

# High Performance Pfa Coiled Spring Tubing And Custom Ptfе Fabrication Services With Welded Fittings And Precision Bent Components

Item Number: PL-CP397



## Introduction

High performance PFA coiled spring tubing and custom PTFE fabrication services provide exceptional chemical resistance and thermal stability. Our precision welded fittings and custom bent components ensure leak proof performance for high purity industrial fluid handling systems and critical laboratories.

[Learn More](#)

Application	Description	Key Benefit
Semiconductor Processing	Transport of ultra-pure chemicals and deionized water in wafer cleaning and etching stages.	Zero metal ion contamination and high chemical resistance.
Fuel Cell Research	Handling of hydrogen and humidified gases in high-temperature testing environments.	Prevents corrosion and maintains gas purity for accurate data.
Pharmaceutical Synthesis	Custom manifolds and coiled lines for the sterile transfer of active pharmaceutical ingredients (APIs).	FDA-compliant materials with non-stick, easy-clean surfaces.
Analytical Instrumentation	Specialized tubing and fittings for high-performance liquid chromatography (HPLC) and gas chromatography (GC).	Minimal peak broadening and low adsorption of trace analytes.
Chemical Manufacturing	Custom-fabricated reaction vessels and drainage systems for aggressive acid processing.	Long-term durability in environments that destroy stainless steel.
Aerospace Engineering	Lightweight, fire-resistant fluid lines for hydraulic or fuel systems in extreme environments.	High strength-to-weight ratio and wide temperature tolerance.
Medical Device Components	Custom-molded fluoropolymer parts for diagnostic equipment and high-purity fluid delivery.	Biocompatible and resistant to aggressive sterilization protocols.

Property	PTFE Specification	PFA Specification
Specific Gravity	2.10 - 2.20 g/cc	2.12 - 2.17 g/cc
Melting Point	327°C (621°F)	305°C (581°F)
Tensile Strength	2990 - 4970 psi	3600 - 4500 psi
Hardness (Shore D)	55D	60D
Water Absorption (24h)	0.01%	<0.01%
Coefficient of Friction	0.110	0.200
Dielectric Constant	2.1	2.1

Parameter	Description / Capability
Product Item Number	PL-CP397

Application	Description	Key Benefit
Property	PTFE Specification	PFA Specification
Parameter	Description / Capability	
<b>Customization Type</b>	Fully Customizable per User Specification	
<b>Tubing Geometries</b>	Straight, Coiled (Spring), Bent (Molded), Multi-Lumen	
<b>Fabrication Methods</b>	CNC Machining, Heat Welding, Molded Bending, Flaring	
<b>Coil Dimensions</b>	Custom Inner Diameter (ID), Outer Diameter (OD), and Extended Length	
<b>Welding Integration</b>	Integrated PFA Fittings, Manifolds, and Flanges	
<b>Tolerance Levels</b>	Precision Machining up to $\pm 0.05\text{mm}$ depending on geometry	
<b>Connection Interfaces</b>	NPT, BSP, Flared, or Custom Welded Connections	
<b>Surface Finish</b>	High-purity smooth-bore finish for anti-adsorption	