

GF Piping Systems

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# ASTM Portfolio

The right solution  
for your applications



# ASTM Portfolio

## Superior Piping Systems for the World's Most Demanding Applications

Recognized for superior quality for more than 50 years, Georg Fischer Harvel LLC is the industry's leading manufacturer of plastic piping systems.

Georg Fischer Harvel LLC produces the pipes and fittings for domestic and international markets in metric and inch standards across many materials. GF Harvel products complement the strong valve, measurement and control product offerings, making Georg Fischer Piping Systems a full system solution provider in America and across the globe.

Backed by an unwavering dedication to innovation and unrivalled technical expertise, GF Harvel serves industries around the world including chemical processing, energy, marine, cooling technology, water treatment, microelectronics, and plumbing systems for residential, commercial, and high-rise construction.

GF Harvel also produces a full range of specialty piping systems for emerging technologies including renewable energy, algae and bio-tech development.

### Locally Produced, Globally Available



# PVC Piping Systems

## Comprehensive simplicity

GF Harvel PVC piping exhibits exceptional quality with uniform properties. It is generally resistant to most acids, bases, salts, aliphatic solutions, oxidants, and halogens.



- + Main benefits:**
- Low costs for installation equipment
  - Excellent value for money
  - Comprehensive product range
  - CAD library and calculation tools

**Main applications:** Chemical processing, potable water systems, water treatment, wastewater, industrial applications

**Product range:** 1/8"–24" Schedule 40 & 80

**Pressure rating:** Varies by size

**Temperature range:** 32°F–140°F (0°C–60°C)

**Joining technology:** Solvent cementing, NPT threaded connections, mechanical connections

**Material:** PVC (PVC-U)

# CPVC Piping Systems

## The best of the best

Impact resistance, good fire resistance capabilities and can handle most of the temperature/pressure requirements of today's typical process plants. Generally resistant to most acids, bases, salts, aliphatic solutions, oxidants, and halogens.



- + Main benefits:**
- Low costs for installation equipment
  - Long support distances
  - Very good chemical resistance
  - CAD library and calculation tools

**Main applications:** Chemical processing, plating, hot and cold potable water systems, water, treatment, wastewater, hot corrosive fluid transfer

**Product range:** ¼"–24" Schedule 40 & 80

**Pressure rating:** Varies by size

**Temperature range:** 32°F–200°F (0°C–93°C)

**Joining technology:** Solvent cementing, NPT threaded connections, mechanical connections

**Material:** CPVC (PVC-C)

# Clear PVC Piping System

## FDA approved material

Versatile, cost-effective alternative for many piping applications, particularly those where visual monitoring of processes is critical. GF Harvel Clear PVC is corrosion-resistant, has smooth interior walls and is non-contaminating.

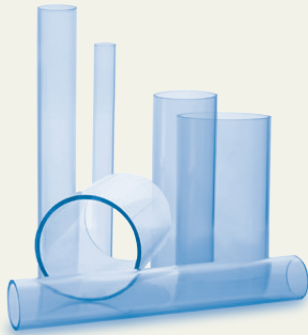


- + Main benefits:**
  - Clear and uniform color
  - Smooth interior walls
  - Lower overall installed cost
  - Same easy installation as standard PVC
- Main applications:** Tubing containment, visual flow and leak detection, sight glasses
- Product range:** ¼"–12" Schedule 40  
¼"–6" Schedule 80
- Pressure rating:** Varies by size
- Temperature range:** 32°F–140°F (0°C–60°C)
- Jointing technology:** Solvent cementing, NPT threaded connections
- Material:** Clear PVC (PVC-U)

# EnviroKing

## Energy solution for algae and more

GF Harvel EnviroKing is a clear UV resistant PVC pipe that is suitable for exposure to sunlight. Unique UV blocking technology reduces harmful ultraviolet light wavelengths from penetrating the plastic while allowing beneficial wavelengths through.



- + Main benefits:**
  - Lower overall installed cost than glass
  - Same easy installation as standard PVC
  - Fully compatible with standard PVC
  - Thin wall or Schedule 40
- Main applications:** Photo-bioreactor vessels  
Green technology applications
- Product range:** 2"–12" Thin wall  
½"–6" Schedule 40
- Pressure rating:** Varies by size
- Temperature range:** 32°F–140°F (0°C–60°C)
- Joining technology:** Solvent cementing
- Material:** Clear PVC (PVC-U)  
UV resistant

# PPro-Seal Natural PP

## The natural choice

PPro-Seal Natural PP is a highly pure product ideal for use in piping systems where purity is not only required, but is essential.

PPro-Seal has excellent resistance to most organic and inorganic chemicals in common laboratory use.



