

# STATEMENT OF QUALIFICATIONS

## PermaShield<sup>®</sup>

Stainless Steel Corrosive Fume  
Exhaust Duct with PermaShield  
Fluoropolymer Barrier Coating



## Fab-Tech

An Exyte Group Company

[www.fabtechinc.com](http://www.fabtechinc.com)

802-655-8800

# Why Choose Fab-Tech

- Communication - working closely with clients minimizes costly mistakes
- On Time Delivery - reduce expensive construction delays
- Engineering Expertise - innovative and dependable solutions
- Quick and Reliable Information - no more wasted time finding the information you need

## Communication

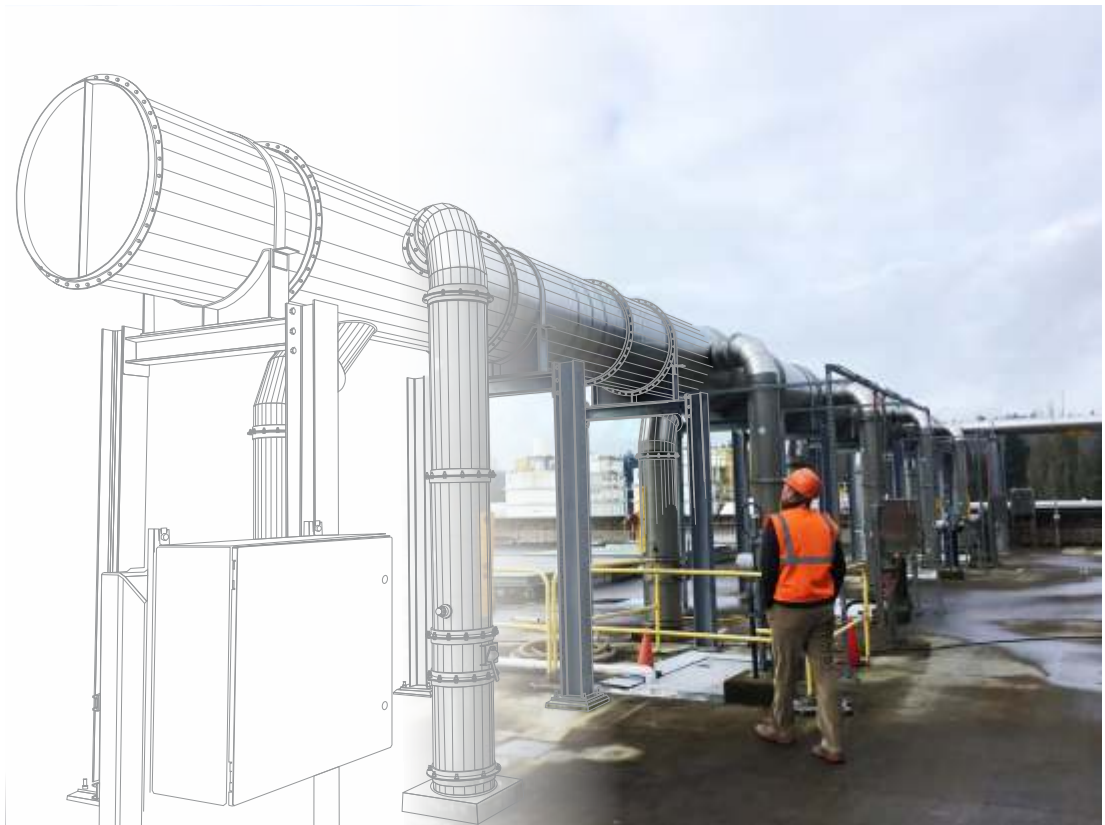
Outstanding customer service revolves around effective communication. We pride ourselves in working very closely with contractors, engineers and end-users to assure the finished product is consistent with prints, shop drawings and cut sheets. Our commitment to outstanding customer service often results in connections and trusting relationships made throughout a project that extends well beyond project completion.

