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UMC: Sections 307.1, 312.0, 316.0, 602.2  
 UPC: Sections 301.1.2, 301.2, 811.2  
 IPC: Sections 702.1, 702.2, 702.3, 702.4  
 IMC: Sections 301.3, 301.4, 305, 307.2.2

## KYNAR® PVDF PLENUM PIPING PRODUCTS

### CSI Sections:

- 22 13 16 Sanitary Waste and Vent Piping
- 22 66 00 Chemical Waste Systems for Laboratory and Healthcare Facilities

### 1.0 RECOGNITION

Arkema Incorporated's Kynar® PVDF Plenum Piping Products recognized in this report have been evaluated for use as liquid drainage and venting systems. The corrosion resistance and fire propagation strength properties of the Kynar® PVDF Plenum Piping Products were evaluated for compliance with the following codes:

- 2012 and 2009 Uniform Mechanical Code (UMC)
- 2012 and 2009 Uniform Plumbing Code (UPC)
- 2012 and 2009 International Plumbing Code (IPC)
- 2012 and 2009 International Mechanical Code (IMC)

### 2.0 LIMITATIONS

Use of the Arkema Incorporated Kynar® PVDF Plenum Piping Products recognized in this report is subject to the following limitations:

**2.1** Pipe and fittings are manufactured and tested in accordance with the requirements of ASTM F1673 and NSF/ANSI 14.

**2.2** The methods of treatment, neutralization or dilution of the chemical waste transported by the drainage pipe and fittings, when discharging to a sanitary drainage system in accordance with IPC Section 803.2, are outside the scope of this report.

### 3.0 PRODUCT USE

**3.1 General:** Kynar® PVDF Plenum Piping Products are used in non-pressure applications, including: corrosive waste drainage, systems, potable water drainage systems, deionized water drainage systems, chemical transport systems, as well as other applications. The products comply with the following:

**3.2 Installation:** Polyvinylidene Fluoride (PVDF) Schedule 40, 80, or SDR 21 and fittings are for use in non-pressure corrosive or acid waste systems. Fittings and pipe may be joined by either heat fusion or by a mechanical joining system. Pipe and fittings shall be installed in accordance with the manufacturer's instructions, this report, and the requirements of the applicable code. When conflicts occur, the more restrictive governs.

### 4.0 PRODUCT DESCRIPTION

**4.1 Product Information:** Kynar® PVDF Plenum Piping Products are supplied in the following pipe and fitting sizes: 1½, 2, 3, and 4 inches (38.1, 50.8, 76.2, 101.6 mm).

**4.2 Material Information:** The piping products are produced from polyvinylidene Fluorite PVDF complying with ASTM P3222, Type 2. Dimensions and tolerances comply with requirements in Section 6.1 of ASTM F1673.

**4.3 Chemical Resistance:** Kynar® PVDF Plenum Piping Products have been determined to be resistant to the following chemicals by testing in accordance with ASTM F1673 using the material quantification method in ASTM D543:

- 5% acetic acid by volume
- 5% acetone by volume
- 100% methyl alcohol
- 10% ammonia hydroxide by volume
- 40% nitric acid by volume
- 10% sodium hydroxide by weight
- 20% sulfuric acid by volume
- 20% hydrochloric acid by volume

**4.4 Use in Plenums:** Kynar® PVDF Plenum Piping Products, when tested according to UL 723 (ASTM E84), exhibited a flame spread rating less than 25 and a smoke developed rating less than 50. These ratings satisfy requirements for use of Kynar® PVDF exposed and unprotected in defined plenum spaces in UMC and IMC Section 602.2.

### 5.0 IDENTIFICATION

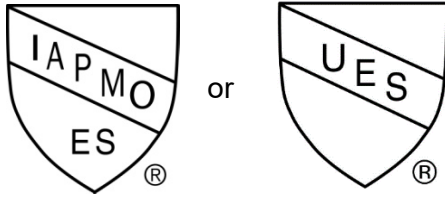
Kynar® PVDF Plenum Piping Products are marked with nominal pipe size in inches, "F1673," "ASTM E84 25/50," schedule size, production code, and the Evaluation Report Number (ER-250).

*The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.*





Either one of the IAPMO Uniform ES Marks of Conformity may also be used as shown below:



**IAPMO UES ER-250**

## 6.0 SUBSTANTIATING DATA

**6.1** Data and test reports are from laboratories in compliance with ISO/IEC 17025, and are in accordance with NSF/ANSI F14, ASTM F1673, and UL 723 (ASTM E84).

**6.2** Documentation submitted under IAPMO R&T Certificate of Listing No.3738 used with permission from Orion Fittings, Inc.

## 7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on Arkema Incorporated's Kynar® PVDF Plenum Piping Products to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification.

For additional information about this evaluation report please visit [www.uniform-es.org](http://www.uniform-es.org) or email us at [info@uniform-es.org](mailto:info@uniform-es.org)