- + Main benefits:**
  - Hazen-Williams c-factor of 150
  - FDA 21.CFR 177.1520 Sections A1, B, C
  - Easy to operate electrofusion machine
  - Bagged & sealed to ensure cleanliness
- Main applications:** Deionized water and reverse osmosis systems, chemical effluent treatment plants, chemical & food and beverage processing
- Product range:** ½"–2" Schedule 80
- Pressure rating:** 150 PSI (PN10)
- Temperature range:** 32°F–176°F (0°C–80°C)
- Joining technology:** Electrofusion, threaded
- Material:** PPn

# Fuseal PP Corrosive Waste

## The one and only DWV solution

Excellent chemical resistance and physical properties ideal for handling corrosive waste mixtures of acids, bases and solvents. Diluted mineral acids and aqueous solutions of acid salts, which are destructive to most metals.



- + Main benefits:**
- Simple installation procedures
  - Great corrosion resistance
  - Maintenance-free service
  - Low installation cost

**Main applications:** Corrosive waste drainage from laboratory, industrial or food and beverage processing

**Product range:** 1½"–18" Schedule 40  
1½"–12" Schedule 80

**Pressure rating:** Up to 50 PSI for pressure waste applications (subject to manufacturers review of design)

**Temperature range:** 32°F–212°F intermittently (0°C–100°C)

**Jointing technology:** Electrofusion, mechanical joint, butt fusion

**Material:** PPNFR, PPFR

# Fuseal 25/50 PVDF

## Excellence in corrosive waste

Engineered to solve many of the problems with return air plenum piping or handling aggressive chemicals at elevated temperatures. Thermal stability as well as a low flame spread and smoke density as per UL 724 (ASTM E84).



- + Main benefits:**
- UL certified
  - Outstanding corrosion resistance
  - Easy to join with electrofusion
  - Reliable and trouble free

**Main applications:** Corrosive waste drainage for return air plenums or at elevated temperatures from laboratory, industrial or food and beverage processing.

**Product range:** 1½"–6" Schedule 40

**Pressure rating:** Up to 50 PSI for pressure waste applications (subject to manufacturers review of design)

**Temperature range:** -4°F–284°F (-20°C–40°C)

**Joining technology:** Electrofusion

**Material:** PVDF

# Fuseal Squared

## Mathematically the best solution

Fuseal Squared physical properties make this system ideal to handle corrosive waste solutions for buried laboratory and industrial DWV applications. Closure couplings comply with the ASME B31.3.



### Main benefits:

- Outstanding chemical resistance
- Free-floating primary pipe
- Maintenance-free service
- Very cost effective

### Main applications:

Corrosive waste drainage from laboratory, industrial or food and beverage processing

### Product range:

1½"–8" primary pipe  
4"–12" containment pipe

### Pressure rating:

Up to 50 PSI for pressure waste applications  
(subject to manufacturers review of design)

### Temperature range:

32°F–212°F intermittently (0°C–100°C)

### Joining technology:

Electrofusion

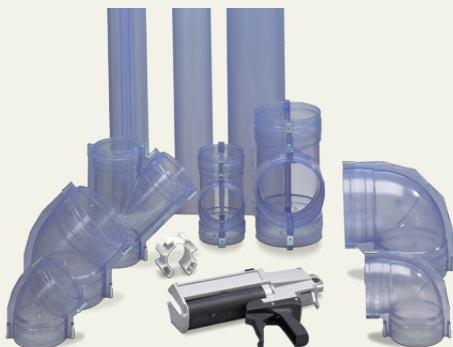
### Material:

PPNFR, PPFR

# Contain-It

## Easy double containment

Retrofit made easy. Ideal choice for containment piping of hazardous piping systems. Requires fewer and less expensive tools than other containment piping systems. Injection bonding with visual inspection of sealing.



### Main benefits:

- Retrofit of piping system
- Fits over any primary piping system
- Visual leak detection
- Lightweight, easy to install

### Main applications:

Containment piping of chemical process lines, fuel lines

### Product range:

Can contain primary pipe up to 4" (110 mm)  
Containment sizes 3"–6"

### Pressure rating:

Up to 32 PSI (PN3)

### Temperature range:

32°F–140°F (0°C–60°C) PVC

### Joining technology:

Adhesive joint

### Material:

Clear PVC (PVC-U)

# Double-See Containment

## Fast and easy installation

Easy to install and available with a complete selection of pipe, fittings, and valves. Innovative “valve-in-valve” design allows a full containment pressure rating. Simultaneous joining throughout a system or in combination with patented closure couplings.



- + Main benefits:**
- ASME B31.3 compliant closures
  - Innovative centralizer design
  - Pipe cut-length guidance system
  - Factory assembled and 100% tested

**Main applications:** Water/wastewater treatment, chemical processing, delivery/dosing, microelectronics, metal plating, surface finishing, life sciences

**Product range:** ½”–6” primary pipe  
2”–10” containment pipe

**Pressure rating:** Varies by size (primary)  
50 PSI (PN4) (secondary)

**Temperature range:** Varies by material

**Joining technology:** Solvent cementing

**Material:** PVC (PVC-U), CPVC (PVC-C), Clear PVC-U

# SeaCor Piping System

## Marine pressure and drainage

Complies with Part 2 “Smoke and Toxicity” and Part 5 “Surface Flammability” of Annex 1 of the FTP code resolution and also meets title 46 of the code of federal regulations known as the Jones Act.



