20% GRAPHITE (80% VIRGIN PTFE+ 20% GRAPHITE)

COLOR MATERIAL

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

This material offers an excellent combination of properties Typical of the PTFE 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.

Graphite Compound enhances some characteristics of virgin PTFE such as wear, compression strength, deformation under load, cold creep, thermal conductivity and dimensional stability.

Properties

- Improved thermal dimensional stability
- Good chemical stability
- Improved deformation under load
- Good thermal conductivity
- Improved compression strength
- Improved surface hardness
- Low friction behaviour
- Limited wear rate
- Exceptional temperature resistance
- Improved sliding properties

Main applications

PTFE Graphite Compound offers excellent properties of high resistance to deformation, low coefficient of friction, good thermal and electrostatic dissipation in chemical, in automotive industries, in sealing application, in water application (one of the lowest wear rates in fresh water), in mechanical applications. High wear resistance, chemical resistance, lowest coefficient of friction, self-lubrication and good mechanical properties are suitable for the majority of dry and wet applications.
PTFE Graphite Compound is commonly used in dynamic high speed application thanks to his improved wear life against soft to medium hardness surface. Typical application in mechanical field for pumps, mixers, compressors, wear bands, in appliances, in automotive lip seals, slides and solenoid valves and where electrical insulation is not required.

Statement on suitability for contact with foodstuff

FDA Approved US Regulation

• Code of Federal regulation 21 CFR Ch.1; section 177.1550 Perfluorocarbon Resins of the Food and Drug Administration/US. EU Regulation

• EU 1935/2004 - 10/2011 on plastic materials and articles to come in contact with food. Is not suitable to be used in contact with acidic foodstuffs for which simulant B is used, according to EU Reg. 10/2011.

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Property		Method	Units	Specification
Physical	Color	-	-	Black
	Specific gravity	ASTM D792	g/cm ^{3}	2,12 – 2,18
	Water absorption	ASTM D570	%	0,05
	Flamability	UL 94		V-0
Mechanical	Tensile strength	ASTM D4745	MPa	≥ 14
	Elongation	ASTM D4745	%	≥ 140
	Hardness	ASTM D2240	Shore D	≥ 55
	Ball Hardness	ASTM D785	MPa	≥ 25
	Deformation under load (140 Kg/cm2 for 24 hrs. At 23° C)	ASTM D621	%	9,5 - 11
	Permanent deformation (after 24 hrs. Relaxation at 23° C)	ASTM D621	%	4,5 - 5,5
	Coefficient of static friction	ASTM D1894		0,12 – 0,14
	Coefficient of dynamic friction	ASTM D1894		0,09 – 0,11
	Wear coefficient	-	$\frac{cm^3 \text{ min } 10^{-8}}{Kg \text{ m h}}$	1800-2300
Thermal	Thermal conductivity	ASTM C177	W/ m*K	0,78
	Coefficient of linear thermal expansion From 25 to 100 °C	ASTM D696	10^{-5}/ °C	7 - 12
Electrical	Volume resistivity	ASTM D257	Ohm*cm	10^{7}
	Surface resistivity	ASTM D257	Ohm	10^{6}