



Effective Date: July 2024

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

[www.icc-es-pmg.org](http://www.icc-es-pmg.org) | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

CSI: DIVISION: 22 00 00—PLUMBING  
Section: 22 66 00—Chemical Waste Systems for Laboratory and Healthcare

### 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.

Product: Polyolefin Corrosive Resistant Piping System to be used in commercial, industrial, and institutional acid waste systems. The systems may be used throughout a building.

Listee: IPEX USA LLC  
3 Place Du Commerce, Suite 101  
Verdun, QC H3E 1H7 Canada  
[www.ipexinc.com](http://www.ipexinc.com)

### Compliance with the following codes:

2024, 2021, 2018, 2015, 2012, 2009, and 2006 *International Plumbing Code*® (IPC)  
2024, 2021, 2018, 2015, 2012, 2009, and 2006 *International Residential Code*® (IRC)  
2024, 2021, 2018, 2015, 2012 and 2009 *Uniform Plumbing Code*® (UPC)\*  
2022, 2019 and 2016 *California Plumbing Code* (CPC)\*  
2023, 2020 and 2017 *City of Los Angeles Plumbing Code*  
2017 and 2013 *District of Columbia Plumbing Code*  
2023, 2020 and 2017 *Florida Building Code – Plumbing*  
2023, 2021 and 2017 *Code of Massachusetts Regulations 248 CMR 10.00: Uniform State Plumbing Code*  
2021, 2018 and 2015 *Michigan Plumbing Code*  
2020 and 2015 *New York State Plumbing Code*  
2020, 2015, 2010 and 2005 *National Plumbing Code of Canada*® (NPC)\*\*

\*Copyrighted publication of the International Association of Plumbing and Mechanical Officials

\*\*Copyrighted publication of National Research Council Canada

### Compliance with the following standards:

ASTM F1412-2022, Standard Specification for Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems  
CSA B181.3-2024, Polyolefin and Polyvinylidene Fluoride (PVDF) Laboratory Drainage Systems  
NSF/ANSI 14-2022, Plastic Piping Systems Components and Related Materials

## Identification:

**Piping:** The IPEX Enfield piping shall be marked every 5 feet (1.5 m) with the following:

- a) Nominal pipe size;
- b) Manufacturer's name or trademark;
- c) Schedule size;
- d) Pipe material designation code "FR PP210" or "PP210"
- e) Standard designation, "ASTM F1412" or "F1412"
- f) The wording "LAB DRAINAGE" or "CSA B181.3"; and
- g) ICC-ES PMG mark of conformity (optional).

**Fittings and Accessories:** The IPEX Enfield and Vulcathene fittings and accessories shall be marked with the following:

- a) Nominal size;
- b) Manufacturer's name or trademark;
- c) Material designation code "FR PP210" or "PP210"; and
- d) Standard designation "CSA B181.3, ASTM F1412" or "B181.3, F1412"

## Installation:

The manufacturer's published installation instructions shall be strictly adhered to and copies available at all times on the jobsite during installation. Installation shall comply with Chapter 7 of the IPC, Chapter 8 of the UPC and Chapter 30 of IRC.

IPEX Enfield pipe and Enfield and Vulcathene fittings are manufactured from corrosion and chemical resistant polypropylene. Materials exposed in plenums must demonstrate a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested in accordance with ASTM E84.

These pipes and fittings are used for the installation of corrosion resistant drainage systems and are joined together by either a mechanical joint or electrofusion.

**Mechanical Joint:** The mechanical joint fittings are used to join the 1½ inch through 4 inch nominal pipe sizes with various fittings identified in this report. The coupling has an integrally moulded union connection. The fittings contain an elastomeric olive provided with an internal ridge which is designed to lock into a machined groove on the mating piping. The internal ridge resist pull-out and form the seal when the union nut is tightened

**Electrofusion:** The electrofusion fittings are fitted with polypropylene-covered coils to facilitate electrofusion. They are used to join the 1½ inch through 12 inch nominal pipe sizes with various fittings identified in this report. The coils are integrally moulded on the inside surface of the fitting socket and are connect to a "fusion" machine through leads that are protected with polypropylene tips.

