



Effective Date: February 2024

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

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CSI: DIVISION: 22 00 00—PLUMBING
Section: 22 11 16—Domestic Water PipingDIVISION: 23 00 00—HEATING, VENTILATING AND AIR CONDITIONING (HVAC)
Section: 23 21 13—Hydronic 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: ECOline PERT Tubing and Fittings; ECOline PERT Oxygen Barrier Tubing and Fittings

Listee: KAN Sp. z.o.o.
Zdrojowa Street 51
Kleosin 16-001
Poland
www.kan-therms.com

Compliance with the following codes:

2024, 2021, 2018, 2015, 2012 and 2009 *International Plumbing Code*® (IPC)
2021, 2018, 2015, 2012 and 2009 *International Residential Code*® (IRC)
2024, 2021, 2018, 2015, 2012 and 2009 *International Mechanical Code*® (IMC)
2024, 2021, 2018, 2015, 2012 and 2009 *Uniform Plumbing Code*® (UPC)*
2024, 2021, 2018, 2015, 2012 and 2009 *Uniform Mechanical Code*® (UMC)*
2022, 2019, 2016, 2013 and 2010 *California Plumbing Code* (CPC)
2022, 2019, 2016, 2013 and 2010 *California Mechanical Code* (CMC)
2023, 2020 and 2017 *City of Los Angeles Plumbing Code*
2023, 2020 and 2017 *City of Los Angeles Mechanical Code*
2022 and 2017 *Uniform Illustrated Plumbing Code*® - India (UIPC-India)*
2020, 2015, 2010 and 2005 *National Plumbing Code of Canada*® **

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Compliance with the following standards:

ASTM F2623-2023, Polyethylene of Raised Temperature (PE-RT) SDR 9 Tubing
ASTM F2769-2023a, Polyethylene of Raised Temperature (PE-RT) Plastic Hot and Cold-Water Tubing and Distribution Systems
ASTM F1807-2023, Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

ASTM F2159-2023a, Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing
CSA B137.18-2020, Polyethylene of raised temperature resistance (PE-RT) tubing systems for pressure applications
NSF/ANSI 14-2022, Plastic Piping System Components and Related Materials
NSF/ANSI/CAN 61-2022, Drinking Water System Components – Health Effects
ICC-ES LC1004 (Approved November 2009, editorially revised 2010), Listing Criteria for PP, PEX, PEX-AL-PEX, and PP-AL-PP Piping, Tube and Fittings Used in Radiant Heating and Water Supply Systems

Identification:

Tubing: The ECOline PERT tubing and ECOline PERT Oxygen Barrier Tubing covered by this listing must be labeled at minimum intervals of 5 feet (1524 mm) with the manufacturer's name and/or trademark, product name (ECOline PERT; ECOline PERT Oxygen Barrier), nominal tubing size, potable water designation, standard dimension ratio (SDR 9), material designation, pressure rating, standard designation, and the ICC-ES PMG listing mark.

Fittings: The ECOline PERT plumbing system fitting components consist of metal or plastic insert fittings with crimp system and manifolds. Kan Sp Z.o.o. approved compression fittings not manufactured by Kan Sp Z.o.o. may be used for radiant heating. Fitting components covered by this listing must be labeled with the trademark name, potable water designation, nominal size, product code, and standard designation. Packages of fittings must bear the trademark name, product name, part number and preferably the ICC-ES PMG listing mark. Fittings compliant with the standards and with other independent third-party listings are acceptable for use with the ECOline PERT and ECOline Oxygen Barrier PERT plumbing systems as well.

Installation:

General: Kan Sp Z.o.o.'s ECOline PERT tubing and ECOline PERT Oxygen Barrier Tubing must be identified and installed in accordance with this listing, the applicable code and the manufacturer's published installation instructions. Manufacturer's published installation instructions must be furnished to the code official. Installation must conform to the requirements of the applicable code and is subject to approval by the code official having jurisdiction.

Water Distribution: Horizontally laid pipe must be secured in such a manner that temperature-induced expansion and contraction are accommodated. In jurisdictions enforcing the UPC, PE-RT tubing must not be installed within the first 18 inches (457 mm) of piping connected to a water heater.

Inspection of Water Distribution Piping: Installed tubing must be pressure-tested and inspected as required by Chapter 3 of the IPC, Chapter 25 of the IRC, Chapter 1 of the UPC or Clause 2.3.7 of the National Plumbing Code of Canada.

Radiant Heating: Radiant piping must be installed in accordance with the manufacturer's published installation instructions and Chapter 12 in the IMC, Chapter 21 of the IRC, and Chapter 12 of the UMC, as applicable. The installation is subject to approval by the code official having jurisdiction.

Clearances from heat-producing equipment must be in accordance with Chapter 5 of the *International Fuel Gas Code*[®], Chapter 13 of the IRC or Chapter 8 of the UMC, as applicable.

Models:

Tubing: Kan Sp Z.o.o. tubing products are manufactured from Polyethylene of Raise Temperature (PE-RT) materials for water distribution and radiant heating applications.

Kan Sp Z.o.o. tubing with the trade name ECOline PERT are manufactured with PE-RT material and the tubing is available in Red, White or Blue colors.

Kan Sp Z.o.o. tubing with trade names: ECOline PERT Oxy Barrier are manufactured from Polyethylene of Raised Temperature materials with a green colored layer and a clear oxygen barrier layer.

The tubing is available in 3/8", 1/2", 5/8", 3/4", 1", 1 1/4", 1 1/2" and 2" (9, 13, 16, 19, 25, 32, 38, and 51 mm) nominal diameter sizes in 100; 250; 300; 500; 1000 or 1200 feet (30.4; 76.2; 91.4; 152.4; 304.8; 365.7 meters) coils in length or straight lengths of 20 feet (6.1 meters). Kan Sp Z.o.o. tubing is made with a standard dimensional ratio of 9 (SDR9), which is the ratio of the outside diameter to the wall thickness. Tubing made with a standard dimension ratio of 9 has a pressure rating of 100 psi (689 kPa) at 180° F (82° C) and 160 psi (1100 kPa) at 73° F (23° C).

Fittings: The ECOline PERT fitting systems are composed of metal or plastic insert fittings with crimp system and manifolds. Kan Sp Z.o.o. approved compression fittings not manufactured by Kan Sp Z.o.o. may be used for radiant heating.

Conditions of Listing:

1. The tubing must be maintained at the proposed operating pressure during placement of concrete cover for a hydronic piping system.
2. The tubing installation must be pressure-tested for leaks in the presence of the code official or the official's designated representative.
3. When installation is in fire-resistive assemblies, evidence of compliance with IBC Section 712 (penetrations) must be provided to the code official.
4. The tubing must not be used as a source of electrical ground.
5. The minimum cold free-bending radius is eight times the outside diameter, or five times the outside diameter with use of a bend support supplied by Kan Sp Z.o.o.. The outside diameter is the nominal diameter plus 1/8 inch (3.2 mm).
6. All systems must be installed in accordance with the manufacturer's installation instructions, which are provided with the product. Installation must conform to relevant requirements of the referenced codes and is subject to approval by the code official. Manufacturer's instructions must be furnished to the code official upon request.
7. The tubing and fittings are supplied by Kan Sp Z.o.o. under a quality control program with surveillance inspections by ICC-ES.