

KetaSpire® KT-880

Polyetheretherketone
Solvay Specialty Polymers

PROSPECTOR®

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Technical Data

Product Description

KetaSpire® KT-880 is a high flow grade of unreinforced polyetheretherketone (PEEK) supplied in pellet form. KetaSpire® PEEK is produced to the highest industry standards and is characterized by a distinct combination of properties, which include excellent wear resistance, best-in-class fatigue resistance, ease of melt processing, high purity and excellent chemical resistance to organics, acids and bases.

These properties make it well-suited for applications in healthcare, transportation, electronics, chemical processing and other industrial uses. KetaSpire® KT-880 NT can be easily processed using typical injection molding processes. This resin is also available as KT-880P in a natural-color coarse powder form for compounding.

Pellets of KT-880 are supplied lightly dusted with the lubricant calcium stearate (0.01% level) to aid with pellet conveyance in plastication screws. The equivalent unlubricated natural color grade of high flow KetaSpire® is available as KT-880 NL.

- Black: KT-880 BK 95
- Natural: KT-880 NT

General

Material Status	• Commercial: Active
Literature ¹	• Technical Datasheet
UL Yellow Card ²	• E140728-100211983
Search for UL Yellow Card	• Solvay Specialty Polymers • KetaSpire®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Features	• Autoclave Sterilizable • Biocompatible • Chemical Resistant • Ductile • E-beam Sterilizable • Ethylene Oxide Sterilizable • Fatigue Resistant • Flame Retardant • Good Dimensional Stability • Good Impact Resistance • Good Sterilizability • Heat Sterilizable • High Flow • High Heat Resistance • Radiation (Gamma) Resistant • Radiation Sterilizable • Radiotranslucent • Steam Resistant • Steam Sterilizable
Uses	• Aircraft Applications • Connectors • Dental Applications • Electrical/Electronic Applications • Film • Hospital Goods • Industrial Applications • Medical Devices • Medical/Healthcare Applications • Oil/Gas Applications • Pump Parts • Seals • Surgical Instruments
Agency Ratings	• ISO 10993 • MIL P-46183 Type I • NSF STD-51 ³ • USP Class VI ⁴
RoHS Compliance	• RoHS Compliant
Appearance	• Black • Natural Color
Forms	• Pellets ⁵
Processing Method	• Extrusion Blow Molding • Fiber (Spinning) Extrusion • Film Extrusion • Injection Molding • Machining • Profile Extrusion • Thermoforming • Wire & Cable Extrusion
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403-1) • Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value Unit	Test Method
Density / Specific Gravity	1.30 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	36 g/10 min	ASTM D1238
Molding Shrinkage ⁷		ASTM D955
Flow	1.4 to 1.6 %	
Across Flow	1.5 to 1.7 %	
Water Absorption (24 hr)	0.10 %	ASTM D570



