Custom Ptfe Sealing Caps And Corrosion Resistant Low Background Teflon Adapters

Item Number: PL-CP221

Introduction

Discover high-purity custom PTFE sealing caps and corrosion-resistant Teflon adapters designed for demanding industrial environments. Our low-background fluoropolymer components offer exceptional chemical inertness and precision CNC fabrication to ensure leak-free performance and long-term durability in critical laboratory systems.

Learn More

Application	Description	Key Benefit
Trace Metal Analysis	Custom sealing lids for digestion vessels and storage bottles used in ICP-MS and ICP-OES workflows.	Eliminates background interference from leachable contaminants.
Semiconductor Processing	Precision adapters for high-purity chemical delivery lines in cleanroom environments.	Prevents chemical erosion and maintains ultra-pure fluid pathways.
Pharmaceutical Synthesis	Custom reaction vessel covers and sealing caps for aggressive organic synthesis processes.	Ensures total containment and zero reactivity with active ingredients.
Battery Research	Specialized adapters and cell caps for testing corrosive electrolytes in lithium-ion and flow batteries.	Resists electrochemical degradation and prevents electrolyte leakage.
Cryogenic Storage	Sealing components for ultra-low temperature sample preservation in liquid nitrogen environments.	Retains flexibility and sealing efficacy at -80°C and below.
Environmental Monitoring	Custom adapters for field sampling equipment used in the collection of hazardous wastewater or soil extracts.	Provides reliable, airtight seals in harsh outdoor and industrial field conditions.
Hydrothermal Synthesis	Liners and sealing caps for high-pressure and high-temperature autoclave systems.	Maintains dimensional stability and seal integrity under extreme pressure.
Petrochemical Testing	Heavy-duty adapters for transferring volatile fuels and high-temperature lubricants during quality control.	Withstands a wide range of oils, fuels, and thermal stressors.

Specification Category	Parameter Details for PL-CP221	Technical Metric / Value
Material Base	Primary Polymer Type	High-Purity PTFE / PFA
Customization Range	Dimensional Capability	Fully Customizable via CNC Fabrication
Thermal Performance	Minimum Service Temperature	-80°C
Thermal Performance	Maximum Service Temperature	+250°C / 500°F
Thermal Performance	Melting Point	Highest among fluoropolymers (per material class)
Pressure Rating	Maximum Operating Pressure	Up to 3.5 MPa (500 psi)

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Specification Category	**Parameter Details for PL-CP221**	**Technical Metric / Value**
Mechanical Properties	Surface Speed Tolerance	Up to 30 m/s
Mechanical Properties	Coefficient of Friction	Lowest among polymer sealing materials
Chemical Properties	Inertness Profile	Resistant to Acids, Bases, Solvents, and Oxidants
Chemical Properties	Water Absorption	Near-Zero / Hydrophobic
Dimensional Data	Specific Item Number	PL-CP221
Machining Precision	Tolerance Level	Precision CNC Machined to User Specifications
Maintenance	Cleaning Compatibility	Autoclavable, compatible with aggressive cleaning agents