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data sheet

PTFE**F1**

2% CSC (98% VIRGIN PTFE + 2% SPECIAL CONDUCTIVE FILLER)



PTFE Carbon Conductive Compound preferred for parts and components requiring very good mechanical properties.

This material offers an excellent combination of properties typical of the fluoropolymer resins:

- Service Temperature: offers excellent resistance to continuous service temperatures – working conditions from -100° C (-148°F) up to 250°C (482°F) and, for limited periods, even to higher temperatures; Product's low temperature resistance allows satisfactory performance down to -200°C (-328°F).
- Chemical resistance: offers high inertness towards nearly all known chemicals. Only attacked elemental alkali metals, chlorine trifluoride and elemental fluorine at high temperature and pressures might affect properties.
- Solvents resistance: offers insoluble properties in all solvents up to temperatures as high as 300° C (572° F). Certain highly fluorinated oils only swell and dissolve PTFE at temperatures close to the crystalline melting point.

PTFE Carbon Conductive Compound, unlike virgin PTFE, has an antistatic behaviour. The lower surface and volume resistivity prevents the accumulation of electric charge on the surface of the material.

Properties

- Very good mechanical properties
- Excellent chemical resistance.
- Exceptional temperature resistance
- Reduced friction & wear; Low friction behaviour
- High limiting oxygen index
- UV resistance
- Extremely non-adhesive
- Very good electrical conductivity
- High degree of hydrophobicity
- Antistatic

Main applications

PTFE Carbon Conductive Compound offers useful properties in various applications such as chemical resistance, thermal stability, cryogenic properties, low coefficient of friction, low surface energy and flame resistance.

These properties allow the application of PTFE Carbon Conductive Compound in several fields such as Chemical, Electrical and Electronic, Petrochemical, Automotive, Mechanical, Medical, Aeronautics, Semiconductor and Food industry.

PTFE Carbon Conductive Compound is ideal for the applications where static charges can become a problem and a hazard, e.g., in hydraulic transport of non-conductor fluids.

F1

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COLOR MATERIAL

Property	Method	Units	Specification	
Physical	Color	-	Black	
	Specific gravity	ASTM D792	g/cm ³	2,130 – 2,190
	Water absorption	ASTM D570	%	0,01
	Flamability	UL 94		V-0
Mechanical	Tensile strength	ASTM D4745	MPa	≥ 22
	Elongation	ASTM D4745	%	≥ 250
	Hardness	ASTM D2240	Shore D	≥ 54
	Ball Hardness	ASTM D785	MPa	≥ 23
	Compression strength at 1% deformation	ASTM D695	MPa	≥ 4
	Deformation under load (140 Kg/cm ² for 24 hrs. At 23° C)	ASTM D621	%	10 – 13
	Permanent deformation (after 24 hrs. Relaxation at 23° C)	ASTM D621	%	6 – 7,5
	Coefficient of static friction	ASTM D1894		0,08 – 0,10
	Coefficient of dynamic friction	ASTM D1894		0,06 – 0,08
	Wear factor K	ASTM D3702		2.900
Thermal	Wear coefficient	-	$\frac{\text{cm}^3 \text{ min } 10^{-8}}{\text{Kg m h}}$	2000-2500
	Thermal conductivity	ASTM C177	W/ m*K	0,34
Electrical	Coefficient of linear thermal expansion From 25 to 100 °C	ASTM D696	10 ⁻⁵ / °C	15 - 16
	Volume resistivity	ASTM D257	Ohm*cm	10 ⁴
	Surface resistivity	ASTM D257	Ohm	10 ³