GF Piping Systems

Fuseal 25/50™

PVDF Corrosive Waste Piping System

- Pipe, Fittings, Accessories
- Electrofusion

Fuseal 25/50™

PVDF Corrosive Waste Piping System

Overview

Fuseal 25/50™ PVDF piping system is an engineered solution for return air plenum piping; conveyance of aggressive chemicals at elevated temperatures; and waste streams with fats, oils, and grease due to its smooth inner walls and ability to flush with very hot water.

PVDF provides a very broad range of chemical resistance and thermal stability and is certified by UL 723/ASME E-84 to meet low flame spread and smoke density requirements.

The Fuseal 25/50 product line is joined using state-of-the-art electrofusion, technology.

To adapt to other piping systems, Fuseal 25/50 has a range of adapters that make transitioning simple and straightforward.

Fuseal 25/50™ benefits

- State-of-the-art fusion technology from the company that introduced electrofusion
- Recommended for aggressive chemical, it boasts superior chemical resistance.
- Abrasion resistance
- Excellent UV resistance
- Light weight for ease of installation
- High impact resistance
- A flame spread of less than 25 and a smoke development of less than 50 when tested to UL 723/ ASTM E-84. Certified by UL
- Technical design and field support from distributor and GF Piping Systems personnel
- On-site training and certification (test) for all installers on product assembly and proper use of electrofusion equipment
- Performance at elevated temperatures up to 284°F
- Installation time 30% faster than competitive slip joint method
- 2.5× safety factor with a permanent electrofused joint
- Greater pipe wall integrity by eliminating any grooving

Code requirements

In recent years, federal, state, and local regulations have mandated the reduction of sources of fire and smoke in buildings. Return air plenums are of particular concern in that they can allow the rapid development of smoke and flame throughout a building. Many architects and engineers utilize the space above drop ceilings as return air plenums, and piping systems in these plenums may be required to meet stringent flame spread and smoke density standards.

Flame-retardant PVDF piping system

Fuseal 25/50 PVDF system uses Polyvinylidene Fluoride (PVDF) material, which is considered non-combustible as defined in UL 723. This material provides a very broad range of chemical resistance as well as a low flame spread and smoke density. Utilizing the ASTM E-84 testing, PVDF is the only plastic piping material currently available that can meet the stringent requirements of many current building codes.

PVDF is resistant to most inorganic acids as well as to aliphatic and aromatic hydrocarbons, organic acids, alcohols and halogenated solvents. PVDF also has some resistance to wet and dry halogens (with the exception of atomic fluoride). PVDF is not resistant to alkaline amines, alkalis and alkaline metals. Strong polarized solvents, such as ketones and organic acid esters, swell PVDF slightly.

Applications

- Corrosive waste drainage for return air plenums
- Corrosive waste drainage at elevated temperatures
- Industrial and special waste
- Waste streams with fats, oils, and grease, and elevated temperature water flushing

Industries

- Life Sciences
- Chemical Process Industry
- Food and Beverage

Product range

Fittings	Connection	Size	Material
Molded and fabricated	• Socket (electrofusion) • Mechanical Joint	1½"–6"	PVDF
Pipe	**Connection**	**Size**	**Material**
Schedule 40		1½"–6"	PVDF

Pressure rating

- 30 foot (15 PSI) maximum head pressure test for DWV applications
- Up to 50 PSI for pressure waste applications (subject to manufacturers review of design)

Operating temperature

- -4°F–284°F (-20°C–140°C)

Joining technology

- Electrofusion

Meets the following standards

- ASTM D4101
- UL 723
- ASTM E84
- ASTM F1673
- ASTM D2122
- ASTM D3311
- NFPA 255
- UL94
- CSA 181.3

Accessories

GF Piping Systems has engineered accessories to provide a complete solution. From non-standard items such as custom spool pieces to special custom fabrications, we will work with you to assist in supplying a complete system.

- Neutralization tanks
- Sinks
- Traps
- Monitoring equipment and systems
- Fuseal Squared® PP double containment piping
- Contain-It™ PVC secondary containment piping
- Custom spool pieces
- Custom fabrication

Electrofusion process

Electrofusion joining method is defined as the joining process where two plastic parts are fused utilizing electrical heat resistance to form a permanent joint.

A plastic-coated copper wire is wound into a coil and is then inserted into a fitting socket.

The pipe is then inserted into the fitting socket and an electric current is applied to the coil, producing heat that generates sufficient temperatures to melt the surrounding plastic and create a "melt zone."

Fusion occurs when the joint cools below the melt temperature of the plastic material, leaving a permanent joint that is proven to be as strong as, if not stronger than, the individual components.

Electro Plus® fusion machine

- Intuitive user interface
- Multiple joint capability for speedy installations
- Integral carrying case for ease of transportation
- Network and generator compatible for simple operation
- Self-diagnostic system takes the guesswork out of error detection
- One-button repeat fusion cycle for same size joints
- Use to install Fuseal® PP, Fuseal 25/50™, and Fuseal Squared® special waste piping systems as well as automatic compensation for ambient temperature

Electro Plus fusion machine

GF Piping Systems

Local support around the world

Visit our webpage to get in touch with your local specialist:
www.gfps.com/our-locations

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