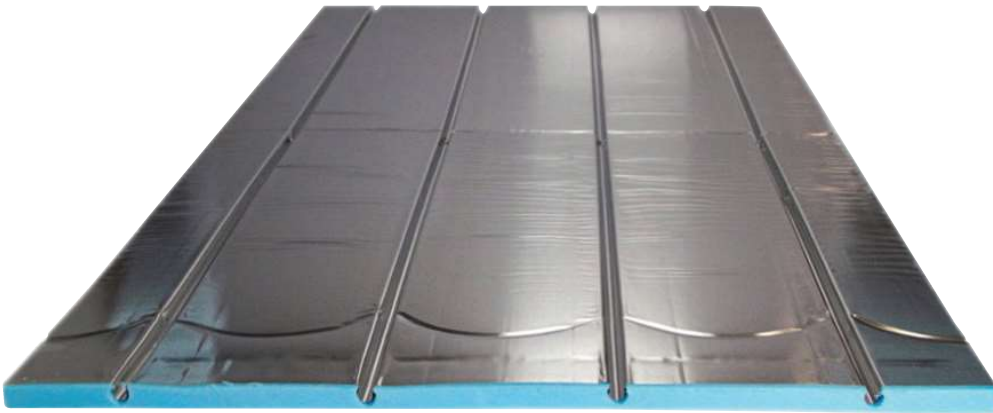


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# Xpress Trak™

Installation Guide



Uponor Xpress Trak Installation Guide is published by

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Xpress Trak is a residential radiant panel system that features lightweight XPS foam laminated with aluminum for exceptional heat-transfer capability.

Ideal for new construction or remodels, Xpress Trak adheres to the subfloor for fast, easy installation of  $\frac{5}{16}$ " Wirsbo hePEX™ pipe and incorporates straight runs and return bends in one panel for easy ordering.

Install Xpress Trak in any of the following applications:

- Suspended wood subfloor
- Concrete slab
- Walls or ceilings

## Installation Tools

- Carpenter's or T square
- Tape measure
- Marker
- Retractable utility knife
- Wood chisel
- Water-based adhesive and caulk gun
- Router with  $\frac{7}{16}$ " (11mm) bowl and tray bit
- Safety glasses

## Floor Surface Preparation

1. Clean the subfloor and ensure it is free of movement and high spots.
2. Make sure the subfloor is rated to carry the load of the structure including the  $\frac{5}{8}$ " Xpress Trak panels.
3. Outline all areas that will not have Xpress Trak panels (e.g., cabinets, built-ins) and fill in these areas with  $\frac{5}{8}$ " high-density foam, plywood, or other material. Leave these areas open until after installing the Xpress Trak panels. (Either the carpentry contractor or the radiant installer can take care of this step.)

**Important!** Take time to plan the radiant loop layout prior to installation. This will save time and ensure accurate ordering of Xpress Trak panels.

## Calculations

Use Uponor LoopCAD® to generate the heat-loss calculations, system requirements, panel layout, and materials list.

**Note:** If the BTU/hr/ft<sup>2</sup> load exceeds the Xpress Trak output or recommended surface temperature, the project will require supplemental heating.

## Panel Calculations

To determine the number of panels required for your project use the following formula:

Net floor area/7.8 = number of panels (round up to next highest whole number)

### Example

Given the room is 375 square feet divided by 7.8 = 49 panels (rounded up to whole number)

## Pipe Calculations

The maximum loop length for Xpress Trak is 250 lineal ft. Refer to the following steps to determine the amount of PEX pipe needed.

1. Net floor area x 2.0 = total pipe for the heated area
2. Determine leader length (double leader length for supply and return)
3. Maximum loop length (250 ft.) - leader length = maximum heated area loop length
4. Total pipe for heated area/ maximum heated area loop length = number of loops (round up)
5. Total pipe for heated area/ number of loops (whole number) = actual loop length
6. Actual loop length + leader length = total loop length
7. Total loop length x number of loops = total pipe required

## Example

375-square-foot room with a leader length of 15 ft. between the room and manifold

