) to be compatible with switch gear systems.	
R-SENZ-ACC-IP44GASKET	1244-017779	Gasket to increase thermostat water proofness from standard IP21 to IP44	
R-SENZ-ACC-METALFRONT	1244-017780	Metal colored front and frame	
R-SENZ-ACC-ANTHRACITEFRONT	1244-017781	Anthracite colored front and frame	
Spare floor sensor	1244-002952	nVent RAYCHEM 10kΩ floor sensor	
R-SENZ-ACC-WHITEFRAME	1244-018579	White Schneider Exxact frame	



# Smart Services

We offer a set of tools and services that aims to simplify the professional installer's life. Not only do we offer the best quality products; we also back them up with unrivalled services.



## FREE DESIGN SERVICE

Save time on preparing your next project and ask for our free design service. With a simple request, our engineers will provide a detailed offer.

### What will you get?

- Technical information with all relevant project data.
- Detailed bill of materials.

### How can you get it?

Contact your local supplier or just send a sketch or drawing of your room(s) to us at:

- United Kingdom  
Fax 0800 968 624, E-mail: [salesthermalUK@nVent.com](mailto:salesthermalUK@nVent.com)
- Ireland  
Fax 1800 654 240, E-mail: [salesIE@nVent.com](mailto:salesIE@nVent.com)

To obtain a free design just fill out the request form on the last page of this brochure and send it to us.

# Warranty Information

**Product quality is essential for your applications and installations. To answer your needs, we deliver products of the highest quality, available locally to you, across the world. We are proud to offer an extensive warranty program for all our heating solutions. When products fail, we repair, replace or refund.**

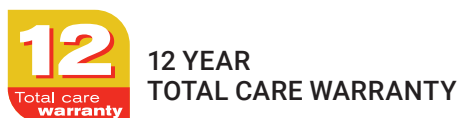
## STANDARD PRODUCT WARRANTY

nVent warrants all its commercial and residential heating products for a period of 24 months from the date of delivery to the buyer, when the products have been properly installed, commissioned, operated and maintained, without faulty workmanship and/or use of defective materials.

## WARRANTY EXTENSION

To underline our confidence in the quality of our products, nVent also offers extended product warranty programs, as outlined below. Registration is required to qualify for a warranty extension at [raychemfloorheating.co.uk](http://raychemfloorheating.co.uk) or in the underfloor heating application: **InstallPRO360.com**

## OUR WARRANTY



**Total Care Warranty** = doing what it takes to ensure a warm floor. In the rare event that our product would fail and we cannot repair it, we will not only provide you with a new product - we will also pay its installation costs. On top of this we take care that the floor covering is repaired or replaced to the equivalent standard.

Covers: Heating cables & components.  
Thermostats: 12 year product warranty.

## CERTIFIED PRO INSTALLED\*



A floor heating system installed by a Certified PRO electrician and registered online\*\* gets an extra 8 years of warranty.

Covers: Heating cables & components.  
Thermostats: 20 years product warranty.

\*System installed by a trained nVent RAYCHEM Certified PRO installer.

\*\*Online registration can be done by the installer or home owner.

The Total Care Warranty is valid in all EU, EFTA and CIS countries and covers all defective nVent RAYCHEM underfloor heating systems. It is only valid when:

1. The products are installed by a qualified electrician according to applicable rules and regulations, and in accordance with our installation instructions.
2. The warranty registration form is completed and signed by the electrician.
3. The registration form is kept by the property owner, together with the purchase invoice and photographs and/or sketches of the installation.
4. The installation is done by a Certified PRO installer and registered online or via the nVent RAYCHEM InstallPRO<sup>360</sup> app.

We are committed to offering the best response to each situation. We:

1. Repair or replace the products – free of charge.
2. Restore the floor to its original state, or to the equivalent standard – free of charge.
3. For thermostats, the warranty is limited to the supply of a new product only.

For more information, contact your sales representative or visit [www.raychemfloorheating.co.uk](http://www.raychemfloorheating.co.uk)

# Certified Pro Training & Loyalty Program

Are you a licensed electrician? Participate in free training and become a nVent RAYCHEM Certified PRO installer.

## NVENT RAYCHEM CERTIFIED PRO MEMBER BENEFITS:



Become nVent RAYCHEM accredited. Add to your industry floor heating credentials.



Obtain exclusive rights to offer the nVent RAYCHEM 20-Year Total Care Warranty



Obtain referrals from [www.raychemfloorheating.co.uk](http://www.raychemfloorheating.co.uk)



