

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.

Among the **KEPSTAN® family**, the 7000 Series benefits uniquely from PEKK crystalline capabilities while reducing significantly processing temperatures compared to the more crystalline 8000 Series. With a reduced melting temperature (® decreased by 25°C) and a Tg above 160°C, the KEPSTAN® 7000 Series resins are highly enabling in the field of continuous fiber composites for structural applications.

KEPSTAN® 7000 Series includes a medium flow grade, KEPSTAN® 7002, and a high flow grade, KEPSTAN® 7003, both unfilled PEKK resins designed to meet the requirements of a broad range of melt processing technologies, including among others extrusion, injection molding, fiber impregnation, consolidation and composite forming technologies.

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			
Melt volume-flow rate, MVR	35	cm ³ /10min	ISO 1133
Temperature	380	°C	-
Load	5	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	3800	MPa	ISO 527
Yield stress	110	MPa	ISO 527
Yield strain	5.2	%	ISO 527
Strain at break	20	%	ISO 527
Flexural modulus, 23°C	3900	MPa	ISO 178
^[C] Charpy impact strength, +23°C	62	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	41	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	4.5	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	4.5	kJ/m ²	ISO 179/1eA

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
Melting temperature, 10°C/min	331	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	162	°C	ISO 11357-1/-2
^[C] Temp. of deflection under load, 1.80 MPa	172	°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	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
^[C] 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	0.5	%	Sim. to ISO 62
^[C] Humidity absorption	0.1	%	Sim. to ISO 62
^[C] Density	1290	kg/m ³	ISO 1183

[C]: CAMPUS

Characteristics

Processing

Injection Molding, Fiber Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion, Transfer Molding, Thermoforming

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: 340 – 360°C

Temperature settings - Injection: Rear 320°C / Center 340°C / Front 350°C / Nozzle 360°C

Mold temperature (to facilitate filling of the cavity and polymer crystallization): 230 - 250°C

Temperature settings - Extrusion: Zones 1/2/3/4: 290°C/ 320°C/ 350°C/ 340°C Die: 340°C