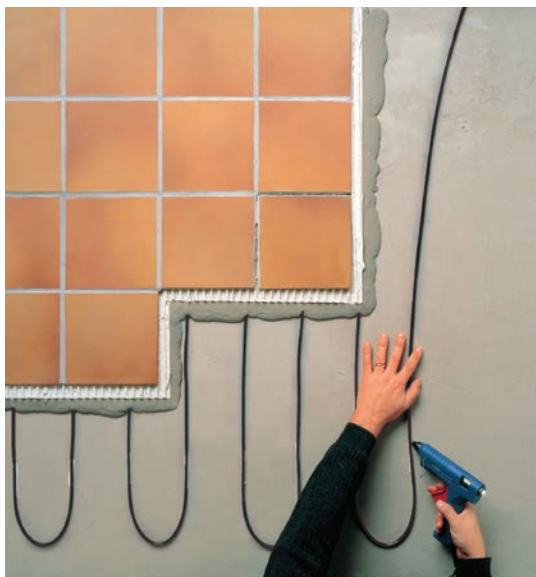


# T2Black-12 Floor Heating Cable

nVent

RAYCHEM

COMFORT YOU DESERVE



## DESCRIPTION

nVent RAYCHEM T2Black-12 is a floor heating cable with constant power output of 12 W/m. It is a pre-terminated heater with dual twisted wires and a 2,6 m cold lead attached at one end.

The heating cable should be embedded in a filler layer of approximately 10-15 mm.

T2Black-12 is the ideal floor heating system for installation in newly constructed buildings or for renovation, and for example in conservatories or cold rooms (refrigeration rooms).

The T2Black-12 cable is particularly well suited to be used in combination with anti-fracture membranes.

T2Black-12 kits exist in variants containing a digital electronic thermostat (NRG-DM) and variants without thermostat. All T2Black-12 cables are delivered pre-terminated and on a spool for ease of installation. They are packed in a robust and handy installer friendly box containing glue sticks for easy fixing to the subfloor and a conduit in which to install the sensor.



**12 years Total Care Warranty covers all our under floor heating products when installed by an authorized electrical installer. 20 years Total Care Warranty is valid if the installation is carried out by a Certified PRO installer. Read more about Certified PRO and our favourable warranties and conditions at [raychemfloorheating.co.uk](http://raychemfloorheating.co.uk).**

## ADVANTAGES

### The design phase

- Easy design:
  - One cold lead connection due to dual wire cable design
  - Different outputs per m<sup>2</sup> can be obtained by different spacing (min spacing is 50 mm)
  - Cable flexibility, this cable is particularly suitable to adapt to all room shapes
- Compatible with all stable subfloors e.g. concrete, anhydrite, asphalt, plaster, ceramic underfloor, wooden subfloors.
- Following floorings can be applied: Tiles, Marble, Stones, Plastic matting, Wood, Laminate
  - Max 30 mm thickness
  - λ-value 1,0 W/mK

### The installation phase

- Due to the dual wires cable T2Black-12 has only one cold lead connection which enables easy lay-out and installation.
- Easy to adapt to special room shapes or obstacles. Spacing can be varied to a minimum of 50 mm.
- The twisted wires and the size of the cable make the T2Black-12 particularly suitable for most anti-fracture membranes available on the market.

### The application

- Extra low energy consumption when used together with the nVent RAYCHEM smart and Eco-Design compatible thermostats.
- No measurable electro-magnetic fields due to the dual twisted wires of the heating cable.
- Long life and maintenance free.

## TECHNICAL DATA



Nominal power	12 W/m
Voltage	230 Vac
Max. exposure temperature	+90°C
Min. installation temperature	+5°C
Length of cold lead cable	2,6 m
Dimensions approx	4 mm diameter
Min. cable spacing	50 mm
Min. bending radius	30 mm
RCD	30 mA
Construction	PVC-outer jacket - Fluoropolymer resistance wires
Certificates	CE, UKCA

