



Effective Date: May 2024

This listing is subject to re-examination in one year.

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CSI: DIVISION: 23 00 00—HEATING, VENTILATING AND AIR CONDITIONING (HVAC)
Section: 23 20 00—HVAC Piping

Product certification system:

The ICC-ES product certification system includes testing samples taken from the market or supplier's stock, or a combination of both, to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the supplier's quality system.

Products: Python PE-RT/AL/PE-RT Refrigeration Line Set Pipe and Fittings for Refrigeration

Listee: Titeflex Corporation/Gastite Division
1116 Vaughn Parkway
Portland, TN 37148
www.gastite.com

Compliance with the following codes:

2024, 2021, 2018, 2015, 2012, 2009 and 2006 *International Mechanical Code*® (IMC)
2024, 2021, 2018, 2015, 2012, 2009 and 2006 *International Residential Code*® (IRC)
2024, 2021, 2018, 2015, 2012, 2009 and 2006 *Uniform Mechanical Code*® (UMC)*
2022, 2019, 2016 and 2013 *California Mechanical Code*® (CMC)*
2020 and 2015 *Minnesota Mechanical and Fuel Gas Code*®
2023, 2020 and 2017 *Florida Mechanical Code*®

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Compliance with the following standards:

ASTM F3506-2021e1, Specification for Polyethylene of Raised Temperature/Aluminum/Polyethylene of Raised Temperature (PE-RT/AL/PE-RT) Composite Pressure Pipe based on Inner Diameter (ID) for use in Air Conditioning and Refrigeration Line
UL 207 (Ed. 9), Refrigerant - Containing Components and Accessories, Nonelectrical, dated August 26, 2022
CSA C22.2 No. 140.3-2015(R2022), Refrigerant - Containing Components for Use in Electrical Equipment
ASTM E 84-23c, Test Method for Surface Burning Characteristics of Building Materials
UL 723 (Ed. 11), Test for Surface Burning Characteristics of Building Materials
CAN ULC S102.2 (Ed. 8), Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies

Identification:

The Gastite Python PE-RT/AL/PE-RT Refrigeration Line Set pipe is marked every 5 feet (1.5 m) with the following: manufacturer's name, nominal pipe size, material designation (PE-RT/AL/PE-RT), temperature and pressure ratings, ASTM designation F3506, with which the pipe complies, ASHRAE designations of refrigerants approved for use by manufacturer (if applicable), and the ICC-ES PMG listing mark.

Installation:

The Gastite Python PERT/AL/PERT Refrigeration Line Set pipe and fittings must be installed in accordance with the manufacturer's published installation instructions, the applicable codes and this listing.

Mechanical joints shall not be used on annealed temper copper tube in sizes larger than $\frac{7}{8}$ -inch (22.2 mm) OD size per IMC and $\frac{3}{4}$ " of an inch nominal size per UMC.

Installation of refrigerant piping is limited to line-set applications and for single DX Evaporator and Air Handler of 5 Tons or less, residential and light commercial use for direct expansion split systems and shall not be used inside factory built equipment.

Models:

The Gastite Python PE-RT/AL/PE-RT Refrigeration Line Set pipe and fittings are manufactured from polyethylene and aluminum materials satisfying ASTM F3506, UL 207 and CSA C22.2 No. 140.3.

The pipe is available in a nominally, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, and $\frac{7}{8}$, inch outside diameter (12, 14, 16, 18, 20, and 22 mm) and in coils or in straight lengths 20 feet (6.2 m) long.

The Gastite Python PE-RT/AL/PE-RT Refrigeration Line Set pipe and fittings used in refrigeration applications shall have a temperature range of -40 to 203°F (-40 to 95°C), and a working pressure of 625 psi (43 bar). Maximum pressure is 700 psi (48 bar).

UL 723/ASTM E84: The PE-RT/AL/PE-RT piping have been tested as two pieces of pipe measuring 0.25 inches wide X 24 feet long and an overall test thickness of 1/16 inches and were supported with metal rods spaced at 24 inch intervals and 2 inch hexagonal mesh to fulfill the chamber requirements as a modified* version of the Test Methods for Surface Burning Characteristics. Prior to testing the samples were covered with 1/4 inch cement board as required in the test method. The following ratings were obtained and have been found to meet the 25/50 flame spread/smoke developed requirements.

- $\frac{1}{4}$ " – $\frac{7}{8}$ " dry Python PE-RT/AL/PE-RT Refrigeration Line Set pipe have a flame spread index of 0 and a smoke developed index of no more than 0 in accordance with UL 723 / ASTM E 84.

CAN ULC S102.2: The PE-RT/AL/PE-RT piping have been tested as two pieces of pipe measuring 0.875 inches wide X 24 feet long and an overall thickness of $\frac{7}{8}$ " inches and were placed on the Chamber Floor to fulfill the chamber requirements for testing. Prior to testing the samples were covered with 1/4 inch cement board as required in the test method.

- $\frac{1}{4}$ " – $\frac{7}{8}$ " dry Python PE-RT/AL/PE-RT Refrigeration Line Set pipe have a flame spread index of no more than 0 and a smoke developed index of no more than 40 in accordance with CAN ULC S102.2.

* *The specimens tested are not conducive to full coverage of the 20 in. x 24 ft. test sample as specified by UL 723/ASTM E84 and CAN ULC S102.2. Therefore, only a certain portion of the total area exposed to the flame is covered by the test samples. The tested specimens are representative models of finish product.*

Conditions of Listing:

1. The Gastite Python PERT/AL/PERT Refrigeration Line Set must be used with only the following refrigerants: R32, R410a and R454b.
2. Installation of refrigerant piping is limited to line-set applications and for single DX Evaporator and Air Handler of 5 Tons or less, residential and light commercial use for direct expansion split systems and shall not be used inside factory built equipment.
3. Mechanical joints shall not be used on annealed temper copper tube in sizes larger than $\frac{7}{8}$ -inch (22.2 mm) OD size per IMC and $\frac{3}{4}$ " of an inch nominal size per UMC.
4. The pipe installation must be pressure-tested for leaks in the presence of the code official or the code official's designated representative. Refrigeration system shall include safety device to limit pressure to 650 psi.
5. When installation is in fire-resistance-rated assemblies, evidence must be provided to the code official of compliance with *International Building Code*[®] (IBC) Section 713 (penetrations).
6. The pipe must not be used as a source of electrical ground.
7. Pipe bends must be installed in accordance with the manufacturer's published installation instructions.
8. When the system is embedded in concrete, pipe must be covered with a minimum of $\frac{3}{4}$ inches (19.1 mm) of concrete and installation must comply with IBC Section 1906.3.
9. The pipe is manufactured under a quality control program with surveillance inspections by ICC-ES.