



SPECIFICATION GUIDELINE CDE-0337

Electrical underfloor comfort heating: T2Red&T2Reflecta

Purpose :

The purpose of the underfloor heating system is to provide a comfortable (18-27°C) floor temperature under wooden or tiled floors using an easy-to-install, energy efficient, heat reflecting system.

The Product shall be supplied and delivered by:

Tyco Thermal Controls (UK) Ltd.
3 Rutherford Road
Stephenson Industrial Estate
Washington, Tyne & Wear
NE37 3HX
salesUK@tycothermal.com

Specification :

All under floor heating cables shall be of the energy efficient, self-regulating type as manufactured by Tyco Thermal Controls and known as **T2Red**. The heating cables shall be incorporated into an energy efficient heat reflecting system, known as **T2Reflecta**. The heat reflecting system shall be a thermally insulated, pre-grooved, aluminium covered plate of thickness less than 13mm.

The pre-grooved aluminium plates shall allow heating cable spacing of 100, 200, and 300mm for varied output per square metre. Maximum power output should be 100Watts/m².

The Heating Cable and heat reflecting system shall be capable of demonstrating a lifetime in excess of 15 years and have a warranty of not less than 12 years.

The heating cable shall have a fluoropolymer electrical insulation, tinned copper braid and fluoropolymer over jacket for protection against chemical ingress.

The surface of the heat reflecting system, known as T2Reflecta should have 100% coverage of aluminium in order to allow efficient heat dispersal and even heat distribution.

The underfloor heating system shall be installed, tested and commissioned strictly in accordance with the manufacturers instructions. The recommendations of the floor manufacturer shall also be observed. Best practices are available from Tyco Thermal Controls upon request.

All underfloor heating cables shall be capable of a maximum circuit length of 100 metres and be protected by a Type C circuit breaker at 10Amps, in compliance with IEE guidelines. An earth leakage current protection switch (30mA, 100ms) is required.

The termination of the self-regulating heating cable shall be made using components as approved by the manufacturer. For T2Red, terminations and connections shall be made using components as manufactured by Tyco Thermal Controls and detailed in the Raychem Floor Heating Handbook.

The manufacturer shall provide a 12 year product warranty for the under floor heating system provided all product and components are that of the manufacturer.

Product, technical, and performance requirements :

Cable:

- Product must be self regulating.
- Product must provide 10W/m @ 25°C.
- Product must have a Fluoropolymer overjacket for protection against chemical ingress.
- Product must have a full braid for electrical protection and mechanical durability.

T2Reflecta plate:

- Product must have a total thickness not greater than 13mm.
- Product must have a long term pressure capability of 14000kg/m².
- Product must have a U-value of 2.33W/m² °C.
- Product must have an insulation density of 50kg/m².
- Product must have 100% aluminium coverage over the profiles for maximum heat transfer.

Monitoring and Control :

All heat-tracing circuits shall be controlled and monitored via the Thermostats as detailed in the Raychem Floor Heating Handbook. The underfloor heating system should be controlled by one of the following methods depending on project requirements:

- a) Floor or room temperature sensing digital thermostat with boost function, known as **Raychem TA Control**.
- b) Programmable digital floor temperature sensing thermostat with integrated timer and boost function, known as **Raychem TC Control**.

Wiring between the Control Panel, Thermostat(s) and the underfloor heating circuit shall be performed by a trained/approved electrical contractor.