

# Fuseal Squared®

Double Containment  
Corrosive Waste Piping System



# Double Containment Polypropylene Corrosive

## Overview

Fuseal Squared double containment piping is an ideal choice for corrosive waste disposal systems where secondary containment is required or desired. It offers the same performance and reliability our customers have come to expect from the Fuseal drainage system.

Depending on the application, Fuseal Squared is available in non- and flame-retardant versions (PPNFR and PPRF). The pipe's standard wall thickness makes it ideal for buried applications, where the non-flame retardant type may also be suitable.

Fuseal Squared is easy to install. The system is precision manufactured and GF's state-of-the-art Electro Plus electrofusion machine makes the process of fusing joints straightforward. Should it be required, GF can quickly design and produce custom fittings and sizes in our in-house custom fabrication department.

After installation, the primary pipe is tested hydrostatically, while the containment pipe is tested with air.

Fuseal Squared is truly a complete acid waste drainage system!

## Fuseal Squared® benefits

- Free floating primary pipe for easy joint fit-up and field flexibility
- Strength: fittings are factory-constructed using butt-welded joining techniques for primary joints
- Reliable electrofusion system for consistent joining
- Handles temperatures up to 212°F (100°C) intermittently
- Excellent chemical and corrosion resistance due to polypropylene material in primary and containment pipe
- Connects to Fuseal II without the need for special fittings or tools
- GF quality, field support, and factory engineering

## Electrofusion joining method

Electrofusion is the joining process where two plastic parts are fused, using electrical heat resistance, to form a permanent joint.

The electrofusion joint consists of a coupling or fitting with a coated copper wire coil inside.

The pipe is 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 benefits

- 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
- Fusion cycle times automatically adjusted based on air temperature (ATC)
- One-button repeat fusion cycle for same size joints

## Why install double containment piping

While there may be no direct regulations, codes, or mandates clearly defining the requirements for installing double containment piping systems for corrosive or laboratory waste systems, federal, state, and local authorities have enacted regulations to protect our environment from soil and groundwater pollution. The Fuseal Squared system, with its modular design, is a reliable and cost-effective solution for allaying concerns of potential soil or groundwater infiltration from corroding or decaying single wall buried piping systems.

Fuseal Squared is also an ideal option for above-grade installations where there are concerns over protection of personnel and equipment from potential leaking of single-wall piping conveying hazardous waste streams.

# Waste Piping System

## Pipe and fittings

Fuseal Squared pipe is manufactured to ASTM Schedule 40 requirements and all Fuseal Squared standard fittings are fabricated to DWV patterns utilizing butt-welding technology.

Fabrication allows for precise production tolerances which provide for an optimal fit between the primary and containment fitting, as well as assuring standard connections to single wall Fuseal II.

The size range for pipe and fittings includes 1½"×4" through 8"×12".

## Termination fittings

Termination fittings also utilize the electrofusion process to join to single wall pipe. No maintenance is required.

## Centralizers

Centralizers support and center the primary pipe and fittings within the containment pipe and fittings. Fuseal Squared centralizers are factory welded to the primary components, which offers the benefit of permanent and proper positioning.

## Product range

<b>Fittings</b>	DWV pattern
<b>Connection</b>	Electrofusion
<b>Dimensions</b>	1½"×4" through 8"×12"
<b>Material</b>	Flame Retardant Polypropylene PVDF (optional, carrier pipe only)
<b>Pipe</b>	Schedule 40
<b>Connection</b>	Electrofusion
<b>Dimensions</b>	1½"×4" through 8"×12"
<b>Material</b>	Non-flame Retardant Polypropylene Flame Retardant Polypropylene (optional) PVDF (optional, carrier pipe only)

## Offerings

**Leak Detection:** Fuseal Squared is capable of being installed with electronic leak detection per the GF catalog offerings.

**Custom Fabrication:** GF's Custom Fabrications Department can build components and systems to customer specifications.

## Material

The GF resins offer superior chemical resistance for a broad spectrum of chemicals and waste products.

Fuseal Squared handles corrosive drainage fluids up to 212°F (100°C) intermittently.

## Applications

Fuseal Squared's chemical and physical properties make it an ideal and complete solution for handling corrosive, chemical waste in buried laboratory and industrial DWV applications. Fuseal Squared is suitable for use in virtually every application where acids, bases, and solvents are drained and where environmental protection is key.

## Specification for Fuseal piping system

Pipe and fittings shall conform to the requirements of ASTM F-1412, standard specification for polyolefin pipe and fittings for corrosive waste drainage systems.

All fittings shall be manufactured by GF Piping Systems so they are compatible with Fuseal pipe. The system shall be joined by the use of electrical resistance coils (electrofusion) energized by a variable low voltage power supply via a duplex connector.



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