## Models:

**IPEX Enfield Pipe and Fittings:** The pipe is shipped in 10 foot (3 m) lengths or 20 foot (6 m). All systems are designed for a ¼ inch (6 mm) pitch and must be designed to that minimum. Pipe and fittings are manufactured to schedule 40 pipe dimensions in accordance with ASTM F1412.

**PIPE**

Schedule 40 pipe, Flame Retardant  
Sizes: 1-1 / 2", 2", 3", 4", 6", 8", 10" & 12"

Schedule 40 pipe, Black Non-Flame Retardant  
Sizes: 1-1 / 2", 2", 3", 4", 6", 8", 10" & 12"

**MECHANICAL JOINT FITTINGS****1/4 BENDS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W181            | 1-1/2"      |
| W182            | 2"          |
| W183            | 3"          |
| W184            | 4"          |

**1/8 BENDS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W191            | 1-1/2"      |
| W192            | 2"          |
| W193            | 3"          |
| W194            | 4"          |

**SANITARY TEES**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W201            | 1-1/2"      |
| W202            | 2"          |
| W203            | 3"          |
| W204            | 4"          |

**45° WYES**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W371            | 1-1/2"      |
| W372            | 2"          |
| W373            | 3"          |
| W374            | 4"          |

**45° DOUBLE WYES**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W381            | 1-1/2"      |
| W382            | 2"          |
| W383            | 3"          |
| W384            | 4"          |

**COUPLINGS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W161            | 1-1/2"      |
| W162            | 2"          |
| W163            | 3"          |
| W164            | 4"          |

**CLEANOUT PLUGS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W241            | 1-1/2"      |
| W242            | 2"          |
| W243            | 3"          |
| W244            | 4"          |

**REDUCING SANITARY TEES**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W2021           | 2" x 1-1/2" |
| W2032           | 3" x 2"     |
| W2042           | 4" x 2"     |
| W2043           | 4" x 3"     |

**REDUCING 45° WYES**

| <u>Part No.</u> | <u>Size</u>      |
|-----------------|------------------|
| W3721           | 2" x 2" x 1-1/2" |
| W3732           | 3" x 3" x 2"     |
| W3742           | 4" x 4" x 2"     |
| W3743           | 4" x 4" x 3"     |

**COMBINATION WYE & 1 / 8 BENDS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W3715           | 1-1/2"      |
| W3725           | 2"          |
| W3735           | 3"          |
| W3745           | 4"          |

**REDUCING COMBINATION WYE & 1/8 BEND**

| <u>Part No.</u> | <u>Size</u>      |
|-----------------|------------------|
| W37251          | 2" x 2" x 1-1/2" |
| W37352          | 3" x 3" x 2"     |
| W37452          | 4" x 4" x 2"     |
| W37453          | 4" x 4" x 3"     |

**REDUCING DOUBLE WYES**

| <u>Part No.</u> | <u>Size</u>               |
|-----------------|---------------------------|
| W3821           | 2" x 2" x 1-1/2" x 1-1/2" |
| W3832           | 3" x 3" x 2" x 2"         |
| W3842           | 4" x 4" x 2" x 2"         |
| W3843           | 4" x 4" x 3" x 3"         |

**DOUBLE WYES & 1 / 8 BENDS      REDUCING COUPLINGS Loose Nut x Enfield Joint**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W3815           | 1-1/2"      |
| W3825           | 2"          |
| W3835           | 3"          |
| W3845           | 4"          |

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W3921           | 2" x 1-1/2" |
| W3931 *         | 3" x 1-1/2" |
| W3932 *         | 3" x 2"     |
| W3941 *         | 4" x 1-1/2" |
| W3942 *         | 4" x 2"     |
| W3943           | 4" x 3"     |