## Engineering Expertise

Our professional engineering staff is available to evaluate your custom fabrication as well as provide installation training upon request. Many customers ask us to help solve their exhaust problems with specialty fittings and accessories. Problem solving is something our engineering department excels as well as finding innovative solutions to improve PermaShield™ products and system performance.

## Quick and Reliable Information

Our extensive website enables you to quickly receive information on our product: general information, chemical resistance charts, installation guides and videos, case studies and order sheets to name a few. No more wasted time finding the information you need.





## Who Is Fab-Tech?

- The Originator of Coated Stainless Steel Duct
  - After 35 years we know what works!
  - Coating technology that does not fail
  - Joining systems that don't leak
- Dedicated Engineering Department
  - New product development
  - Fully tested before market introduction
  - Latest accessories to reduce installation labor cost
- Dedicated Project Managers
  - Continuous flow of information from the start
  - Nothing falls through the cracks
- Largest Manufacturer of Fluoropolymer Barrier Coated Vent Duct Systems in the World
- 170,000 Sq Ft Manufacturing Facility
  - We control both fabrication and coating processes
- 325 Manufacturing Employees
  - More employees than all our US competitors combined
- Fabricated and Coated Product Under "One Roof"
- Total Quality Management "TQM"
- FM Global Verified Manufacturing Processes
- In-House Testing Laboratory
- Committed To On Time Delivery

### Applications:

Government Labs  
Metal Etch  
Fine Chemicals  
Alternate Energy  
University Labs  
Gas Manufacturing  
Life Sciences  
Wastewater Treatment  
Electronics Industries  
Lighting LED  
Pharmaceutical  
Semiconductor Industries



DC Water's Blue Plains Facility



## Why Choose PermaShield™

- Type 300 stainless steel substrate - reduced insurance premiums
- Fluoropolymer coating - less expensive than exotic metals
- PTFE gasket system - superior joint sealant technology, no leaks
- Van Stone joining system - save on installation labor
- Ease of installation - no project delays, save on lower labor costs
- Modular design - one stop shop, largest selection of accessories
- Custom fabrication - we can make what you want when you want it
- Easily field modified - save on fewer system shutdown costs
- Fully manufactured in-house - shorter lead time
- "0" Flame spread - does not burn
- Environmentally safe - not a hazardous waste, no waste costs

### Safe

PermaShield™ contributes to the overall safety of the facility as well as the safety of the men and women responsible for day to day operations by preventing airborne contamination, fluid leakage, or total system failure in the event of a fire.

### Reliable

With nearly four decades of proven service in highly corrosive environments, PermaShield™ has demonstrated its reliability for the removal of hazardous exhaust fumes. Engineers can see the strength of PermaShield™ to support their manufacturing lines, with no surprises.

### Corrosion Resistant

The coating applied to PermaShield™ products can be described as the highest performing chemical and impact resistant coating available today. The PermaShield™ product line has never had a reported failure due to chemical attack of the coating. Applied using an electrostatic process, PermaShield Fluoropolymer Barrier Coating is integrally bonded to a stainless steel substrate. This process allows the coating to be applied to virtually any fitting, regardless of size or configuration, thus allowing engineers unlimited system design capabilities.

### Cost Effective

Easy to install, easy to maintain, easy on the bottom line! PermaShield™ is the world's undisputed first choice to prevent expensive unscheduled shutdown of your manufacturing equipment due to chemical attack. With over three decades of experience in a wide range of applications, we know what works.

DC Water's Blue Plains Facility



## True "Class 1" Product

PermaShield™ complies with NFPA 820<sup>1</sup> established by the Uniform Building Code which is accepted by federal, state and local authorities. With "0" flame spread as tested using ASTM E-84<sup>2</sup>, this product does not burn. And PermaShield™ is also FM 4922<sup>3</sup> approved by FM Global which meets their high property loss prevention product testing and certification standards.

