Kepstan® 8001

PAEK ARKEMA

Product Texts

KEPSTAN® PEKK resin is a high performance thermoplastic material, based on PolyEtherKetoneKetone (PEKK) highly stable chemical backbone. Its semi crystalline structure in solid state offers an outstanding combination of mechanical and thermal strength together with chemical and fire resistance.

The 8000 Series offers the highest glass transition temperature and the highest degree of crystallinity, leading to the best tensile and compression strengths among the wide range of PEKK copolymers within the KEPSTAN® product range.

KEPSTAN® 8000 Series includes a low flow grade, KEPSTAN® 8001, and a medium flow grade, KEPSTAN® 8002, both unfilled pure PEKK resins designed to meet the requirements of a broad range of melt processing technologies, including among others extrusion of stock shapes, tubes, films, extrusion compression, compression molding, injection molding of thick or complex and thin-walled parts.

KEPSTAN® PEKK resin is available in pellet form and in powder form with different particle sizes.
Standard packaging includes 20 kg boxes for pellets and 10 kg boxes for powders.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**12**	cm³/10min	ISO 1133
Temperature	**380**	°C	-
Load	**5**	kg	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**3600**	MPa	ISO 527
Yield stress	**105**	MPa	ISO 527
Yield strain	**5.2**	%	ISO 527
Strain at break	**30**	%	ISO 527
Flexural modulus, 23°C	**3900**	MPa	ISO 178
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**7.5**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**6**	kJ/m²	ISO 179/1eA

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
Melting temperature, 10°C/min	**357**	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	**165**	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**162**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**242**	°C	ISO 75-1/-2
Burning behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**0.8**	mm	-
Oxygen index	**35**	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 1MHz	**2.6**	-	IEC 62631-2-1
Electric strength	**84**	kV/mm	IEC 60243-1
ASTM Data			
Surface Resistivity	**>1E15**	Ohm	ASTM D 257
Volume Resistivity	**>1E15**	Ohm*cm	ASTM D 257

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	**0.7**	%	Sim. to ISO 62
[C] Humidity absorption	**0.4**	%	Sim. to ISO 62
[C] Density	**1290**	kg/m³	ISO 1183

[C]: CAMPUS

Characteristics

Processing
Injection Molding, Film Extrusion, Pipe/Tube Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion, Blow Molding, Calandering, Thermoforming, Compression Molding

Delivery form
Pellets, Powder

Special Characteristics
Flame retardant

Chemical Resistance
General Chemical Resistance

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Other text information

Injection molding

Drying temperature and time: 150°C for 3 to 4 hours or 120°C for 6 to 8 hours

Processing temperature: 375 – 385°C

Temperature settings - Injection: Rear 350°C / Center 375°C / Front 375°C / Nozzle 385°C

Mold temperature (to facilitate filling of the cavity and polymer crystallization): 220 - 240°C

Temperature settings - Extrusion: Zones 1/2/3/4: 340°C/ 360°C/ 380°C/ 380°C Die: 370°C