

PFA (Perfluoroalkoxy) Material Properties Data Sheet

Comprehensive Technical Data for PFA Fluoropolymer

Introduction

This technical data sheet provides comprehensive physical, mechanical, thermal, and electrical properties of PFA (Perfluoroalkoxy) fluoropolymer. PFA is a melt-processable fluoropolymer that combines the chemical inertness of PTFE with improved mechanical properties and the ability to be processed using conventional thermoplastic techniques.

Material Properties

Property	Typical Value
Density (g/cm ³)	2.13-2.17
Melting Point (°C)	305-315
Operating Temperature Range (°C)	-200 to +260
Tensile Strength (MPa)	20-28
Elongation at Break (%)	250-400
Flexural Modulus (GPa)	0.4-0.6
Dielectric Constant (@1MHz)	1.8-2.0
Dielectric Strength (kV/mm)	80-100
Volume Resistivity (Ω·cm)	>10 ¹⁸
Linear Coefficient of Thermal Expansion (10 ⁻⁴ /°C)	1.0-1.5
Thermal Conductivity (W/m·K)	0.20-0.25
Water Absorption (%)	<0.01

Key Characteristics

- Excellent chemical resistance to acids, bases, and solvents
- Melt-processable allowing complex shapes via injection molding
- Transparency in thin sections
- Low coefficient of friction
- Wide operating temperature range
- Excellent dielectric properties
- High purity suitable for semiconductor applications
- Non-flammable and self-extinguishing

Typical Applications

- Semiconductor manufacturing equipment
- Chemical processing components
- Analytical instrument parts
- Medical device components
- Electrical insulation applications
- Food and pharmaceutical processing equipment

(内容由 AI 生成, 仅供参考)