\* Loose Nut not furnished

**MALE ADAPTERS — Enfield Joint x Male Pipe Thread**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W141            | 1-1/2"      |
| W141T           | 1-1/2"      |

**FEMALE ADAPTERS — Enfield Joint x Female Pipe Thread**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W151            | 1-1/2"      |
| W152            | 2"          |

(Adapts Enfield Universal Trap inlet to pipe)

|      |    |
|------|----|
| W142 | 2" |
| W143 | 3" |
| W144 | 4" |

**GLASS ADAPTERS  
Enfield Joint x BEAD**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W451            | 1-1/2"      |
| W452            | 2"          |
| W453            | 3"          |
| W454            | 4"          |

**NO HUB ADAPTER  
Enfield Joint x Spigot**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W461            | 1-1/2"      |
| W462            | 2"          |

**THREADED ADAPTER  
Male Straight Thread x  
Female Straight Thread**

| <u>Part No.</u> | <u>Size</u>     |
|-----------------|-----------------|
| W131            | 1-1/2" x 1-1/2" |

**1/8 BENDS — Enfield Joint x Loose Nut**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W211            | 1-1/2"      |
| W212            | 2"          |
| W213            | 3"          |
| W214            | 4"          |

**1/4 BENDS — Enfield Joint  
x Loose Nut**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W291            | 1-1/2"      |
| W292            | 2"          |
| W293            | 3"          |
| W294            | 4"          |

**VENT LOOP / U BENDS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W1011           | 1-1/2"      |
| W1012           | 2"          |

**OLIVE / NUT**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W221/W231       | 1-1/2"      |
| W222/W232       | 2"          |
| W223/W233       | 3"          |

**SINK OUTLETS & STANDING OVERFLOWS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W301 (Outlet)   | 1-1/2"      |
| W311 (Outlet)   | 1-1/2"      |
| W321 (Overflow) | 1-1/2" x 7" |

W224/W234 4"

**CUP SINKS — Round**

| <u>Part No.</u> | <u>Size</u>  |
|-----------------|--------------|
| W401            | 6" x 4" deep |

**CUP SINKS — Oval**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W497            | 6" x 3"     |

**UNIVERSAL TRAPS — Female  
StraightThread x Enfield Joint**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W501            | 1-1/2"      |
| W511            | 1-1/2"      |
| (Clear Base)    |             |

**DILUTION TRAPS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W601            | 1-1/2"      |
| W611            | 1-1/2"      |
| (Clear Base)    |             |

**"P" TRAPS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W1021           | 1-1/2"      |
| W1022           | 2"          |

**"P" TRAP - Long Radius**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| WT11            | 1-1/2"      |
| WT12            | 2"          |
| WT13            | 3"          |
| WT14            | 4"          |

**PIPE CLIPS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| W251            | 1-1/2"      |
| W252            | 2"          |

**ELECTROFUSION SOCKET FITTINGS – FLAME RETARDANT****1/4 Bend - Socket**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L181            | 1-1/2"      |
| L182            | 2"          |
| L183            | 3"          |
| L184            | 4"          |
| L186            | 6"          |

**1/4 Bend - Socket x Loose Nut**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L291A           | 1-1/2"      |

**1/4 Bend - Socket x Spigot**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L291            | 1-1/2"      |
| L292            | 2"          |
| L293            | 3"          |
| L294            | 4"          |
| L296            | 6"          |

**1/8 Bend - Socket**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L191            | 1-1/2"      |
| L192            | 2"          |
| L193            | 3"          |
| L194            | 4"          |
| L196            | 6"          |

**1/8 Bend - Socket x Spigot**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L211            | 1-1/2"      |
| L212            | 2"          |
| L213            | 3"          |
| L214            | 4"          |

**45° Wye**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L371            | 1-1/2"      |
| L372            | 2"          |
| L373            | 3"          |
| L374            | 4"          |