## RELATED NVENT RAYCHEM PRODUCTS

NRG-DM	1244-015152	Intuitive electronic and Eco-Design compliant thermostat Week Timer / Predictive Heating
GREEN LEAF	1244-013810	Attractive electronic and Eco-Design compliant thermostat Week Timer / Open Window
SENZ WIFI	1244-017778	WIFI enabled touchscreen and Eco-Design compliant thermostat combining App enabled remote control, aesthetic design and ease of use for maximum comfort from your underfloor heating Week Timer / Predictive Heating / Open Window / Distance Control
T2BBlack Cable Guides 12pc	1244-022788	12 pcs. of nVent RAYCHEM Cable Guides to attach the T2Black cable on the subfloor (using screws, nails, staples or hotmelt glue)
Gluestick 10pc	6012-8949540	10 pcs. of hot melt glue sticks in 1 bag
Gluestick 70pc	503052-000	70 pcs. of hot melt glue sticks in 1 box
Sensor tube kit	6012-8949541	2,5m flexible plastic conduit for installation of the floor sensor
T2Black repair kit	1244-008869	Repair kit for T2Black
Metal mesh 10 m	476660-000	Galvanized metal mesh of 10 m
Metal mesh 25 m	726604-000	Galvanized metal mesh of 25 m

## DESIGN TABLE

T2Black-12 heating cables are available in lengths from 14,5 m till 175 m in complete packs including all needed accessories to install the cable and spooled on an inventive and easy to unroll spooling system. Packs including the NRG-DM thermostat and packs without thermostat are available.

T2Black-12						Area m <sup>2</sup>			
Product name	Without thermostat	With NRG-DM thermostat	Output (W)	Length (m)	Resistance Range (Ω)	80 W/m <sup>2</sup>	100 W/m <sup>2</sup>	125 W/m <sup>2</sup>	150 W/m <sup>2</sup>
T2Black 12-14,5M	SZ18300317	SZ18300309	180	14,5	282,3-326,9	2,2	1,8	1,4	1,2
T2Black 12-20,0M	SZ18300318	SZ18300310	250	20	201,0-232,8	3,1	2,5	2,0	1,7
T2Black 12-26,5M	SZ18300319	SZ18300311	325	26,5	154,6-179,0	4,1	3,3	2,6	2,2
T2Black 12-35,5M	SZ18300320	SZ18300312	435	35,5	116,1-134,4	5,4	4,3	3,5	2,9
T2Black 12-46,0M	SZ18300321	SZ18300313	565	46	88,8-102,8	7,1	5,7	4,5	3,8
T2Black 12-55,0M	SZ18300322	SZ18300314	665	55	75,6-87,5	8,3	6,7	5,3	4,4
T2Black 12-73,0M	SZ18300323	SZ18300315	895	73	56,2-65,1	11,2	8,9	7,2	6,0
T2Black 12-98,0M	SZ18300324	SZ18300316	1210	98	41,5-48,1	15,1	12,1	9,7	8,1
T2Black 12-125,0M	SZ18300492	SZ18300489	1500	125	33,4-38,6	18,8	15	12	10
T2Black 12-150,0M	SZ18300493	SZ18300490	1800	150	28,2-32,7	22,5	18	14,4	12
T2Black 12-175,0M	SZ18300494	SZ18300491	2200	175	22,9-26,6	27,5	22	17,6	14,7
Calculated heating cable spacing						150 mm	120 mm	100 mm	80 mm

## SUBFLOOR PREPARATION

The subfloor should be clean, stable and rigid, without cracks or adhesion-reducing substances. Large cracks in the subfloor should be filled prior to installation.

Uneven surfaces will need to be levelled prior to installation. With cement plaster and anhydrite plaster, one should ensure that the substance has dried sufficiently according to the applicable norms. Anhydrite plaster should be smoothed and dust free. With quickly solidifying plaster, one should follow the supplier's instructions.

The heating cable should not be installed under bath tubs, shower cabins, surface covering furniture, etc. The heating cable should not be installed where holes will be drilled in the floor.

## INSTALLATION INSTRUCTIONS

The T2Black-12 cold lead is inserted in a flexible tubing and connected to a junction box. T2Black-12 shall always be controlled by an electric underfloor heating thermostat with external floor sensor and compliant with the EcoDesign directive (such as the NRG-DM, GREEN LEAF or SENZ-WIFI). The thermostat sensor, which is also protected in a separate flexible tubing (3 m included in T2Black pack), is positioned centrally between two heating cable runs and as close as possible to the final floor covering.