1. Net floor area x 2.0 = total pipe for the heated area:  
**375 x 2.0 = 750 lineal ft.**
2. Determine leader length (double leader length for supply and return):  
**15 x 2 = 30 ft.**
3. Maximum loop length (250) - leader length = maximum heated area loop length:  
**250 - 30 = 220 ft.**
4. Total pipe for heated area/ maximum heated area loop length = number of loops (round up): **750 ft./220 ft. = 4**
5. Total pipe for heated area/ number of loops (whole number) = actual loop length:  
**750 ft./4 = 188 ft.**
6. Actual loop length + leader length = total loop length:  
**188 ft. + 30 ft. = 218 ft.**
7. Total loop length x number of loops = total pipe required:  
**218 ft. x 4 = 870 ft.**

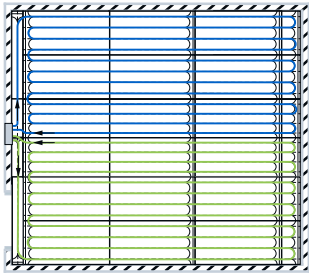
## Installation Planning

1. To save time, draw the Xpress Trak layout on a piece of paper before beginning the installation.
2. Determine the manifold location.
3. If the manifold pipe is fed above the floor, measure out a square centered in front of the manifold with 2" extending past the width of the manifold. This is the manifold piping work area which will have tightly spaced pipe routed to the manifold for each radiant zone.
4. Consider the type of finished floor into the planning of the Xpress Trak panels. Coordinate with the flooring contractor to save time and prevent rework.
  - a. For **hardwood floors**, coordinate with the flooring contractor if nailing strips are required along the perimeter of the room and in between each Xpress Trak panel. (This is determined by the size of nail being used.) If nailing strips are required, install 1½" wide x ⅝" thick wood filler.
  - b. **Carpeting** requires a minimum of ¼" backer board on top of the Xpress Trak panels. Coordinate with the flooring contractor to determine if a nailing strip is required along the perimeter of the room to nail the carpet tack strip down. If a nailing strip is required, install a 3" wide x ⅝" thick wood filler. The tack strip can be nailed to the ¼" backer board and glued in place.
  - c. **Tile** requires a minimum of ¼" cement board on top of the Xpress Trak panels.
  - d. **Linoleum** requires a minimum of ¼" backer board on top of the Xpress Trak panels.
  - e. **Laminate wood** requires a polyethylene floor pad on top of the Xpress Trak panels.

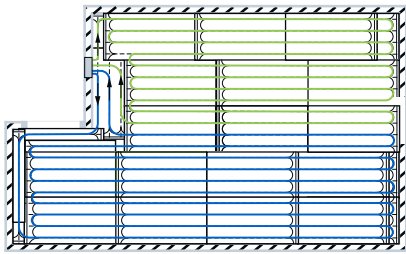
## Piping Layouts

### Pipe Above the Floor

Carefully plan the Xpress Trak layout before installation begins. A well-planned layout will result in equal loop lengths and minimal waste. Manifold placement is key to determining the layout. Place manifolds either above or below the floor and ensure they are accessible for service.



**Figure 1: Manifold location in the wall**

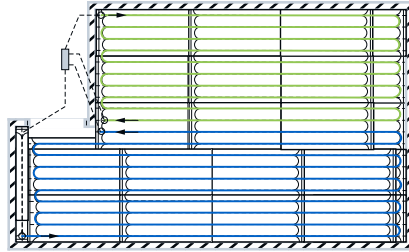


**Figure 2: Manifold location in the wall**

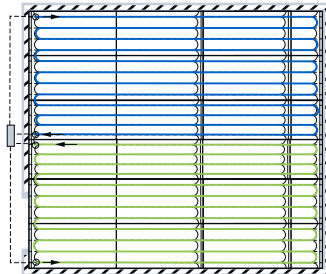
### Access from Below the Floor

Figures 3 and 4 show manifold locations in the joist cavity. The entire floor area is accessible.

The arrows illustrate the direction of water flow through the pipe. The dotted lines represent the supply and return lines that are beneath the floor.



