

TECHNICAL DATA SHEET

KEPSTAN® 7001

POLYETHERKETONEKETONE PELLET OR FLAKE

KEPSTAN® 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 lower melting temperature and a Tg still above 160°C, the KEPSTAN® 7000 Series resins are very valued in all processes where a delayed or slower crystallization is key to ease thermoforming, to improve interlayer adhesion and to reduce internal stresses.

KEPSTAN® 7001 is a very low flow grade designed for extrusion processes requiring high viscosity resins. It is particularly suitable to make sheets by extrusion calendering; sheets can be produced in amorphous state up to a few mm in thickness. Appropriate thermoforming conditions allow deep draw forming and in-mold crystallization. KEPSTAN® 7001 is also suitable for other extrusion processes to make rods, pipes and various profiles.

TYPE

PEKK

MAIN APPLICATIONS

- Oil And Gas - Others
- Compounding

DELIVERY FORM

- Flakes
- Pellets

TRANSFORMATION PROCESSES

- Extrusion - General
- Injection Molding
- Thermoforming

RHEOLOGICAL PROPERTIES

PROPERTIES	VALUE	UNIT	TEST STANDARD
Melt volume flow rate (MVR), 380°C / 5 kg (716°F / 11 lb)	7	cm³/10min	ISO 1133

MECHANICAL PROPERTIES

PROPERTIES	VALUE	UNIT	TEST STANDARD
Tensile modulus, 23°C (73°F), 1 mm/min(A12)	3700	MPa	ISO 527-1/-2
Yield stress, 23°C (73°F), 25 mm/min(A12)	110	MPa	ISO 527-1/-2
Yield strain, 23°C (73°F), 25 mm/min(A12)	5.6	%	ISO 527-1/-2
Nominal strain at break(125°C (255°F) and above, 25mm/min, A12)	>100	%	ISO 527-1/-2
Yield stress, 125°C (255°F), 25 mm/min(A12)	61	MPa	ISO 527-1/-2
Compression modulus, 23°C (73°F), 1 mm/min	3700	MPa	ISO 604
Compression strength, 23°C (73°F)(5mm/min)	145	MPa	ISO 604
Flexural modulus, 23°C (73°F)	3800	MPa	ISO 178
Flexural strength, 23°C (73°F)	160	MPa	ISO 178
Charpy unnotched impact strength, 23°C (73°F)	62	kJ/m2	ISO 179 1eU
Charpy unnotched impact strength, -30°C (-22°F)	41	kJ/m2	ISO 179 1eU
Charpy notched impact strength, 23°C (73°F)	6	kJ/m2	ISO 179 1eA

KEPSTAN® 7001

PROPERTIES	VALUE	UNIT	TEST STANDARD
Charpy notched impact strength, -30°C (-22°F)	6	kJ/m2	ISO 179 1eA
Nominal strain at break, 23°C (73°F), 25 mm/min(A12)	>20	%	ISO 527-1/-2

THERMAL PROPERTIES

PROPERTIES	VALUE	UNIT	TEST STANDARD
Melting temperature, 20°C/min(DSC,2nd Heating)	325	°C	
Glass transition temperature, 20°C/min(DSC)	162	°C	
Specific heat temperature, 23°C (73°F)(DSC)	1.02	J/g/K	
Heat deflection temperature, 1.8 MPa	160	°C	ISO 75-1/-2
Coefficient of linear thermal expansion, from -100°C (-148°F) to Tg(DMA tension)	24	10E-6 / °K	
Coefficient of linear thermal expansion, Tg to 300°C (572°F)(DMA tension)	230	10E-6 / °K	
Oxygen index(3.2mm)	38	%	ISO 4589-1/-2

ELECTRICAL PROPERTIES

PROPERTIES	VALUE	UNIT	TEST STANDARD
Dielectric strength(100µm thickness)	84	kV/mm	IEC 60243-1
Relative permittivity, 23°C (73,4°F)(1MHz)	3		IEC 62631-2-1
Surface resistivity, 23°C (73,4°F)	100000000000000000	ohm/sq	ASTM D257
Volumic (transversal) resistivity, 23°C (73,4°F)	100000000000000000	ohm.cm	ASTM D257

OTHER PROPERTIES

PROPERTIES	VALUE	UNIT	TEST STANDARD
Moisture absorption, At equilibrium at 23°C (73°F) / 50%RH(2mm)	0.4	%	ISO 62
Moisture absorption, After 24h at 23°C (73°F)/50%RH(2mm)	0.05	%	ISO 62
Water absorption, 23°C (73°F), immersion, equilibrium(2mm)	0.7	%	ISO 62
Water absorption, 23°C (73°F)(After 24h, immersion, 2mm)	0.11	%	ISO 62
Apparent density, 23°C (73°F)	1.29	g/cm ³	ISO 1183-1

PACKAGING

Available packaging:

- 20 kg / 44 lb boxes

SHELF LIFE

Indefinite when stored properly (sealed bags, appropriate UV protection and temperature)

PROCESSING CONDITIONS:

- Typical melt temperature (Min / Recommended / Max) - Injection Molding:Rear 320°C / Center 340°C / Front 350°C / Nozzle 360°C (610°F / 645°F / 660°F / 680°F)
- Typical mold temperature - Injection molding:230-250°C (445-480°F), to facilitate skin & core cristallization
- Drying time and temperature:150°C (300°F) / 3-4 hours

KEPSTAN® 7001

SPECIAL CHARACTERISTICS

- Halogen Free Flame Retardant (HFFR)

Headquarters: Arkema France
51, Esplanade du Général de Gaulle
92800 Puteaux – France
T +33 (0)1 49 00 80 80

Disclaimer - Please consult Arkema's disclaimer regarding the use of Arkema's products on <https://www.arkema.com/global/en/products/product-safety/disclaimer/> which is incorporated herein by reference and made a part hereof.
Arkema France, a French société anonyme registered at the Trade and Companies Register of Nanterre under the number 319 632 790