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data sheet

PTFE

F1

## 20% PEEK (80% VIRGIN PTFE+ 20% PEEK)

COLOR

MATERIAL

PTFE PEEK 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 260°C (500°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.

### Main applications

PTFE PEEK Compound offers excellent properties in the chemical processing, in automotive industries, in sealing application and in mechanical applications in general for bushing, sliding supports, flanged and thrust bearings, piston rings and for slide ways for machine tools. High wear and abrasion resistance and good wear compression properties are suitable for the majority of dry bearing applications against soft counter-surfaces.

PTFE PEEK Compound is commonly used filler for dynamic seal applications where both rotating and alternating movements are involved, pneumatic, hydraulic and mechanical parts, valve seats, gaskets, pneumatic, compressors, appliances, insulators hydraulic and mechanical parts.

PTFE PEEK Compound has an higher temperature resistance of PTFE and is excellent for use with soft, dynamic mating surface. It has excellent physical properties and is chemically compatible with most chemicals. It is compatible with most commercially available natural lubricant for additional reduction in friction. PEEK filled compound are not recommended for application involving steam above 120°C

### Statement on suitability for contact with foodstuff

FDA Approved US Regulation

- Code of Federal regulation 21 CFR Ch.1; section177.1550 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.

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Property		Method	Units	Specification
Physical	Color	-	-	Brown Beige
	Specific gravity	ASTM D792	g/cm <sup>3</sup>	1,880– 1,930
	Water absorption	ASTM D570	%	0,02
	Flamability	UL 94		V-0
Mechanical	Tensile strength	ASTM D4745	MPa	≥ 13
	Elongation	ASTM D4745	%	≥ 35
	Hardness	ASTM D2240	Shore D	≥ 65
	Ball Hardness	ASTM D785	MPa	≥ 30
	Deformation under load (140 Kg/cm <sup>2</sup> for 24 hrs. At 23° C)	ASTM D621	%	7 – 9
	Permanent deformation (after 24 hrs. Relaxation at 23° C)	ASTM D621	%	5 – 7
	Coefficient of static friction	ASTM D1894		0,13 – 0,15
	Coefficient of dynamic friction	ASTM D1894		0,09 – 0,12
Thermal	Wear coefficient	-	$\frac{\text{cm}^3 \cdot \text{min}}{\text{Kg} \cdot \text{m} \cdot \text{h}} \cdot 10^{-8}$	(10000 - 15000)
	Thermal conductivity	ASTM C177	W/ m*K	0,25
Electrical	Coefficient of linear thermal expansion From 25 to 100 °C	ASTM D696	10 <sup>-5</sup> / °C	13-16
	Volume resistivity	ASTM D257	Ohm*cm	10 <sup>17</sup>
	Surface resistivity	ASTM D257	Ohm	10 <sup>16</sup>