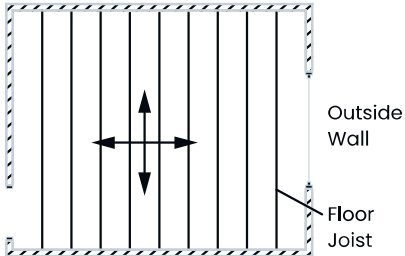
**Figure 3: Manifold location in the joist cavity**



**Figure 4: Manifold in the joist cavity**

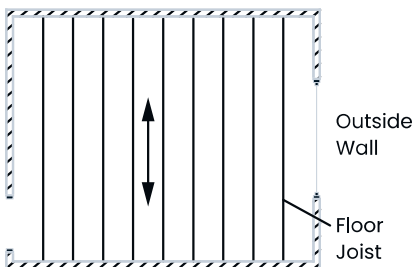
## Panel Direction

When possible, install Xpress Trak panels parallel to the exterior wall to provide the warmest water near the outside wall and then progress toward the interior of the room.



**Figure 5: Arrow indicates straight runs parallel to exterior wall to provide warmest water to the coldest area**

For hardwood floors, install Xpress Trak panels so the straight runs are perpendicular to the direction of the finished-floor wood grain.



**Figure 6: Xpress Trak installed perpendicular to the hardwood floor grain**

## Panel Installation

**Important!** Wear safety glasses during installation.

1. Ensure the room temperature is at least 50°F (10°C) and that the Xpress Trak panels have acclimated to the environment.
2. Clean subfloor of dust and debris.
3. Mark areas that do not require panels.
4. If nailing strips are required, install 3" wide x  $\frac{5}{8}$ " thick wood filler for the carpet tack strip or 1½" wide  $\frac{5}{8}$ " thick wood filler for hardwood floors.

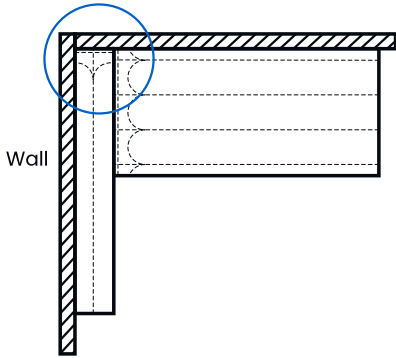


**Figure 7: Cut 6" wide down entire length of panel**

5. To lay out the supply-run loop, use a utility knife to cut the Xpress Trak panel 6" wide down the entire length of the panel. Use the utility knife to score the aluminum laminate, and then extend the blade to at least 2" long to cut the foam using a slow, deliberate sawing motion.

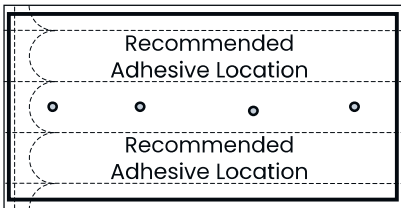
6. Align the first panel perpendicular to the supply feed loop panel. Ensure the return bends are oriented to allow piping to loop back and forth. Place a 6" piece of PEX in the pipe groove between the panels to keep the panel aligned during installation.

Align Return Bend to Panel Straight Run



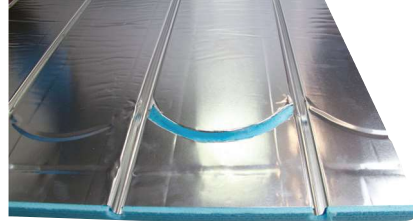
**Figure 8: Align return bend to panel straight run**

7. Apply adhesive to the Xpress Trak panel along the entire outer edge as well as four 1" circles in the center of the panel (see **Figure 9**).



**Figure 9: Recommended Adhesive Location**

8. Continue to place the panels. Pay close attention to the last panel in the row where the panel will need to be turned 180 degrees so the return bends are in proper position for routing pipe loop.
9. Use a utility knife to cut the laminated aluminum out of the return bends to rout the PEX pipe into the adjacent channel.

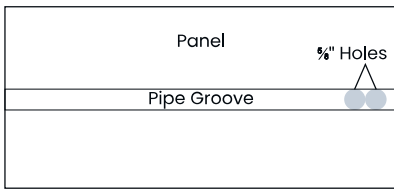


**Figure 10: Cut out aluminum to rout PEX in return bends**

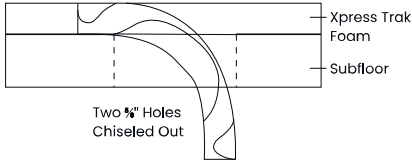
## Pipe Installation

**Note:** When the manifold is below the subfloor, use a Bend Support (part number A5110375) on the supply and return runs to ensure proper pipe alignment through the subfloor.

