

QuickTherm™

poured floor system

Installation Guide

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Application

QuickTherm panels are typically used in radiant floor or snow and ice melt systems where the radiant tubing is installed in a concrete slab. They are designed to hold the radiant tubing in place during installation and to provide thermal insulation under the slab.

QuickTherm panels are available in two insulation R values: R-5 (model QT-100) which is 1" thick (nominal) or an R-9 (model QT-200) which is 2" thick (nominal). Both panels can accommodate tubing layouts with on-center spacing in multiples of 3 inches (eg: 6", 9" & 12", etc. . .). Each panel is 2 ft. x 4 ft. (nominal) for a full 8 ft² of pipe coverage. They have a structural compressive strength of 36 psi which is more than adequate to satisfy most floor loading requirements.

QuickTherm panels are designed to be used with 1/2", 5/8" and 3/4" radiant tubing that is manufactured in compliance with ASTM F 876 (Specification for Cross-linked Polyethylene (PEX) Tubing); ASTM F 2623 (Specification for Polyethylene of Raised Temperature (PE-RT) SDR 9 Tubing) or ASTM F 1281 (Specification for Cross linked Polyethylene / Aluminum / Cross linked Polyethylene (PEX-AL-PEX) Pressure Pipe).

NOTE: Before installation of the QuickTherm panels, the radiant tubing or any radiant panel; Legend highly recommends that a full system design is completed for the project. The system design will determine the optimal fluid flow rates and temperatures; which in turn affects tube spacing and under slab insulation requirements for the project.

Where local codes conflict with these instructions, local codes should take precedence.

Project Planning and Design

Choose the QuickTherm™ model (100 or 200) that is compatible with the project design requirements of R value insulation and/or floor thickness / height. (1)

Determine the number of panels required for the project. (2) Each panel covers 8 ft² (2 ft. x 4 ft.) of floor area and is sold in cases of **10 (QuickTherm 200)** or **18 (QuickTherm 100)**. Divide the total square footage of radiant panel area (area to be covered with tubing) by 80 (QuickTherm 200) or 144 (QuickTherm 100) and round up to the nearest whole case quantity to determine the number of panels needed for the project.

Site Preparation

Make sure your sub-base is smooth and at proper grade (usually Gravel or Pea Stone). The more accurate the leveling, the easier the installation. (3)

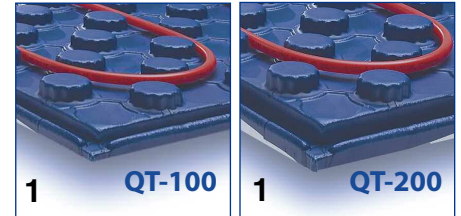
Install the vapor barrier, typically thin ply (6 mil) vinyl polyethylene PE, over top of the sub-base. (4)

If required **for higher R values, install an additional layer of rigid polystyrene foam board over top of the vapor barrier** before installing QuickTherm panels. Check project design requirements for thickness or R value of the foam board. (5)

Install QuickTherm Panels

Remove the interlock from 2 sides of the starting panel to avoid an air gap. (6)

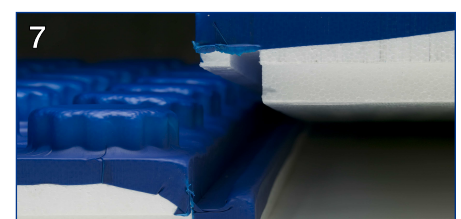
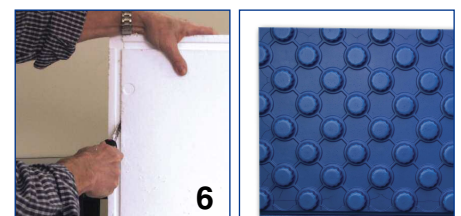
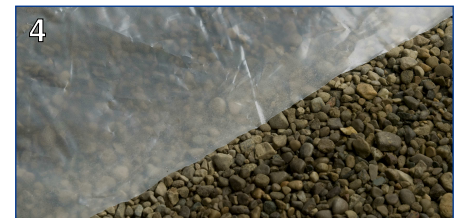
Start in any corner and **lay down a row of panels from left to right.** Take care that interlocks are snug and the panels are aligned. (7)



Example: A project with a total radiant floor surface area of 3500 ft²:

QuickTherm 200: 3500 / 80 = 43.75
(round up to 44 cases) = **440 panels**

2 QuickTherm 100: 3500 / 144 = 24.3
(round up to 25 cases) = **450 panels**



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Install QuickTherm Panels *Continued*

