BUILDING PRODUCTS PROGRAM

Class: Plumbing – Plastic Piping and Accessories

Customer: UPONOR, INC.
Location: Apple Valley, Minnesota
                        Northeast Hutchinson, Minnesota

Listing No.   P321-1
Effective Date: August 28, 2012
Last Revised: September 25, 2018
Expires: N/A
Website: www.uponor-usa.com

Product(s):   Cross-linked polyethylene PEX Piping, Fittings and Valves.

Standard(s):   ASTM E84   *"Standard Test Method for Surface Burning Characteristics of Building Materials".*

                UL 2846   *"Fire Test of Plastic Water Distribution Plumbing Pipe for Visible Flame and Smoke Characteristics".*

                CAN/ULC S102.2   *"Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies".*

                ASTM E119   *"Standard Test Methods for Fire Tests of Building Construction and Materials".*

                CAN/ULC S101   *"Standard Methods of Fire Endurance Tests of Building Construction and Materials".*

                UL 263   *"Fire Tests of Building Construction and Materials".*

                ASTM E814   *"Standard Test Method for Fire Tests of Penetration Firestop Systems".*

                CAN/ULC S115   *""Standard Method of Fire Tests of Firestop Systems".*

Models: AquaPEX™ (natural, red, blue)
                hePEX™ Pipe
                helioPEX™ X2
                RCW PEX™
                Pre-Insulated PEX Pipe (AquaPEX™, hePEX™, helioPEX™, and RCW PEX™)
                ProPEX™ EP Fittings
                ProPEX™ EP MultiPort Tees
                PEX rings
                ProPEX™ EP Connectors
                ProPEX™ CPVC Adapters and Valves

Marking(s):   All PEX tubing, connectors, angle stop valves, and other accessories (if sufficient space available) shall be permanently marked with the following content applied to an area that is readily visible after installation:

                - Manufacturers name or trademark
                - Model Name
                - Standard: ASTM E84; CAN/ULC S102.2
                - Flame Spread Rating < 25, Smoke Developed Rating < 50
                - Nominal Size
                - QAI Logo with 'c' and 'us' indicator on UPONOR PEX pipe products where appropriate.
                - Manufacturing Traceability Label - Production date code

Rating(s):   **The following outlines the performance of UPONOR pipe determined in accordance with the noted standards. The ratings outlined in the some of the tables below are achieved in assemblies that are defined in the QAI Design Listings.**

ASTM E84 – Surface Burning Characteristics

Products	Limitations	Flame Spread Index	Smoke Developed Index
AquaPEX™ (natural, red, blue)[1] hePEX™ helioPEX™ X2 RCW PEX™ ProPEX™ EP Fittings ProPEX™ EP MultiPort Tees PEX rings ProPEX™ EP Connectors ProPEX™ CPVC Adapters and Valves	Maximum 3/4-inch nominal diameter tubing; 18-inch minimum spacing between adjacent runs of tubing	< 25	< 50
	Maximum 3-inch nominal diameter with maximum ½-inch wall thickness pipe products and accessories, installed with rated ½-inch pipe insulation[2]; No spacing requirements between adjacent runs.	< 25	< 50

UL 2846 – Surface Burning Characteristics

Products	Limitations	Flame Propagation and Optical Density
AquaPEX™ (natural, red, blue)[1] hePEX™ helioPEX™ X2 RCW PEX™	Maximum 4-inch nominal diameter tubing, installed with rated ½-inch fiberglass or mineral wool pipe insulation with FS rating of ≤ 25 and SDI rating of ≤ 50. The test results are limited to individual pairs of water distribution pipes.	Complies

CAN/ULC S102 – Surface Burning Characteristics

Product	Limitations	Flame Spread Rating	Smoke Developed Index
AquaPEX™ (natural, red, blue)[1] hePEX™ helioPEX™ X2 RCW PEX™ ProPEX™ EP Fittings ProPEX™ EP MultiPort Tees PEX rings ProPEX™ EP Connectors ProPEX™ CPVC Adapters and Valves	Maximum 1-inch nominal diameter tubing; 18-inch minimum spacing between adjacent runs of tubing.	< 25	< 50
	Maximum ½-inch nominal diameter tubing; No spacing requirements between adjacent runs.	< 25	< 50
	Maximum 3-inch nominal diameter with maximum ½-inch wall thickness pipe products and accessories, installed with rated ½-inch pipe insulation[2]; No spacing requirements between adjacent runs.	< 25	< 50

Note 1: *Different sizes corresponding to different colors of AquaPEX™, hePEX™ and helioPEX™ X2 are dependent on manufacturer's availability*
Note 2: *List of approved pipe insulation providers:*

The following list of fiberglass insulation types (at minimum thickness of ½") are approved for use with Uponor's hePEX™, AquaPEX™ and helioPEX™ X2 when installed with UPONOR fittings and valves to maximum sizes outlined in tables above. The insulations noted must be Listed to ASTM C547 by an approved agency and are approved for use at the dimension specified above.

Insulation	Flame Spread Rating	Smoke Developed Index
	(according to ASTM E84 / CAN/ULC S102.2)	

Manson Alley-K Armaflex Composite Johns Manville Micro-Lok Johns Manville Micro-Lok HP Owens Corning Vapor Wick Owens Corning Fiberglass GLT Pipe and Tank Knauf Earthwool Redi-Klad Nomalock	< 25	< 50

UL 263, ASTM E119, CAN/ULC S101 – Wall Assemblies

QAI Design #	Wall Type:	Wall Load:	Fire Endurance Period:
P321-1A	Light Gauge Steel Stud	Non-Load Bearing	1 hour
P321-1B	Wood Dimensional Lumber Stud	Restricted Load Bearing	1 hour
P321-1G	Light Gauge Steel Stud	Non-Load Bearing	2 hour
P321-1H	Wood Dimensional Lumber Stud	Non-Load Bearing	2 hour

UL 263, ASTM E119, CAN/ULC S101 – Floor/Ceiling Assemblies

QAI Design #	Wall Type:	Wall Load:	Fire Endurance Period:
P321-1C	Concrete	Restricted Load Bearing	2 hour
P321-1D	Concrete[3]	Restricted Load Bearing	2 hour
P321-1E	Concrete/Steel Joist	Load Bearing	2 hour
P321-1F	Wood Joist	Restricted Load Bearing	1 hour

Note 3: *Either a 1-1/2 Hour or 2 Hour Assembly*

ASTM E814, CAN/ULC S115 – Firestop Assemblies

QAI Design #	Product:	Floor/Wall Type:	Fire Endurance Rating
P321-1I	AquaPEX™ (natural, red, blue)[1] hePEX™ helioPEX™ X2 RCW PEX™	Concrete	2 hour FH
P321-1J		Concrete	2 hour FH 50Pa

Note: These products are subjected to limitations as specified above and must be installed in accordance with the manufacturers' instructions. Authorities having jurisdiction should be consulted regarding allowable applications. See manufacturer's listings for other standards listed under QAI certification programs.

The materials, products or systems listed herein have been qualified to bear the QAI Listing Mark under the conditions stated with each Listing. Only those products bearing the QAI Listing Mark are considered to be listed by QAI.

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