It will be necessary to create a rectangular slot in the subfloor to compensate for the bend in the support. To do this, use a  $\frac{5}{8}$ " drill bit and drill two holes side by side (see **Figure 11**). Then, use a sharp wood chisel to square off the holes. This will allow the  $\frac{3}{8}$ " Metal Bend Support to be flush with the top of the panels (see **Figure 12**).



**Figure 11: Drill two 3/8" holes through subfloor**



**Figure 12: Trim foam with utility knife to fit bend support**

Next, vacuum the groove to remove all debris and begin installing the pipe.

Feed the pipe through the opening (**Figure 11**), then attach the pipe to the supply or return loop of the manifold.

After attaching the pipe to the supply manifold, secure the 3/8" Metal Bend Support to the pipe where it comes out of the floor. First, secure the bend support on the side of the pipe that will remain below the floor. Then, position the bend support at the desired point on the pipe and snap the pipe into place. Push the bend support into the hole drilled in the Xpress Trak groove.

The pipe is now attached to the supply manifold and is through the subfloor.

Next, press the pipe into the groove using hands or hard-soled boots or shoes (see **Figure 13**).

Finally, complete the loop installation by sliding the pipe through the hole and installing a 3/8" Metal Bend Support as outlined in **Figure 11**.

Finish by connecting the pipe to the return manifold. Repeat this procedure for any additional loops.



**Figure 13: Press pipe into the groove**

## Pressure Testing

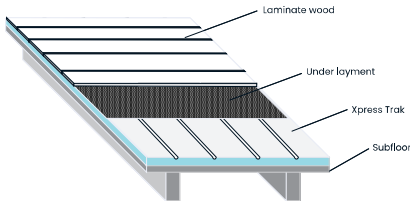
After connecting all the loops to the manifold, pressure test the system to a minimum of 60 psi for a minimum of 24 hours or to local code requirements. After completing the pressure test and inspecting the system, the finished floor can be installed.

**Note:** Ensure the Xpress Trak system is under an air test or operating with water during the installation of the finished floor covering.

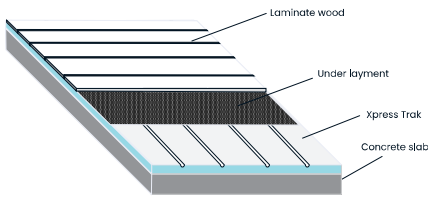
## Finished Floor Applications

**Important!** Coordinate with the flooring contractor regarding any special requirements to prevent rework.

### Floating Laminate Parquet/ Laminate Flooring on Concrete or Wood Subfloor



**Figure 14: Laminate wood with Xpress Trak on wood subfloor**

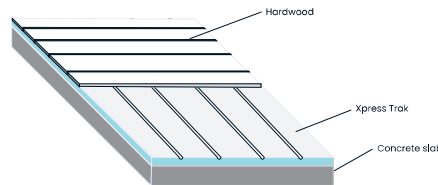


**Figure 15: Laminate wood with Xpress Trak on concrete**

1. Install floor **perpendicular** to the PEX pipes.
2. Ensure subfloor is stable and level. If necessary, use self-leveling floor screed.
3. Adhere the Xpress Trak panels to the subfloor using a water-based sealant.
4. Install PEX pipe into the Xpress Trak panels.

5. If desired, install underlayment on top of the Xpress Trak panels to improve acoustics.
6. For luxury vinyl tile or plank, vinyl flooring, or carpet, install  $\frac{1}{4}$ " backer board for pressure distribution over the top of the Xpress Trak panels.

