

Ptfe Digestion Tubes Teflon Material Chemical Resistant Laboratory Vessels For Trace Metal Analysis

Item Number: PL-CP386



Introduction

High-performance PTFE digestion tubes designed for critical trace metal analysis. These chemical-resistant Teflon vessels offer exceptional thermal stability and ultra-low leaching backgrounds, ensuring sample integrity during aggressive acid digestion and high-pressure mineralizing processes for industrial laboratory applications.

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Application	Description	Key Benefit
Environmental Soil Analysis	Use of hydrofluoric acid to break down silicate structures in soil and sediment samples for heavy metal testing.	Resistance to HF prevents tube degradation and ensures sample purity.
Biological Matrix Mineralization	High-temperature digestion of tissues and plant materials using concentrated nitric acid and hydrogen peroxide.	Withstands high pressure and oxidative stress without leaching impurities.
Mining and Geochemistry	Digestion of ore samples and mineral concentrates for the quantification of precious and base metals.	Exceptional durability in harsh, high-throughput industrial laboratory environments.
Semiconductor Grade Testing	Ultra-trace analysis of high-purity chemicals and wafers where contamination must be kept at parts-per-trillion levels.	Ultra-low background signal ensures accurate detection of minute contaminants.
Food Safety Screening	Microwave digestion of food products to screen for toxic elements like lead, arsenic, and cadmium.	Prevents target element adsorption on walls, increasing recovery and reproducibility.
Petrochemical Analysis	Decomposition of complex hydrocarbons and oil samples for sulfur and metal content determination.	High thermal stability allows for the sustained heat required for heavy oil breakdown.

Feature	Specification Details (PL-CP386)
Material Construction	100% High-Purity Virgin PTFE (Polytetrafluoroethylene)
Chemical Resistance	Universal resistance (except molten alkali metals and certain fluorinated agents)
Operating Temperature	Fully customizable based on application requirements
Dimensional Tolerances	Precision CNC machined to customer-specified tolerances
Volume Capacity	Custom volumes available (from micro-scale to large-scale digestion)
Base Type	Flat, round, or conical bottoms available upon request
Closure System	Custom threaded caps, push-on plugs, or specialized microwave seals
Wall Thickness	Reinforced wall options available for high-pressure applications
Graduation Markings	Optional precision-machined or laser-etched volume markers