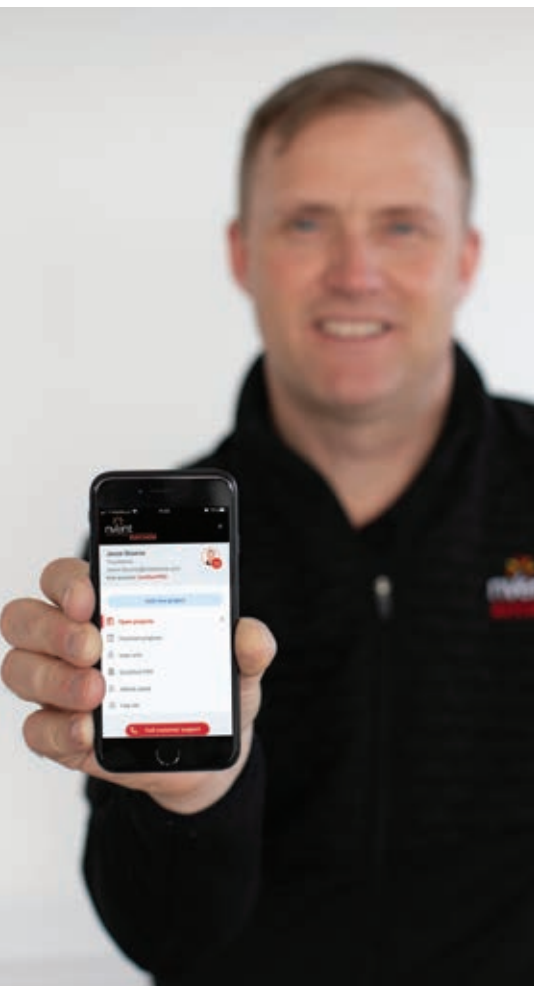
Take advantage of quarterly promotions and discounts.



Attend exclusive events and trainings.



A network of professionals who share our passion for quality.

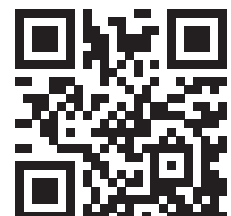


### InstallPRO<sup>360</sup> APP SMARTER FLOOR HEATING INSTALLATIONS

With nVent RAYCHEM InstallPRO<sup>360</sup> both you and your customers get a copy of all relevant project information and professional, personalised warranty documentation. All that is needed is a couple of clicks on your smart phone or on your PC.

- It is easy to register all installation data and add pictures
- Professional and personalised - add your company logo to project documents.
- Certified PRO membership is automatically recognised and warranties are automatically generated.
- Create a bill of materials for easy product ordering
- You get a clear overview of all your floor heating installations past and present.

Not sure which product to choose? Use the selection guide! Now it is easier than ever to get full control of your floor heating projects!



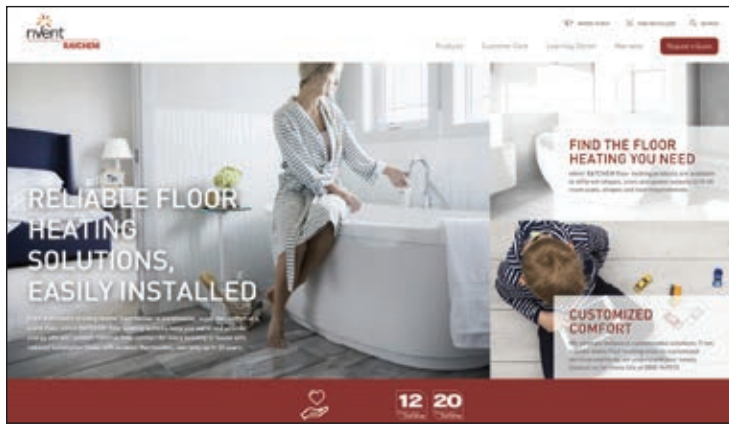
TRY THE APP NOW!  
[InstallPRO360.com](http://InstallPRO360.com)



Our website helps you discover more:

[www.raychemfloorheating.co.uk](http://www.raychemfloorheating.co.uk)

#### Design wizard



A step-by-step guide that will help you select the right product for your application. Once you have made your selection you can submit this for a quote or further information. We will get back to you with necessary information.

nVent RAYCHEM systems have been tested and approved to building materials from the leading brands in Europe.



To learn more about these smart services, call our free number: 0800 969 013

Tips and tools for easy installation visit our YouTube channel!

# REQUEST FORM

## Request form for free Design Service for nVent RAYCHEM Underfloor Heating Projects

Please email it to [salesthermaluk@nVent.com](mailto:salesthermaluk@nVent.com)

### Your address:

Name: .....  
Street: .....  
Postcode: .....  
City: .....  
Country: .....  
E-mail: .....  
Phone: .....  
Fax: .....

### Your project data:

Project name: .....  
Customers name: .....  
Street: .....  
Postcode: .....  
City: .....  
Country: .....

### Construction type:

Family house       Apartment       Hotel  
 Commercial building       Retirement home  
 Other: .....

### Heating purpose:

Comfort heating  
 Room heating ..... W/m<sup>2</sup> required output

### Floor construction:

Subfloor: .....

### Topfloor:

Tiles/natural stone  
 Wood/laminate  
 Vinyl/Carpet

### Thermostat:

SENZ       SENZ WIFI  
 NRG-DM       GREEN LEAF

Please send me the following information by (dd/mm/yy) .....

**Quote**  
(incl. material list, project list)

**Technical Data sheet**

Comments: .....  
.....

nVent RAYCHEM systems have been tested and approved by the following associations.