### Main benefits:

- U.S. Coast Guard approved
- Low costs for installation equipment
- Great corrosion resistance to salts
- CAD library

### Main applications:

White, black, and gray water and vent systems

### Product range:

½”–12” Schedule 80

### Pressure rating:

Varies by size

### Temperature range:

32°F–210°F (0°C–99°C)

### Jointing technology:

Solvent cementing

### Material:

CPVC (PVC-C)

# SeaDrain

## Marine drainage piping system

SeaDrain PPFR is resistant to the corrosive action of salt solutions and aqueous solutions of salts, which are destructive to most metals. In general, SeaDrain PPFR will not rust, pit, scale, corrode or be affected by electrolysis.

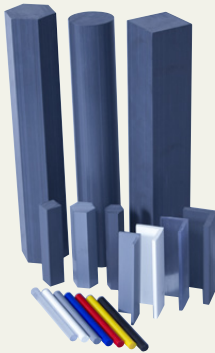


- + Main benefits:**
  - Low installation cost
  - Great corrosion resistance
  - Pressurized drainage up to 50 psi
  - Easy to operate electrofusion jointing
- Main applications:** Black, gray water and vent systems
- Product range:** 1½"–12" Schedule 40
- Pressure rating:** Vacuum up to 25.5 psi (1.76 bar) intermittent (drainage) with 25 % loading
- Temperature range:** 32°F–212°F intermittently (0°C–100°C)
- Jointing technology:** Electrofusion, mechanical joint
- Material:** PPFR

# Machining Shapes

## Ready to be machined

GF Harvel's state-of-the-art extrusion process provides porosity-free, stress-reduced products with optimum physical properties and exacting tolerances. Available products include solid bar, hollow bar, square, rectangular, hexagonal bar, and angles.



- + Main benefits:**
- Superior quality products
  - Excellent chemical, corrosion resistance
  - Ready to be machined
  - Cost saving advantage
- Main applications:** Machined valve bodies, strainers, filters, bulkhead fittings, pump components, bushings, compression fittings, flanges, hangers, hooks, spacers, nuts bolts, rollers and numerous other mechanical components
- Product range:** ¼"–12"
- Machining technology:** Turning, boring, drilling, tapping and threading.
- Material:** PVC, CPVC (PVC-U, PVC-C)

# Vinyl Duct Systems

## Light weight

GF Harvel PVC material provides long-lasting, cost-effective solutions for corrosive applications and the CPVC material has exceptional fire resistance, high heat distortion temperature and good mechanical strength at elevated temperatures.



- + Main benefits:**
  - Reduces labor and costs
  - Corrosive fumes, gases and fluids
  - Seamless, large-diameter extrusions
  - Long system service life
- Main applications:** Industrial and institutional corrosive fume exhaust and drain (PVC) hot corrosive fume and drain service (CPVC)
- Product range:** 6"–24"
- Temperature range:** 32°F–140°F (0°C–60°C) PVC  
32°F– 200°F (0°C–93°C) CPVC
- Joining technology:** Solvent cementing
- Material:** PVC, CPVC (PVC-U, PVC-C)

# BlazeMaster Fire Sprinkler Pipe

## Quality-proven, code-approved

Proven performance with more than 25 years of service in demanding installations around the world. It meets the requirements of all major model codes, is UL and LPCB listed and FM approved, (NFPA 13, 13R & 13D systems).

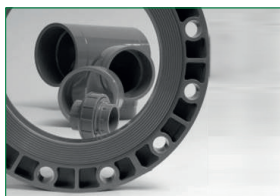


- + Main benefits:**
  - Conforms to all major building codes
  - Meets NFPA light hazard applications
  - Factory mutual approved
  - Clean and fast installation
- Main applications:** Listed for more fire sprinkler applications than any metallic system
- Product range:** ¾"–3"
- Pressure rating:** Working pressure of 175psi at 150°F for fire sprinkler service
- Temperature range:** 32°F–210°F (0°C–99°C)
- Jointing technology:** One step solvent cementing, NPT threaded connections, mechanical connections
- Material:** CPVC (PVC-C)

# Other products and services

At GF Harvel, we not only make industry leading products and systems, we also offer customized products and services to better serve the ever evolving market needs. Georg Fischer Piping Systems, with over 210 years of industrial piping experience, allows every customer to tap into a wealth of experience and dedication to serve the industry with innovation, reliability and performance.

- Electro Plus fusion machine
- SYGEF pipe metric (PVDF)
- PROGEF pipe metric (PP)
- COOL-FIT ABS pipe metric
- Customizing and pre-fabrication
- Product and installation training and certification
- Renowned technical and field services





# Worldwide at home

Our sales companies and representatives ensure local customer support in over 100 countries

**Your local partner:**

Georg Fischer Harvel LLC

Phone +1 (714) 731-8800 / Toll-free in the US (800) 854-4090

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