L216 6"  
**90° Sweep**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L171            | 1-1/2"      |
| L172            | 2"          |
| L173            | 3"          |
| L174            | 4"          |
| L176            | 6"          |

**Adapter – FPT x Loose Nut**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L101            | 1-1/2"      |

**Cleanout**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L241            | 1-1/2"      |
| L242            | 2"          |
| L243            | 3"          |
| L244            | 4"          |
| L246            | 6"          |

**Coupling**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L161            | 1-1/2"      |
| L162            | 2"          |
| L163            | 3"          |
| L164            | 4"          |
| L166            | 6"          |
| L168            | 8"          |

**Fabricated Cleanout Tee**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L901            | 1-1/2"      |
| L902            | 2"          |
| L903            | 3"          |
| L904            | 4"          |
| L906            | 6"          |

**Flange – ASA 150 - Socket**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L361            | 1-1/2"      |
| L362            | 2"          |
| L363            | 3"          |
| L364            | 4"          |
| L366            | 6"          |

**Male Adapter**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L141            | 1-1/2"      |
| L142            | 2"          |

L376 6"  
**90° Sweep Socket x Spigot**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L281            | 1-1/2"      |
| L282            | 2"          |
| L283            | 3"          |
| L284            | 4"          |
| L286            | 6"          |

**Adapter – Socket x Loose Nut**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L111            | 1-1/2"      |

**Combination Wye & 1/8 Bend**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L3715           | 1-1/2"      |
| L3725           | 2"          |
| L3735           | 3"          |
| L3745           | 4"          |
| L3765           | 6"          |

**Double Sanitary Tee**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L351            | 1-1/2"      |
| L352            | 2"          |
| L353            | 3"          |
| L354            | 4"          |

**Female Adapter**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L151            | 1-1/2"      |
| L152            | 2"          |
| L153            | 3"          |
| L154            | 4"          |

**Glass Adapter**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L451            | 1-1/2"      |
| L452            | 2"          |
| L453            | 3"          |
| L454            | 4"          |

**No Hub Adapter**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L461            | 1-1/2"      |
| L462            | 2"          |
| L463            | 3"          |

|                 |             |                          |             |
|-----------------|-------------|--------------------------|-------------|
| <b>P-Trap</b>   |             | L464                     | 4"          |
|                 |             | <b>Plug for Cleanout</b> |             |
| <u>Part No.</u> | <u>Size</u> | <u>Part No.</u>          | <u>Size</u> |
| L1021           | 1-1/2"      | L241                     | 1-1/2"      |
| L1022           | 2"          | L242                     | 2"          |
| LT13            | 3"          | L243                     | 3"          |
| LT14            | 4"          | L244                     | 4"          |
| LT16            | 6"          |                          |             |

**Reducing Bushing - Spigot x Socket**

|                   |                   |                   |                   |
|-------------------|-------------------|-------------------|-------------------|
| L391012 12" x 10" | L3912 2" x 1 1/2" | L3913 3" x 1 1/2" | L3914 4" x 1 1/2" |
| L3916 6" x 1 1/2" | L3923 3" x 2"     | L3924 4" x 2"     | L3926 6" x 2"     |
| L3934 4" x 3"     | L3936 6" x 3"     | L3938 8" x 3"     | L39410 10" x 4"   |
| L39412 12" x 4"   | L3946 6" x 4"     | L3948 8" x 4"     | L39610 10" x 6"   |
| L39612 12" x 6"   | L3968 8" x 6"     | L39810 10" x 8"   | L39812 12" x 8"   |

**Reducing Combination Wye & 1/8 Bend**

|                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|
| L37251 2" x 1 1/2" | L37351 3" x 1 1/2" | L37352 3" x 2"     | L37451 4" x 1 1/2" |
| L37452 4" x 2"     | L37453 4" x 3"     | L37651 6" x 1 1/2" | L37652 6" x 2"     |
| L37653 6" x 3"     | L37654 6" x 4"     |                    |                    |