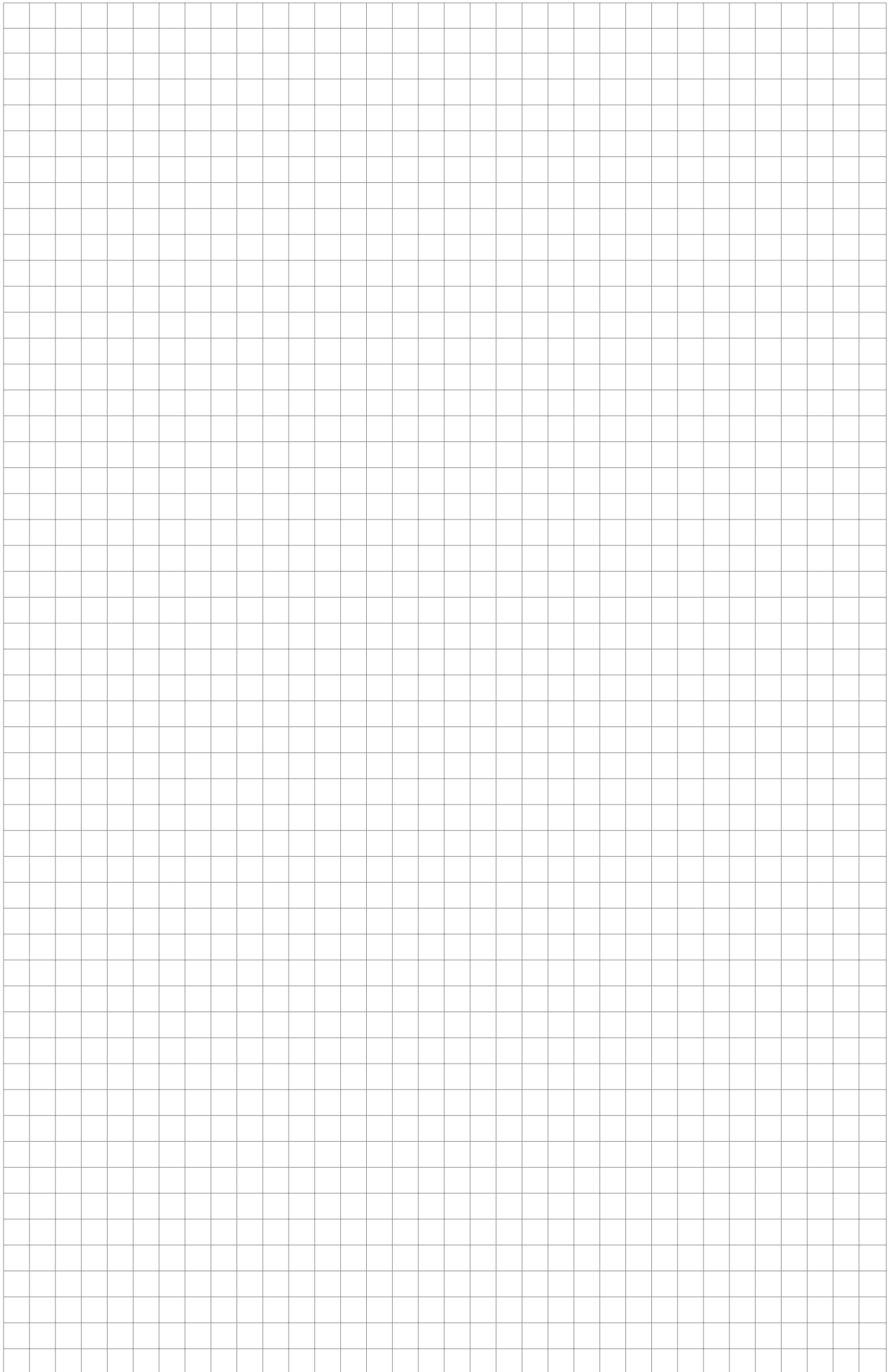


nVent RAYCHEM is an active member of the following Floor Heating Associations.



Member of the European Radiant Floor Heating Association e.v.





### **United Kingdom**

Tel 0800 969 013

Fax 0800 968 624

[salesthermalUK@nVent.com](mailto:salesthermalUK@nVent.com)

### **Ireland**

Tel 1800 654 241

Fax 1800 654 240

[salesIE@nVent.com](mailto:salesIE@nVent.com)

### **South East Asia**

Tel +65 67685800

Fax +65 67322263

### **India - Noida**

Tel +91 120 464 9500

Fax +91 120 464 9548

[NTMinfome@nVent.com](mailto:NTMinfome@nVent.com)

### **India - Mumbai**

Tel +91 22 6775 8800/01

Fax +91 22 2556 1491

[NTMinfome@nVent.com](mailto:NTMinfome@nVent.com)

### **UAE**

Tel +971 4 378 1700

Fax +971 4 378 1777

[NTMinfome@nVent.com](mailto:NTMinfome@nVent.com)

Our powerful portfolio of brands:

**CADDY ERICO HOFFMAN RAYCHEM SCHROFF TRACER**



[nVent.com](http://nVent.com)