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PFA Detailed Properties (Perfluoroalkoxy)

The table below lists a generally accepted summary of properties that we believe to be reliable. Please note that many of these resins are produced in several varieties and property characteristics may vary. Therefore, determination of resin is dependent on the application and this table is only meant to serve as a general guideline.

Properties	ASTM or Unit	PFA
MECHANICAL PROPERTIES		
Specific Gravity	D792	2.15
Elongation %	D638	280~400
Tensile Strength (psi)	D638	4,000~4,500
Flexural Strength (psi)	D790	no break
Compressive Strength	D695	
Tensile Elastic Modulus (Young's Modulus) (psi)	D638	72,500~87,000
(psi)	D790	94,000~99,000
Flexural Modulus 103MPa (103kgf/cm ²)	D790	0.6-0.7 (6.6-7.0)
Flex Life (MIT cycles)	D2176	10,000~500,000
Hardness Durometer Shore D	D636	D55~60
Coefficient of Friction	on steel	0.2
Abrasion Resistance 1000 revs.	Taber	9~17
Impact Strength IZOD 73°F/23°C, notched ft/lbs/in	D256	no break
THERMAL PROPERTIES		
Melting Point	°C (°F)	305 (582)
Upper Service Temperature(20,000h)	°C (°F)	260 (500)
Flame Rating**	UL 94	V-0
Thermal Conductivity	BTU/hr/ft ² /deg F in	1.3
	cal/sec/cm ² ,°C/cm	6 x 10 ⁻⁶
Linear Coefficient of Thermal Expansion 10-5 °C	D696	13
Heat of Fusion	BTU/LB	13
Heat of Combustion	BTU/LB	2300
Low Temperature Embrittlement	°C (°F)	-268 (-450)
ELECTRICAL PROPERTIES		
Dielectric Constant	D150/103Hz	2.1
	D150/106Hz	2.1

Dielectric Strength 10 mil film	D149	>2000
Volume Resistivity ohm-cm	D257	>1018
Surface Resistivity ohm/sq.	D257	>1017
GENERAL PROPERTIES		
Chemical/Solvent Resistance	D543	Excellent
Water Absorption, 24h	%	<0.03
Deformation Under Load	*D621/100°C	2.4
	**D621/25°C	2.7
Refractive Index		1.34
Limiting Oxygen Index	>95	>95
Properties	ASTM or Unit	PFA
*6.8 MPa (986 psi),24h **13.7 MPa (1987 psi),24h		

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