### Glued Hardwood on Wood or Concrete Subfloor

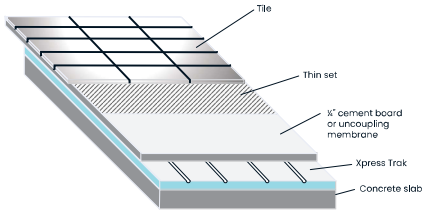


**Figure 16: Glued hardwood with Xpress Trak on concrete**

1. Install floor **perpendicular** to the PEX pipes.
2. Ensure subfloor is stable and level. If necessary, use self-leveling floor screed.
3. Adhere the Xpress Trak panels to the subfloor using a water-based sealant.
4. After adhering the panels and installing the PEX pipe, clean the surface with a cotton cloth and mild soap.
5. Use parquet/floor adhesive for the hardwood.
6. For herringbone parquet, some floor installers may want to glue the flooring to a wooden panel on top of the Xpress Trak panels. While this is possible, it

is not necessary and will result in a slightly longer response time for the radiant floor heating system.

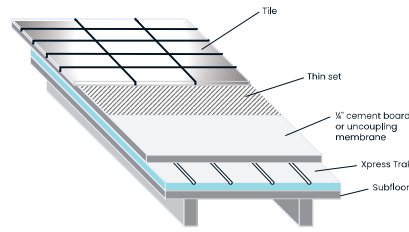
### Tile on Concrete



**Figure 17: Tile with Xpress Trak on concrete**

1. Ensure subfloor is stable and level. If necessary, use self-leveling floor screed.
2. Prime the subfloor with a standard primer and ensure it is dry before moving on to the following step.
3. After the primer is completely dry, adhere the Xpress Trak panels to the subfloor using a water-based sealant.
4. After adhering the panels and installing the PEX pipe, clean the surface with a cotton cloth and mild soap.
5. Prime the panels with a standard primer.
6. Glue 1/4" cement board or uncoupling membrane to the Xpress Trak panels.
7. Then, lay the tiles.

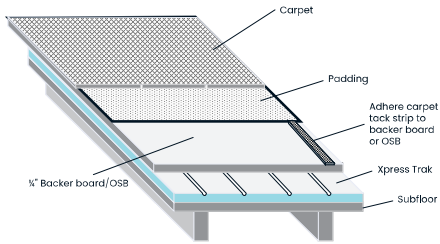
### Tile on Wood



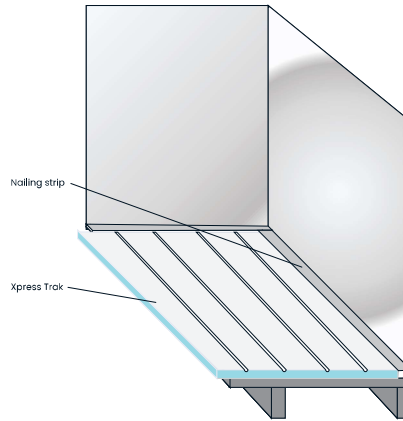
**Figure 18: Tile with Xpress Trak on wood subfloor**

1. Ensure subfloor is stable and level. If necessary, use self-leveling floor screed.
2. Adhere the Xpress Trak panels to the subfloor using a water-based sealant.
3. Install PEX pipe into the Xpress Trak panels.
4. Glue 1/4" cement board or uncoupling membrane to the Xpress Trak panels.
5. Then, lay the tiles.

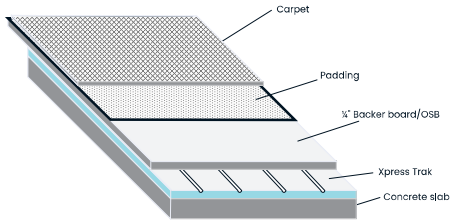
## Carpet on Wood and Concrete



**Figure 19: Carpet with Xpress Trak on wood subfloor**



**Figure 21: Xpress Trak on wood subfloor with perimeter nailing strip**



**Figure 20: Carpet with Xpress Trak on concrete**

**Note:** When installing Xpress Trak panels with a perimeter nailing strip already fastened to the subfloor, adhere the panels adjacent to the nailing strip as shown in **Figure 21**.

1. Ensure subfloor is stable and level. If necessary, use self-leveling floor screed.
2. Adhere the Xpress Trak panels to the subfloor using a water-based sealant.
3. After adhering the panels and installing the PEX pipe, clean the surface with a cotton cloth and mild soap.
4. Glue 4 ft. x 8 ft. x 1/4" backer board or OSB (or size appropriate) to the Xpress Trak to distribute pressure from furniture load points.
5. Install the carpet.



**Moving  
> Water**

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