

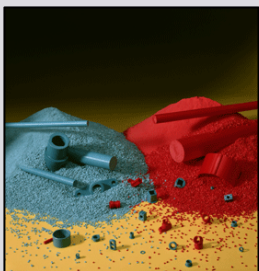
# PROFESSIONAL PLASTICS, INC.

*Corrosion-Resistant Tubing & Sealing Products*

*Product Overview*

SAINT-GOBAIN  
PERFORMANCE PLASTICS

QUADRANT  
ENGINEERING PLASTIC PRODUCTS





# **PROFESSIONAL PLASTICS, INC.** ***Supplier of Corrosion-Resistant Tubing & Sealing Products***

## **Corrosion-Resistant Fluid Handling & Sealing Products**



### **Teflon® PTFE Tubing & Shapes**

Teflon® PTFE Tubing exhibits astonishing chemical resistance and ultra high-purity.

- Working temperature range 500° F (260° C) to -454° F (-270° C)
- Chemically Resistant (all common solvents, acids and bases)
- Chemically Inert, Low extractables & Excellent Dielectric Insulation Properties



### **FEP Tubing & Shapes**

FEP tubing (Fluorinated Ethylene Propylene tubing) is made from a melt processable thermoplastic that has end uses similar to PTFE. However, it has several properties PTFE does not have. FEP is one of the clearest plastics available on the market and can be supplied in long, continuous coils. Also, it can be welded and tubes can be sealed by melting. FEP tubing has a continuous working temperature of 400° F (204°C).

- Good transmission of ultraviolet rays
- FDA compliant & USP Class VI approved.



### **PFA Tubing & Shapes**

PFA (PerFluoroAlkoxy) offers similar properties to FEP, but is considered more of a premium resin. PFA is preferred when extended service is required in hostile environments involving chemical, thermal, and mechanical stress. PFA offers high melt strength, stability at high processing temperatures, excellent crack and stress resistance, a low coefficient of friction, and more than 10 times the Flex life of FEP. It has high resistance to creep and retention of properties after service at 500°F (260°C), with useful properties at -320°F (95°C). PFA also meets FDA 21CFR.177.1550.



### **Tygon® R-3603 Laboratory Tubing**

Tygon® R-3603 Laboratory Tubing is crystal-clear and flexible, and handles virtually all inorganic chemicals found in the lab. It is non-oxidizing and non-contaminating. Long-lasting and crack-resistant, Tygon® R-3603 Laboratory Tubing is less permeable than rubber tubing. The glassy-smooth inner bore helps prevent buildup so that cleaning is facilitated. Coils are marked at 1-foot intervals for easy measuring. Autoclavable. Remains flexible at -45°F (43°C). Durometer Hardness: Shore A, 55. Outstanding chemical resistance and lot-to-lot consistency for reproducible results. Increases productivity in peristaltic pumps - outlasts other clear tubing 2 to 1. Ideal for condensers, incubators, desiccators, gas lines and drain lines



### **Versilic® SPX-50 High-Strength Silicone Tubing**

Peroxide-cured Versilic® High-Strength Silicone Tubing is designed for use in applications where flexibility, resiliency and durability are required. Its smooth inner surface reduces the risk of particulate entrapment and microscopic buildup during fluid transfer. In addition, its high and low working temperatures help the tubing retain its flexibility under extreme conditions. Because of its consistently reliable performance, Versilic® High-Strength Silicone Tubing is ideal for applications such as food & beverage dispensing & processing, appliance manufacturing, cosmetic production and electronic equipment.



### **Kel-F® - PCTFE**

Kel-F® - PCTFE (PolyChloroTriFluoroEthylene) is a fluorocarbon-based polymer and is commonly abbreviated PCTFE. PCTFE offers the unique combination of physical and mechanical properties, nonflammability, chemical resistance, near zero moisture absorption, and excellent electrical properties. These characteristics cannot be found in any other thermoplastic fluoropolymer with a useful temperature range of -400°F to +400°F. PCTFE also has extremely low outgassing, making it well suited for use in aerospace and flight applications. Note: Kel-F® is a registered tradename of 3M Company. In 1996, 3M discontinued manufacturing of Kel-F & today, all PCTFE resin is manufactured by Daikin under the tradename of Neoflon® or by Allied Signal under the tradename of Aclon®.



### **Kynar® 740 PVDF**

Kynar® 740, an engineering thermoplastic that offers the stable characteristics of a fluoropolymer, as well as mechanical strength, abrasion resistance and high purity. Kynar® 740 PVDF sheets & rods also offer excellent chemical resistance, UV radiation resistance and low permeability. PVDF can be used in the semiconductor, pulp and paper, and pharmaceutical industries, as well as for nuclear waste, and chemical and food processing. Kynar® 740 sheets feature double-masked surface, fully traceable and verifiable resin, chemical-resistance, and UV-stability. Sheets measure 4 x 8 ft with thicknesses from 1/8–1 in. Sheet features tolerance consistency per ASTM D6713-01 and combustibility approvals by FM 4910, UL2360, and ASTM E84



### **Fluorosint® 500**

Fluorosint® 500 has nine times greater resistance to deformation under load than unfilled PTFE. Its coefficient of linear thermal expansion approaches the expansion rate of aluminum, and is 1/5 that of PTFE often eliminating fit and clearance problems. It is 1/3 harder than PTFE, has better wear characteristics and maintains low frictional properties. Fluorosint® 500 is also non-abrasive to most mating materials and it the most dimensionally stable PTFE-based product. Fluorosint offers a lower coefficient of thermal expansion than PTFE and it's chemical resistance parallels PTFE. This heat-resistant material offers continuous use temperatures to 500°F (260°C) while providing a higher load carrying capability than standard PTFE - 1/9 of the deformation under load.



