



Technical properties: COATING

The COATING is a fluoropolymer resin.

Mechanical properties:

Property	ASTM Standard	Unit	Value
Specific gravity	D792		2,15
Tensile Strength	D1457, D1708, D638	MPa	25
		psi	3,600
Elongation	D1457, D1708, D638	%	300
Flexural modulus	D790	MPa	600
		psi	85,000
Folding endurance	D2176	(MIT) Cycles	10-500 x 10 ³
Impact strength	D256		No break
Hardness	D2240	Shore D	60
Static coefficient of friction	D1894		0,2
Contact angle water		Degree	104°-111°

Thermal properties:

Property	ASTM Standard	Unit	Value
Melting Point	D3418	°C	305
		°F	582
Cure temperature		°C	380-400
		°F	715-750
Max. continuous use temperature		°C	260
		°F	500
Max. intermittent use temperature		°C	290
		°F	550
Flame rating *	UL94		VO
Limiting oxygen index	D2863	%	>95
Heat of combustion	D240	MJ/kg	5,3
		Btu/lb	2,300
Thermal conductivity		Btu.in/h.ft ² .°F	1,3
		W/m.k	0,19

* Statements regarding behavior in a flame situation are not intended to reflect hazards presented by this or any other material when under actual fire conditions.

Chemical properties:

Property	ASTM Standard	Unit	Value
Chemical/solvent resistance	D543		Excellent
Water absorption, 24h	D570	%	<0,03
Weather resistance	Florida exposure	Years	10
		unaffected	

The COATING is not degraded by chemical systems commonly encountered in chemical processes.

The COATING is inert to:

- Strong mineral acids.
- Inorganic bases.
- Inorganic oxidizing agents.
- Salt solutions.

The COATING is inert to such organic compounds as:

- Organic acids.
- Anhydrides.
- Aromatics.
- Aliphatic hydrocarbons (some aliphatic hydrocarbons lower the elongation of the COATING).
- Alcohols.
- Aldehydes.
- Ketones.
- Ethers.
- Esters.
- Chlorocarbons.
- Fluorocarbons.
- Mixtures of the above compounds.

The COATING can be attacked by certain halogenated complexes containing fluorine. These include chlorine trifluoride, bromine trifluoride, iodine pentafluoride, and fluorine itself. The COATING is also attacked by such metals as sodium or potassium, especially in their molten states. Certain metal hydrides, such as boranes (B_2H_6), aluminum chloride ($AlCl_3$), and certain amines have also been observed to attack fluorocarbon resins at elevated temperatures.

Electrical properties:

Property	ASTM Standard	Unit	Value
Dielectric constant	D150	1MHz	2,1
Dielectric strength **	D149	V/ μ m	80
Dissipation factor	D150	1MHz	0,0001
Arc resistance	D495	Sec	>180
Volume resistivity	D257	ohm.cm	10^{18}
Surface resistivity	D257	ohm/sq	$>10^{18}$
Electrical resistivity	D257	Ohm-cm	$>10^{18}$

** 100 micrometers film. The PFA will lose dielectric strength in the presence of corona discharge.