<sup>1</sup> NFPA 820 is the Standard for Fire Protection in Wastewater Treatment and Collection Facilities.

<sup>2</sup> ASTM E-84 is the standard test method for assessing the surface burning characteristics of building products.

<sup>3</sup> FM 4922 approved duct limits fire spread, inside and out, but also maintains their structural integrity.

## Labor Savings

Approved for use without interior sprinklers, PermaShield™ installs quickly since welding, grinding, sanding or chemicals are not required to assemble or install. With efficient all mechanical fasteners and easy to use PTFE gaskets, keep your projects on or ahead of schedule resulting in reduced project and labor costs. And compared to fiberglass reinforced plastic duct, PermaShield™ requires much less labor to install which saves on the overall installed cost of the project. An additional labor savings can be realized using Fab-Tech's proprietary EZ clamps on smaller duct.

## Chemical Compatibility

Many of the chemicals and solvents that are easily contained by Fab-Tech's PermaShield Fluoropolymer Barrier Coating can cause rapid deterioration of other plastics and fiberglass products. Chemical compatibility data is available from Fab-Tech for over 300 chemicals.

## Fire Protection Savings

Installing PermaShield™ will potentially reduce the fire load in your facility to the point where the numbers of fire sprinklers are reduced. Fire protection sprinklers and the labor to install them inside combustible (plastic) duct for facilities requiring "Class 1" duct are eliminated. In addition, the labor and materials to install an oversized grey water collection system (necessary to process contaminated water discharged into the exhaust duct by the fire protection system) are greatly reduced.

## Easily Field Modified

It doesn't get much easier when duct smaller than 24" (609.6mm) with 20ga material can be cut to length on site. Branch lines can be added with innovative saddle-tap fittings. Ports for drain lines, tool hook-up and system measurement can be easily installed in the field allowing for greater system flexibility. Fab-Tech has introduced the new "Hot Tap" to the Semiconductor industry proving that additional process exhaust can be brought on line without costly shutdowns of the "Fabs".

## Zero Life Time Maintenance

An installed PermaShield™ system requires no maintenance and associated costs unlike plastic/FRP products which are easily damaged and require UV protection to be routinely applied. A retired system can be as easily disassembled and stored for reuse if desired. Or the stainless steel can be sold for scrap value. Long term, the economic effects of chemical leaching and subsequent hazardous waste disposal associated with other systems are eliminated with PermaShield™.



## PermaShield™ General Specifications:

<b>Size:</b>	2" thru 120" round, up to 144" x 144" rectangular
<b>Material:</b>	Series 300 stainless steel sheet goods, 24 - 10 ga
<b>Coating:</b>	PermaShield Fluoropolymer Barrier Coating
<b>Construction:</b>	Forming any type, fully welded construction
<b>Joining System:</b>	Companion angle rings, 4" - 120", Stainless steel or powder coated black iron
<b>Clamped Joints:</b>	Proprietary EZ clamp 2" - 14" diameter
<b>Cast Joints:</b>	Companion cast rings, stainless steel 4" - 14"
<b>Gasket:</b>	Self adhesive PTFE gasket system for Applications from -450°F to 300°F
<b>Air Control Devices:</b>	Balance & isolation dampers 4" - 120" Rectangular backdraft dampers Horizontal & vertical blastgates 4" - 120" <b>AMCA</b> rated dampers 6" - 48"
<b>System Pressures:</b>	Full vacuum to 18" wc
<b>Flame Spread:</b>	"0" ( FM Approval certification ) ASTME - 84
<b>Smoke Generation:</b>	"20" ( FM Approval certification ) ASTME - 84

## Fab-Tech Personnel:

The following is a partial list of the key personnel at Fab-Tech, Inc.

