

Roth Radiant Floor Panel System for 3/8" & 1/2" Roth PEX Tubing

Modular, low-profile PEX tubing tracking system
with integrated thermal isolation and aluminum heat diffuser



The Roth Radiant Floor Panel System is an easily assembled PEX tubing track system that allows simple installation of hydronic radiant floor heating over an existing subfloor. The system is designed around a 90 psi (6.3 kg/cm²) high density polystyrene foam field panel with a bonded 24 ga. aluminum sheet on top. The foam provides thermal insulation below the panel and the aluminum provides even heat distribution focused directly at the finished floor material. The low profile of this product allows for easy retrofit and the light weight makes it easy to use in new construction. The 2' x 4' (61 cm x 122 cm) field panels make installation faster than other available products. The field panels have tracks that allow the tubing to be snapped in (no adhesive is required) on either 6" (15.25 cm) or 12" (30.5 cm) centers. Radius panels for return bends and twin tube transition panels, to route tubing to the heated area, are included with each box of the Floor Panel System. Additional radius panels are available separately, if needed.

The Floor Panel System for 3/8" PEX tubing is 3/4" (1.9 cm) thick and provides an approximate downward insulation value of R=3.7. The Floor Panel System for 1/2" PEX tubing is 1" (2.5 cm) and provides an approximate downward insulation value of R=4.5. The full-face aluminum sheet on the field panel provides heating characteristics similar to a lightweight concrete over-pour, but at lower fluid temperatures and with faster pick-up times.

Preparation

The heat loss calculations with a tubing layout should be performed for every system prior to installation. *Always coordinate the installation of any radiant floor heating system with the flooring contractor to insure that any special requirements, such as nailing strips, underlayment, etc., are agreed to and planned for prior to installation.* The floor surface should be repaired as needed to correct any irregularities and provide a smooth, level, clean and dry surface. There should be no level changes greater than 0.02"/ft (~2 mm/m). Follow manufacturer's instructions for any patching product that is used. "Dry fit" the panels according to your tubing layout plan. Any nail strips for hardwood or carpet tack strips should be included at this point. Field panels should be staggered to avoid continuous joints. Panels can be easily cut with a reciprocating saw and a fine-toothed metal blade or a circular saw with a fine toothed panel blade. Cut from the foam side and be sure to clean all edges of burrs. If a water-tight membrane is needed, it should be installed above the Floor Panel System. Transition panels can be used as filler pieces around the perimeter or in any other areas if needed.

Panel Installation

After the layout has been checked and corrected, the panels are secured to the subfloor with either counter-sunk screws or an adhesive compatible with foam board products. Adhesive may be applied with a caulking gun or from bulk containers with a notched trowel. Place the panels and allow the adhesive to cure according to the manufacturer's directions. Be aware that different adhesives have different curing times and temperature and humidity conditions will have a direct affect on the curing time. When using screws to secure the panels, use a minimum of eight (8) screws per field panel. Be sure that the screw heads are flush (countersunk) to avoid any surface irregularities. After the panels are set, thoroughly clean and vacuum the surface to remove any foreign objects from the panels prior to installation of the tubing. The tubing can be installed by starting with one end at the manifold and uncoiling the tubing following the pre-planned layout. The tubing can be easily set into the groove by stepping on it or using a block of wood and a hammer. Avoid denting the aluminum face. The tubing should be pulled tightly around the return bends of the radius panels during installation. We also recommend using some silicone adhesive to secure the tubing in the transition panels since it does not snap in as it does in the field panels. When the tubing installation is complete, install the finished floor underlayment as needed for your flooring material. We recommend that an underlayment product be used on all applications with carpeting, sheet vinyl and tile (ceramic and vinyl) to provide a stable base and mechanical protection for the tubing. Many wood flooring products do not require any underlayment material, but this should be discussed with the flooring installer. Underlayment material should be stable under the temperature and humidity conditions expected for your system. *Products such as untempered hardboard are not recommended for use as underlayment since they may deform in moist conditions.* After the underlayment has been installed the system should be run at approximately 140°F (60°C) for approximately one half hour to allow the tubing to settle into the panel. Finish the underlayment seams according to manufacturer's instructions and install the finished floor material. *Refer to the installation instructions (Roth document 5.A) for additional information prior to starting your project.* After the installation is complete, start up and adjust the system according to the information from your calculations.

ROTH FLOOR PANEL DATA	PART NUMBER	BOX QUANTITIES
Panel System for 3/8" Roth PEX	1171000.009	see Master Carton Contents
Radius Bends for 3/8" Roth PEX	1171000.008	5 pieces * Radius Panel (10 panels)
Panel System for 1/2" Roth PEX	1171000.010	see Master Carton Contents
Radius Bends for 1/2" Roth PEX	1171000.011	5 pieces * Radius Panel (10 panels)

MASTER CARTON CONTENTS		Dimensions	
Field Panels	10/box	2' x 4' (61 cm x 122 cm)	* Radius panels are supplied in pieces which snap into two (2) panels each.
Radius Panels*	6/box	2' x 8" (61 cm x 20.3 cm)	**Transition panels are supplied in pieces which snap into four (4) panels each.
Transition Panels**	12/box	2' x 4" (61 cm x 10.2 cm)	
Approx. Coverage	96 ft ² / 8.9 m ²		

THICKNESS & APPROX R VALUE	Panel System for 3/8" Roth PEX	3/4" (1.9 cm) thick	R=3.7
	Panel System for 1/2" Roth PEX	1" (2.5 cm) thick	R=4.5
COMPRESSIVE STRENGTH	90 psi (6.3 kg/cm ²)		

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