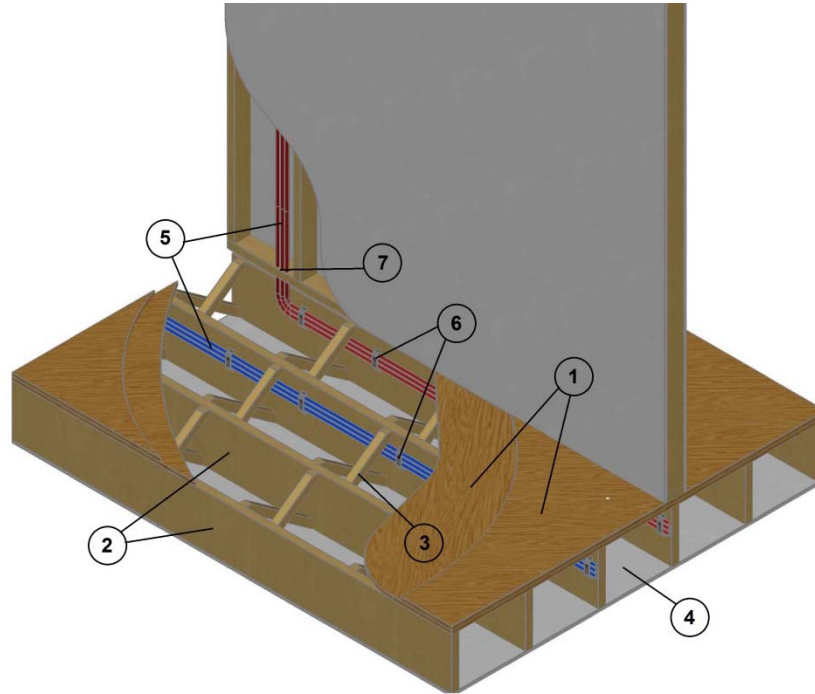


**QAI Listing P321-1F Uponor PEX Filled Floor/Ceiling Assembly
 UL 263, ASTM E119, CAN/ULC S101
 1 Hour Fire Resistance Rated Unrestrained Floor/Ceiling Assembly
 Restricted-Load Bearing***



No.	COMPONENT	DESCRIPTION
1	Flooring System 1	Subflooring – 1/2 in. thick plywood, min. grade “C-D” or “Sheathing”. Face grain of the plywood is to be installed perpendicular to the joists with the joints staggered. Fastened using 8d sinker nails spaced 8 in. on center (OC). Vapor Barrier – 0.010 in. thick commercial rosin-sized paper. Finish Flooring – 5/8 in. thick plywood, min. grade “Underlayment” or “single floor”. Face grain of the plywood is to be installed perpendicular to the joists with the joints staggered. Fastened using 8d sinker nails spaced 8 in. OC. Topping – 3/4 in. concrete based floor topping material
	Flooring System 2	Subflooring – 5/8 in. thick plywood, min. grade “C-D” or “Sheathing”. Face grain of the plywood is to be installed perpendicular to the joists with the joints staggered. Fastened using 8d sinker nails spaced 8 in. OC. Vapor Barrier – 0.010 in. thick commercial rosin-sized paper. Finish Flooring – 5/8 in. thick plywood, min. grade “Underlayment” or “single floor”. Face grain of the plywood is to be installed perpendicular to the joists with the joints staggered. Fastened using 8d sinker nails spaced 8 in. OC.

No.	COMPONENT	DESCRIPTION
2	Joists	Min. nominal 2 by 10 in. wood joists spaced 16 in. OC and effectively fireblocked in accordance with local codes.
3	Cross-Bracing	Min. nominal 1 by 3 in. or 2 by 10 in. solid blocking.
4	Gypsum Board	5/8 in. thick Type X gypsum board complying with ASTM C1396 and listed by an approved agency, installed with the long dimension perpendicular to joists with end joints located under the bottom of joists. End joints in adjacent rows shall be staggered on adjacent joists. The gypsum board shall be secured with 6d coated nails spaced 6 in. OC along the perimeter and in the field. Nails must be located 1/2 in. from the butted end joints.
5	Non-Metallic Components	Uponor Inc. AquaPEX (natural, red, blue) nominal 1/2 in. to 2 in. tubing; hePEX (natural) nominal 1/2 in. to 2 in. tubing; RCW PEX nominal 1/2 in. to 1 in. tubing. The min. spacing between the bottom of the tubing and the top of the gypsum board shall be 4-1/2 in. The tubing shall be installed to a maximum weight of 0.63 lb per ft. of joist cavity. Plastic manifolds and fittings with a weight not exceeding 0.1 lbs/ft. of joist cavity.
6	Fasteners	Nominal 1/2 in. to 1 in. wide perforated steel or copper straps, or steel or copper U or C shaped brackets with a radius conforming to the outer circumference of the tube to be supported. Fasteners are to be nailed to the wood joists with min. 1 in. long nails spaced 16 in. OC for 1/2 in. to 1 in. tubing and 24 in. OC for 1-1/4 in. to 2 in. tubing.
7	Fill Void or Firestop Material	The annulus created between the tubing and the sill plate must be protected with a firestop system listed with an F rating for the appropriate assembly.
8	Joint Tape and Compound	Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads. 2 in. wide paper tape embedded in the first layer of compound over all joints. As an alternate, nominal 3/32 in. thick veneer plaster may be applied to the entire surface of the gypsum board.

*Restricted-Load Bearing – Load rating for this assembly was calculated using the Working Stress Design Method. For jurisdictions employing the Limit States Design Method such as Canada, a load restriction factor shall be used.

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