After placing the last full panel in the first row, cut (shorten) the next panel to complete the row. (8a) Use leftover segments to start the next rows. Be sure to maintain the "Knob" pattern from one panel to the next. (8b)

Maintain a staggered (running bond) layout rather than rows and columns. This will keep the installation bound together, more durable, and reduce waste. (9)

Finish Coverage of area in the same manner, before installing tubing. (10)

NOTE: *On rare occasions in very windy weather conditions it may be necessary to weigh the panels down.* (11)

Install Radiant Tubing

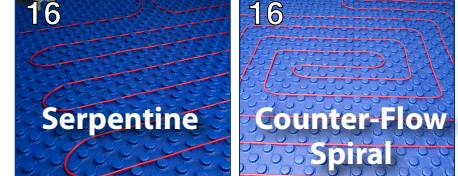
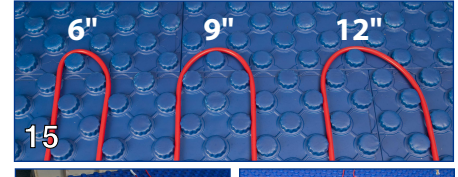
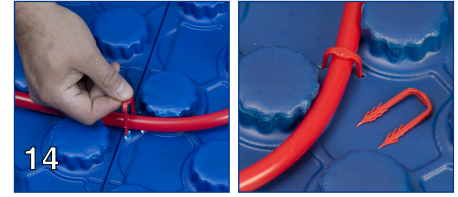
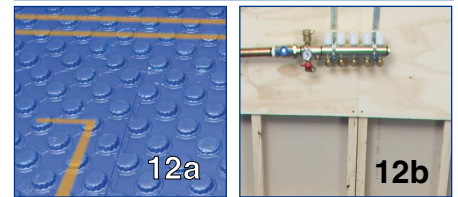
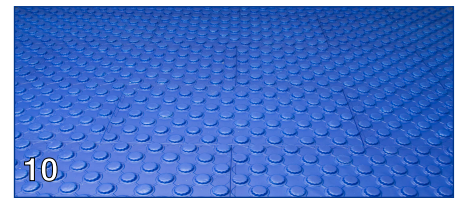
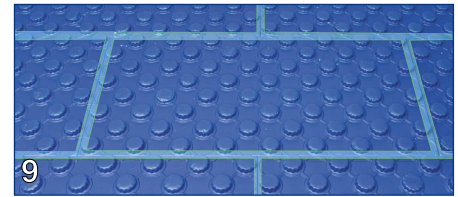
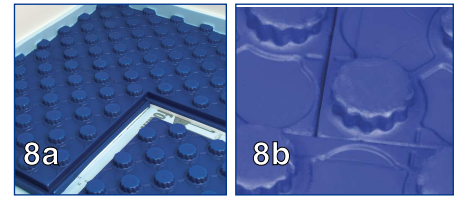
Mark project wall location from project plans, if not already existing. (12a) **Mark control/expansion joints. Attach or mount the radiant manifolds.** (12b)

Install the PEX tubing by "**walking**" it in according to your design layout. If your layout changes or the tubing needs to be re-routed, simply pull the tubing up and put it back in the correct location. (13)

On rare occasions it may be necessary to use a Tube Holding Pin (800-345 for QuickTherm 100 or 800-348 for QuickTherm 200). Cold temperatures (weather); 3/4" tubing and/or tight bends are conditions which may increase the necessity of a Tube Holding Pin. (14)

The panels can accommodate layouts with on-center spacing in multiples of 3 inches. (15)

The panels can accommodate a variety of tubing patterns, such as SERPENTINE & COUNTER FLOW SPIRAL (16)



Concrete Pour



Wire mesh and/or rebar can be installed as needed, for structural purposes, over top of the installed tubing



NOTE: *If heavy equipment (such as wheel barrel or buggy) is used on top of the tubing and QuickTherm assembly, during construction, prior to or during the concrete pour, it is recommended that plywood or a suitably wide planking be temporarily laid down under or in the path of the equipment. This will spread the load (weight) of the equipment and prevent or minimize damage to the tubing and QuickTherm assembly.*



NOTE: *The installed tubing should be under pressure during the concrete pour. A loss of pressure can help alert the installers to any damage that may occur during the pour. The tube and manifold(s) should be pressurized in accordance with the tube manufacturer's instructions; typically air pressure at the maximum of 80 to 100 psi or 1-1/2 times the system working pressure.*