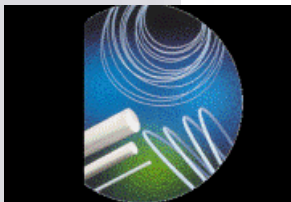
### **PEEK – Vestakeep®**

PEEK is an abbreviation for PolyEtherEther-Ketone, a high performance engineering thermoplastic. Vestakeep® PEEK grades offer chemical and water resistance similar to PPS (PolyPhenylene Sulfide), but can operate at higher temperatures. PEEK can be used continuously to 480°F (250°C) and in hot water or steam without permanent loss in physical properties. For hostile environments, PEEK is a high strength alternative to fluoropolymers. PEEK carries a V-0 flammability rating and exhibits very low smoke and toxic gas emission when exposed to flame.



### **Techtron® PPS**

Techtron® PPS offers the broadest resistance to chemicals of any advanced engineering plastic. They have no known solvents below 392°F (200°C) and are inert to steam, strong bases, fuels and acids. Minimal moisture absorption and a very low coefficient of linear thermal expansion, combined with stress-relieving manufacturing, make PPS ideally suited for precise tolerance machined components. Techtron® PPS is ideal for structural applications in corrosive environments or as a PEEK replacement at lower temperatures.



### **Tefzel® - ETFE**

Tefzel® ETFE provides both corrosion resistance and mechanical strength over a wide temperature range. The fluoroplastic family offers plastics with high chemical resistance, low and high temperature capability, resistance to weathering, low friction, electrical and thermal insulation. High purity, Excellent chemical resistance, good permeability resistance & excellent abrasion resistance over a temperature range of -300°F to +300°F (-185°C to +150°C).



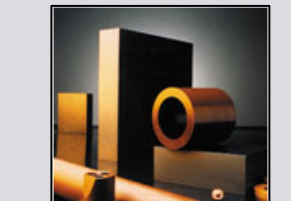
### **Torlon® 4203**

Torlon® 4203 polyamide-imide offers excellent compressive strength and the highest elongation of the Torlon® grades. It also provides electrical insulation and exceptional impact strength. This grade is commonly used for electrical connectors and insulators due to its high dielectric strength. Its ability to carry high loads over a broad temperature range makes it good for structural components such as linkages and seal rings. Torlon® 4203 is also an excellent choice for wear applications involving impact loading and abrasive wear.



### **Meldin® 7001 Polyimide (Unfilled)**

Meldin® 7001 Unfilled Polyimide Rods & Plates offer superior mechanical properties & high chemical resistance. Meldin® 7001 is ideal for electrical and thermal insulating applications. More ductile than ceramics, and lighter weight than metals, Meldin 7000 products feature operational temperatures of 500°F (260°F) for continuous operation and 900°F for intermittent exposure, and tight tolerances of ±0.001 in. on both ODs and IDs. Meldin 7001 is suitable for high-temperature structural, high-purity semiconductor, & plasma welding applications.



### **Vespel® SP-1**

Vespel® SP-1 polyimide is designed for the most demanding applications. Vespel offers a broad combination of temperature resistance, chemical resistance, mechanical toughness, natural lubricity, wear-resistance and insulation properties. Parts made from DuPont Vespel SP-1 provide operating temperatures from cryogenic to 300°C (570°F), great plasma resistance, plus a UL rating for minimal electrical and thermal conductivity. Vespel® SP-1 is the unfilled base resin grade. SP-1 provides maximum physical strength, elongation, and toughness as well as the best electrical and thermal insulation values.

## **PROFESSIONAL PLASTICS, INC.**

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<b>Acetal</b>	<b>HDPE</b>	<b>PEEK</b>	<b>Teflon® PTFE</b>
<b>Bev-A-Line® Tubing</b>	<b>Kalrex®</b>	<b>Pharmed® Tubing</b>	<b>Tefzel®</b>
<b>Braided Tubing</b>	<b>Ketron® HPV</b>	<b>Polyethylene</b>	<b>TFM-1700</b>
<b>Buna N</b>	<b>Kel-F® - PCTFE</b>	<b>Polypropylene</b>	<b>Tivar®</b>
<b>Celazole® PBI</b>	<b>Kynar®</b>	<b>Polyurethane</b>	<b>Torlon®</b>
<b>Convolutud Tubing</b>	<b>Latex</b>	<b>PVC</b>	<b>Turcite®</b>
<b>CPVC</b>	<b>LDPE</b>	<b>PVDF</b>	<b>Tygon®</b>
<b>Delrin®</b>	<b>Macor®</b>	<b>Rubber</b>	<b>UHMW</b>
<b>EPDM</b>	<b>Meldin®</b>	<b>Rulon®</b>	<b>Ultem®</b>
<b>Ertalyte</b>	<b>Micarta®</b>	<b>Ryton®</b>	<b>Versilic® Tubing</b>
<b>FEP</b>	<b>Neoprene</b>	<b>Silicone</b>	<b>Vespel®</b>
<b>Fluorosint®</b>	<b>Noryl®</b>	<b>Symalit®</b>	<b>Viton®</b>
<b>G-10/FR-4</b>	<b>Nylon®</b>	<b>Techtron® HPV</b>	<b>And more..</b>



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