QuickNet-90

nVent RAYCHEM

SPECIFICATION GUIDELINE
ELECTRICAL UNDERFLOOR HEATING MAT



- An electrical underfloor heating system shall be installed to provide a comfortable (18-27°C) floor temperature.
- The underfloor heating cables shall be the kitted, ready to install mat, nVent RAYCHEM Quicknet-90, as manufactured by nVent.
- The heating cable shall have a two wire constant wattage cable construction (to ensure negligible electro-magnetic fields), a Teflon inner and LS0H outer jacket, a shield for grounding, a flat cold lead cable (to enable a low profile installation). The heating cable shall be pre-terminated by the manufacturer, fixed within the mat and held in place by the matting itself, not by fixing tape, to avoid air gaps and associated potential hot spots. The overall thickness shall be no more than 4 mm, including the mat base.
- The heating cable shall be easily detachable from the mat (with only 2 cuts in the mat) to lay loose cable around obstacles.
- The heating mat shall be PVC free and be self adhesive, for ease of installation.
- The manufacturer shall provide a 12 year Total Care Warranty, for systems installed, tested, commissioned and registered, strictly according to their requirements, by a qualified electrician and this shall be extendable to 20 years if performed by Certified Pro installers.

All under-floor heating mats should be capable of power output of 90 Watts/m² and a maximum heating area as per the following:

Circuit Breaker (Type C)	Maximum mat surface
10 Amp	24 m²
13 Amp	33 m²

ENERGY EFFICIENT, CONTROL SYSTEM

[Select One Option]

[Option 1]

All underfloor heating circuits shall be controlled and monitored by programmable digital floor temperature sensing thermostats, named nVent RAYCHEM SENZ, with full color capacitive touchscreen display, 3 economic weekly schedules, a boost function, and adaptive early start function, window open detection, holiday mode and a constant temperature mode.



- The thermostat shall be customizable in different colors (White, Metal, Anthracite or Black design).
- The thermostat shall be upgradeable to a SENZ-WIFI thermostat using an upgrade kit.
- All connections between the electrical supply, control panel, thermostat (s) and underfloor heating circuits shall be installed by an approved electrical contractor.

[Option 2]

All underfloor heating circuits shall be controlled and monitored by programmable digital floor temperature sensing thermostats, known as nVent RAYCHEM SENZ-WIFI, with full color capacitive touchscreen display, 3 economic weekly schedules, a boost function, and early start function, window open detection, holiday mode and controllable from anywhere through the SENZ WIFI APP by a mobile device.

The thermostat shall be controllable from anywhere by an APP.

The APP shall make it possible to:

- Group thermostats in zone (up to 32 zones)
- Control entire zones at once
- Activate the boost mode on a thermostat from the home screen for a temporary override of the existing schedule
- Activate a constant mode (1 target temperature only)

[Option 3]

All underfloor heating circuits shall be controlled and monitored by a programmable digital floor and ambient temperature sensing thermostat, known as nVent RAYCHEM GREEN LEAF thermostat, manufactured by nVent.

The thermostat shall have the following functions

- Two operation modes (manual on/off, 1 temperature set-point; editable pre-program, 4 temperature set-points/day)
- Optimum heat management with 2 sensors, ambient and floor
- Operate in floor sensing mode, room sensing mode or room sensing mode with floor temperature limiter
- Intelligent leaf button to
  - change from one operation mode to the other
  - turn the thermostat ON/OFF
  - saving changes
  - energising the thermostat when in standby mode (motion sense technology)
- Built-in 4 event timer function
- Easy navigation
- Large clear display

[Option 4]

All underfloor heating circuits shall be controlled and monitored by programmable digital floor and ambient temperature sensing thermostat, known as nVent RAYCHEM NRG-DM, manufactured by nVent.

The thermostat shall have the following functions

- Three operating modes (constant, event mode for weekly schedule, adjustable boost mode for time and temperature)
- Adaptive, to the environment and floor construction, calculating when to start heating to reach desired temperature
- Optimum heat management with 2 sensors, ambient and floor
- Operate in floor sensing mode, room sensing mode or room sensing mode with floor temperature limiter
- Easy navigation
- Large dot matrix display (1.8”) with blue backlight

EXECUTION

Design Deliverables

The manufacturer shall be able to provide heat loss calculations and corresponding design of the QuickNet mat installation, electrical schedules and circuit protection, controller configuration listing and wiring diagrams.

Installation Deliverables

The underfloor heating QuickNet mat shall be installed in accordance with the design by the manufacturer, tested and commissioned strictly in accordance with manufacturer instructions. Installation of the mats shall be closely coordinated with the responsible sub-contractors.

[Select One Option]

[Option 1]

The system shall be installed, tested and commissioned by a qualified electrical installer.

[Option 2]

The system shall be installed and tested by a professional tiler and commissioned by a qualified electrical installer.

[Option 3]

The system shall be installed, tested and commissioned by installers trained and recognised by the manufacturer.

Electrical Connection

All connections between the electrical supply, control thermostats and underfloor heating circuits shall be installed by an approved electrical contractor. All underfloor heating circuits shall be protected by an MCB (to BS EN 60898, type C) and RCD (30 mA sensitivity, tripping within 100 ms).

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