General Manager _____	Jim Howard
Executive Vice President _____	Scott Fine
Director Engineering _____	Joe Mastro
Vice President Sales & Marketing _____	Mike Baranski
Northeast Regional Sales Manager (WWTP) _____	Joe Havelka
Southeast Regional Sales Manager (WWTP) _____	Dan Murphy
Sales Operations Manager _____	Robert Hesford

# Partial List of Current and Past Projects/Customers for Laboratories & Wastewater Treatment Facilities

## UNIVERSITY AND COLLEGE LABS

Arizona State University  
Auburn University  
Boston College  
Cal State UCLA  
Carnegie Mellon University  
Colorado University  
City College of NY  
Cork University - Ireland  
Colgate University  
Dartmouth College  
Eastern Washington University  
Georgia Tech  
Harvard University  
Manchester University - UK  
King Abdullah University of Science  
& Technology - Saudi Arabia  
Massachusetts Institute of Technology  
Mississippi State  
North Carolina State  
Norfolk State  
Ohio State  
Penn State  
Portland State  
Rensselaer Polytechnic Institute  
Rutgers University  
San Diego State University  
Southern Methodist University  
Southampton University - UK  
Stanford University  
SUNY  
UMASS Lowell  
University of Albany  
University of California  
University of Cincinnati  
University of Chicago  
University of Delaware  
University of Florida  
University of Georgia  
University of Louisville  
University of Michigan  
University of Minnesota  
University of New Mexico  
University of North Carolina  
University of South Florida  
University of Vermont  
University of Virginia  
University of Wisconsin  
Virginia Tech  
William & Mary College  
Williams College

## GOVERNMENT LABORATORIES

Argonne National Laboratories  
Army Research Laboratories  
Brookhaven National Laboratories  
Canadian Nuclear Labs  
Division of Consolidated Laboratories - Virginia  
National Renewable Energy Lab - (NREL)  
Lawrence Livermore Laboratories  
Los Alamos National Laboratories  
Pacific Northwest National Laboratories  
Sandia National Laboratories

## Wastewater Treatment Facilities

Albany WWTP - OR  
Baldwinsville-Seneca Knolls WETP - NY  
Brightwater WWTF - Woodinville, WA  
Brookfield WRF - OH  
California Waste Water Plant - San Jose, CA  
Cedar Rapids WWTP - Iowa  
Cinnaminson WWTP Odor Control Upgrade - NJ  
City of Albany, Beaver Creek Treatment Facility - NY  
City of Santa Clara - Santa Clara, CA  
City of Woodbridge WWOC - Woodbridge, NJ  
Devens WWPS Screening Building - MA  
DC Water Blue Plains - District of Columbia  
ECUA WWTF - Pensacola, FL  
King County WWTF - Seattle, WA  
LA Sanitation - Los Angeles, CA  
Leoni Township WWTP - Jackson County, MI  
Little Patuxent Biosolids - Baltimore, MD  
Los Oso WWTP - Los Oso, CA  
Meridian WWTP - Meridian, ID  
Metro Districts Robert White WWTP - Denver, CO  
METRO SEWER DIST. - Cincinnati, OH  
MWRA Deer Island WWTP - Boston, MA  
Norman Cole WWTF - Lorton, VA  
North Bend WWTP - WA  
Palm Bay WWOC - Palm Bay, FL  
Red River WWTP - Shreveport, LA  
River Road WWTF - Milwaukie, OR  
Rowlett Creek - TX  
South District Miami Dade County WWTP  
Warrensburg Municipal - Warrensburg, VA  
Washington Forebay Dredge - Maryland  
West Keansburg Odor Control - New Jersey  
Wheaton Sanitary District Preliminary Treatment Facility -  
Wheaton, IL  
Williamsport WWTP - Williamsport, PA  
Wilson Creek - TX  
Yauco WWTF - Puerto Rico



# ***PermaShield***<sup>TM</sup>

***The Recognized World Leader  
For Corrosive Fume Exhaust Systems***

**Fab-Tech**  
An Exyte Group Company

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