

Custom Pfa Tubing 1/4 Inch High Purity Corrosion Resistant Fluoropolymer Tube With Welding And Machining Services

Item Number: PL-CP178



Introduction

Precision 1/4 inch PFA tubing offering universal chemical resistance and high transparency. Customizable through expert welding and mold opening, these corrosion-resistant tubes ensure reliable fluid transfer in semiconductor and pharmaceutical environments for demanding industrial applications.

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Application	Description	Key Benefit
Semiconductor Manufacturing	Delivery of ultra-pure water (UPW) and aggressive etching chemicals like HF in cleanroom environments.	Zero metallic contamination and chemical stability.
Pharmaceutical Processing	Transfer of active pharmaceutical ingredients (APIs) and solvents in sterile synthesis environments.	USP Class VI compliance and ease of sterilization.
Trace Metal Analysis	Used as sample lines in ICP-MS and ICP-OES instruments where sample purity is paramount.	Lowest levels of leachable ions and trace elements.
Chemical Pilot Plants	Temporary and permanent piping for testing new catalytic processes involving corrosive intermediates.	Rapid custom fabrication and leak-proof welding.
Battery Technology	Handling of volatile and corrosive electrolytes during the assembly and testing of lithium-ion cells.	Resistance to organic carbonates and lithium salts.
Environmental Monitoring	Continuous sampling of groundwater or industrial effluent containing unknown contaminants.	Long-term durability against environmental stress cracking.
Laboratory Fluidics	Bespoke connections for complex distillation or reflux apparatus requiring heat and chemical resistance.	Custom configurations and high-temperature tolerance.

Feature	Specification Detail (PL-CP178 Series)
Model Number	PL-CP178
Base Material	Virgin Ultra-High Purity PFA (Perfluoroalkoxy)
Standard Diameter	1/4 Inch (OD/ID variants available)
Customization Options	Fully Customizable Dimensions and Wall Thicknesses
Fabrication Services	Custom Mold Opening, Precision CNC Machining, IR/Butt Welding
Service Temperature	-200°C to +260°C (-328°F to +500°F)
Chemical Compatibility	Resistance to all common solvents, acids, and bases
Surface Finish	Ra ≤ 0.25 μm (Standard Ultra-Smooth Bore)
Compliance	FDA/USP Class VI Grade Material Available
Pressure Rating	Dependent on wall thickness and temperature (Customized to spec)
Visual Property	High Transparency / Translucent