Kepstan® 6003

PAEK — ARKEMA

Product Texts

KEPSTAN® PEKK resin is a high performance thermoplastic material, based on PolyEtherKetoneKetone (PEKK) highly stable chemical backbone. KEPSTAN® PEKK is a unique member of the PAEK family that incorporates distinctive structural features that allow for exceptional possibilities in the control of crystallinity. These features include a low Ether/Ketone ratio and a copolymer structure incorporating Terephtalic and Isophtalic moieties.

The 6000 Series represents the pseudo-amorphous products of the KEPSTAN® family, offering the lowest melting point and the slowest crystallization behavior, while keeping Tg close to 160°C. These properties allow for lower processing temperatures (as low as 320-330°C), and lead to glassy or semi crystalline structures, depending on processing technologies and cooling conditions.

KEPSTAN® 6000 Series includes a medium flow grade, KEPSTAN® 6002, and a high flow grade, KEPSTAN® 6003, both unfilled PEKK resins designed to meet the requirements of a broad range of processing technologies, including among others extrusion, calendering, thermoforming, injection molding, fiber impregnation, rotomolding, powder coating, bonding and welding.

KEPSTAN® PEKK resin is available in pellet form as well as 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			
Melt volume-flow rate, MVR	**70**	cm³/10min	ISO 1133
Temperature	**380**	°C	-
Load	**5**	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**2900**	MPa	ISO 527
Yield stress	**88**	MPa	ISO 527
Yield strain	**5.4**	%	ISO 527
Strain at break	**>50**	%	ISO 527
Flexural modulus, 23°C	**3000**	MPa	ISO 178
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**5**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**4.5**	kJ/m²	ISO 179/1eA

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
Melting temperature, 10°C/min	**302**	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	**160**	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**139**	°C	ISO 75-1/-2
Burning behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**0.8**	mm	-
[C] Oxygen index	**38**	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 1MHz	**3**	-	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	**1.07**	%	Sim. to ISO 62
[C] Humidity absorption	**0.44**	%	Sim. to ISO 62

[C] Density	**1270**	kg/m³	ISO 1183

[C]: CAMPUS

Characteristics

Processing
Injection Molding, Fiber Extrusion, Profile Extrusion, Other Extrusion, Coating, Calandering, Thermoforming, Rotational Molding

Delivery form
Pellets, Powder

Features
Amorphous

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

Other text information

Injection molding

Drying temperature and time: 120°C for 6 to 8 hours

Processing temperature: 320 – 360°C

Temperature settings - Injection: Rear 300°C / Center 315°C / Front 320°C / Nozzle 330°C

Mold temperature (below Tg in any case): 80 - 120°C

Temperature settings - Extrusion: Zones 1/2/3/4: 290°C/ 320°C/ 330°C/ 320°C Die: 320°C