Figure 1



T2Black-12 can be used under tiles and natural stone. The cable can even be embedded directly in the tile glue (in that case make sure it is embedded in at least 6 mm of tile glue).

Fixing the cable to the subfloor can be done using the nVent RAYCHEM Cable Guides, hotmelt glue or installed directly in anti-fracture membranes and/or embedded in levelling compound or in a screed.

Figure 2



Cable Guides can be attached to the subfloor using screws, nails, staples or hotmelt glue. When using screws, nails or staples, use 3 to 4 screws, nails or staples per entire cable guide.

The cable guides (30 cm per guide) are designed to snap together (Figure 1) and can be cut to length to adapt to the size of the room.

Ensure individual cable runs maintains moderate tension (Figure 2 & 3). This will prevent the cable from floating during the floor covering preparation.

Figure 3



Install "Stabilizing Cable Guides" every 50 cm (Figure 4) to ensure the heating cables does not float during the self-levelling process.

To make installation of the "Stabilizing Cable Guides" easier, flip the cable guide upside down to smoothly pass underneath the cable runs. Then flip the guides over to secure them to the subfloor and snap the cables into place.

Figure 4



Alternatively, the cable can be attached to metal mesh that will be used as reinforcement of the levelling compound or the screed.

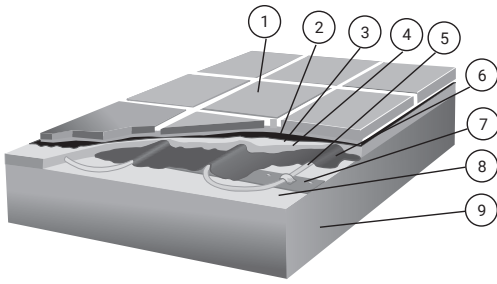
T2Black-12 can be installed under parquet floors, engineered wooden floors or laminate floors. It then needs to be embedded in a minimum of 15 mm of filler material, controlled by a thermostat with external floor sensor set to a maximum of 27°C and the cable spacing should not be closer than 120 mm per cable run (resulting in a power output of 100 W/m<sup>2</sup>).

## TYPICAL INSTALLATION HEIGHTS

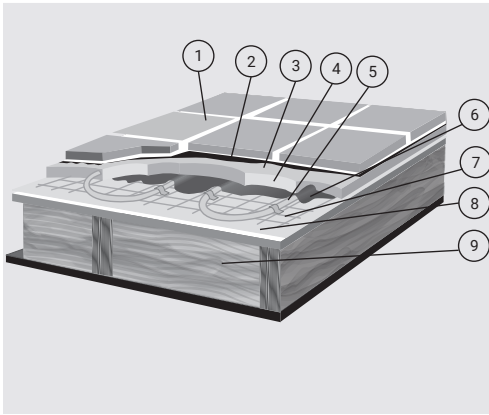
Height*	T2Black-12
1-15 mm	☺☺☺
15-30 mm	☺☺☺
30-50 mm	☺

\* floor covering not included.

## FLOOR CONSTRUCTION SCHEMATICS



1. Top Flooring: Tiles/plastic matting/wood or laminate
2. Tile adhesive (when applicable)
3. Watertight barrier (when applicable)
4. Fine/coarse casting of concrete 10-15 mm
5. Heating cable
6. Adhesive primer
7. Hotmelt glue, cable guides, metal mesh or antifracture membrane (installed in accordance with manufacturers instructions)
8. Stable load-bearing subfloor
9. Thermal insulation



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### United Kingdom

Tel 0800.969.013  
 salesthermalUK@nVent.com

### Ireland

Tel 1800.654.241  
 salesIE@nVent.com

### South East Asia

Tel +65.67685800  
 Fax +65.67322263

### Australia

Tel +61.2.97920250  
 Fax +61.2.97745931

### India - Noida

Tel +91.120.464.9500  
 Fax +91.120.464.9548  
 NTMinfome@nVent.com

### India - Mumbai

Tel +91.22.6775.8800/01  
 Fax +91.22.2556.1491  
 NTMinfome@nVent.com

### UAE

Tel +971.4.378.1700  
 Fax +971.4.378.1777  
 NTMinfome@nVent.com



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