**Reducing Double 45° Wye**

|                 |             |
|-----------------|-------------|
| <u>Part No.</u> | <u>Size</u> |
| L3821           | 2" x 1-1/2" |
| L3864           | 6" x 4"     |

**Reducing Double Sanitary Tee**

|                 |             |
|-----------------|-------------|
| <u>Part No.</u> | <u>Size</u> |
| L3521           | 2" x 1-1/2" |
| L3531           | 3" x 1-1/2" |
| L3542           | 4" x 2"     |
| L3543           | 4" x 3"     |

**Reducing Sanitary Tee**

|                 |                  |
|-----------------|------------------|
| <u>Part No.</u> | <u>Size</u>      |
| L2021           | 2" x 2" x 1-1/2" |
| L2031           | 3" x 3" x 1-1/2" |
| L2032           | 3" x 3" x 2"     |
| L2042           | 4" x 4" x 2"     |
| L2043           | 4" x 4" x 3"     |

**Reducing True Wye**

|                 |             |
|-----------------|-------------|
| <u>Part No.</u> | <u>Size</u> |
| L3421           | 2" x 1-1/2" |
| L3432           | 3" x 2"     |
| L3443           | 4" x 3"     |

**Reducing Wye**

|                 |             |
|-----------------|-------------|
| <u>Part No.</u> | <u>Size</u> |
| L3721           | 2" x 1-1/2" |
| L3731           | 3" x 1-1/2" |
| L3732           | 3" x 2"     |
| L3741           | 4" x 1-1/2" |
| L3742           | 4" x 2"     |
| L3743           | 4" x 3"     |
| L3761           | 6" x 1-1/2" |
| L3762           | 6" x 2"     |
| L3763           | 6" x 3"     |
| L3764           | 6" x 4"     |

**Sanitary Tee**

|                 |             |
|-----------------|-------------|
| <u>Part No.</u> | <u>Size</u> |
| L201            | 1-1/2"      |
| L202            | 2"          |
| L203            | 3"          |
| L204            | 4"          |

**True Wye**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L341            | 1-1/2"      |
| L342            | 2"          |

**Universal Trap – Solid Base, P-Trap**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L501            | 1-1/2"      |
| L5011           | 1-1/2"      |
| L511            | 1-1/2"      |
| L5111           | 1-1/2"      |

**IPEX Vulcathene Fittings:** Fittings are manufactured to schedule 40 pipe dimensions in accordance with ASTM F1412.

**ELECTROFUSION SOCKET FITTINGS – NON-FLAME RETARDANT****1/4 BENDS**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L183B           | 3"          |
| L184B           | 4"          |
| L186B           | 6"          |

**1/4 Bend - Socket x Spigot**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L293B           | 3"          |
| L294B           | 4"          |
| L296B           | 6"          |

**Female Adapter**

| <u>Part No.</u> | <u>Size</u> |
|-----------------|-------------|
| L153B           | 3"          |
| L154B           | 4"          |

**Conditions of Listing:**

1. This report and the installation instructions, when required by the building official, shall be submitted at the time of permit application.
2. The methods of treatment, neutralization or dilution of the chemical waste transported by the drainage pipe and fittings, when discharged to a sanitary drainage system in accordance with IPC Section 803.2, are outside the scope of this listing.
3. Pipe compound or other pipe dopes or sealers shall not be used in mechanical joint systems. Connections between polypropylene and other materials shall be made with IPEX adapters according to manufacturer's recommendations.
4. Support spacing for polypropylene pipe shall be based on design temperature and in accordance with the manufacturer's recommendations.
5. All piping system components shall be aligned properly without strain. Grade of horizontal drainage and vent piping shall be as specified in the International Plumbing Code.
6. Use of the pipe and fittings in plenums or in fire-resistance rated assemblies is outside the scope of this listing. Materials exposed in plenums must demonstrate a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested in accordance with ASTM E84.
7. The pipe and electrofusion fittings are under a quality control program with annual surveillance inspections by ICC-ES.