Mechanical	Nominal Value Unit	Test Method
Tensile Modulus		
-- ⁸	3700 MPa	ASTM D638
--	4000 MPa	ISO 527-2/1A/1
Tensile Stress		
Yield	102 MPa	ISO 527-2/1A/50
-- ⁹	100 MPa	ASTM D638
Tensile Elongation		
Yield ¹⁰	5.2 %	ASTM D638
Yield	5.0 %	ISO 527-2/1A/50
Break ¹⁰	10 to 20 %	ASTM D638
Break	10 to 20 %	ISO 527-2/1A/50
Flexural Modulus		
--	3800 MPa	ASTM D790
--	3900 MPa	ISO 178
Flexural Strength		
--	153 MPa	ASTM D790
--	134 MPa	ISO 178
Compressive Strength	123 MPa	ASTM D695
Shear Strength	95.1 MPa	ASTM D732
Poisson's Ratio	0.37	ASTM E132
Impact	Nominal Value Unit	Test Method
Notched Izod Impact		
--	53 J/m	ASTM D256
--	4.9 kJ/m ²	ISO 180
Unnotched Izod Impact	No Break	ASTM D4812 ISO 180
Hardness	Nominal Value Unit	Test Method
Rockwell Hardness (M-Scale)	102	ASTM D785
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		ASTM D648
1.8 MPa, Annealed	160 °C	
Glass Transition Temperature	147 °C	ASTM D3418
Peak Melting Temperature	343 °C	ASTM D3418
CLTE - Flow (-50 to 50°C)	5.0E-5 cm/cm/°C	ASTM E831
Specific Heat		DSC
50°C	1330 J/kg/°C	
200°C	1930 J/kg/°C	
Thermal Conductivity	0.25 W/m/K	ASTM E1530
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	> 1.9E+17 ohms	ASTM D257
Volume Resistivity	3.8E+17 ohms·cm	ASTM D257
Dielectric Strength (3.00 mm)	15 kV/mm	ASTM D149
Dielectric Constant		ASTM D150
60 Hz	3.10	
1 kHz	3.01	
1 MHz	3.07	
Dissipation Factor		ASTM D150
60 Hz	1.0E-3	
1 kHz	1.0E-3	
1 MHz	3.0E-3	
Flammability	Nominal Value Unit	Test Method
Flame Rating (> 3.0 mm, Natural)	V-0	UL 94

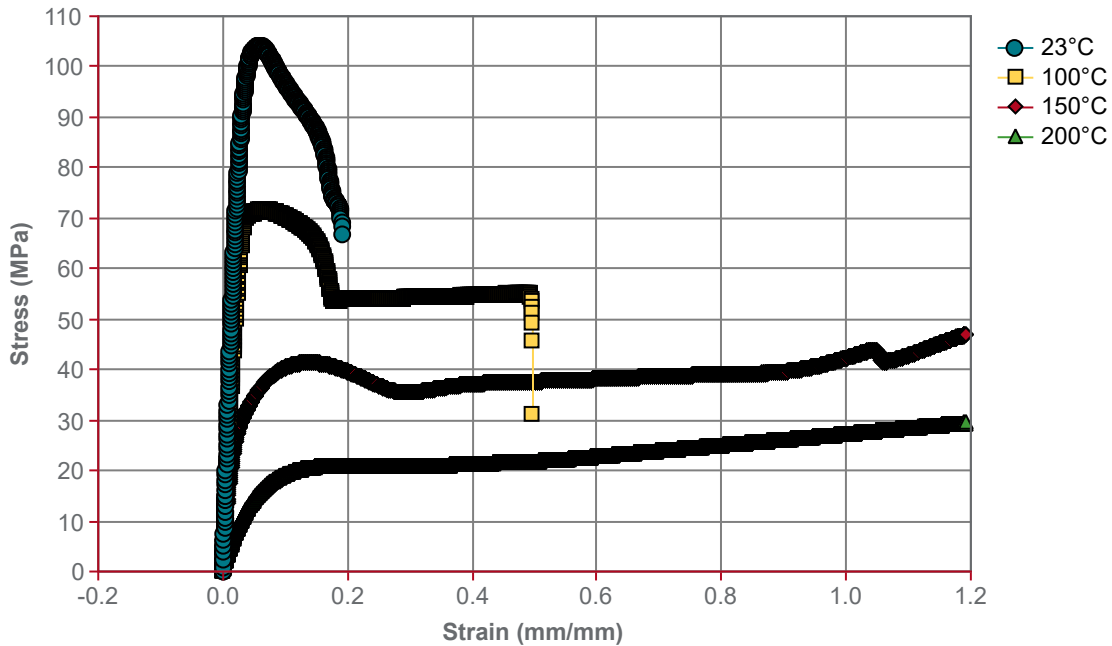


Fill Analysis	Nominal Value Unit	Test Method
Melt Viscosity (400°C, 1000 sec ⁻¹)	150 Pa·s	ASTM D3835

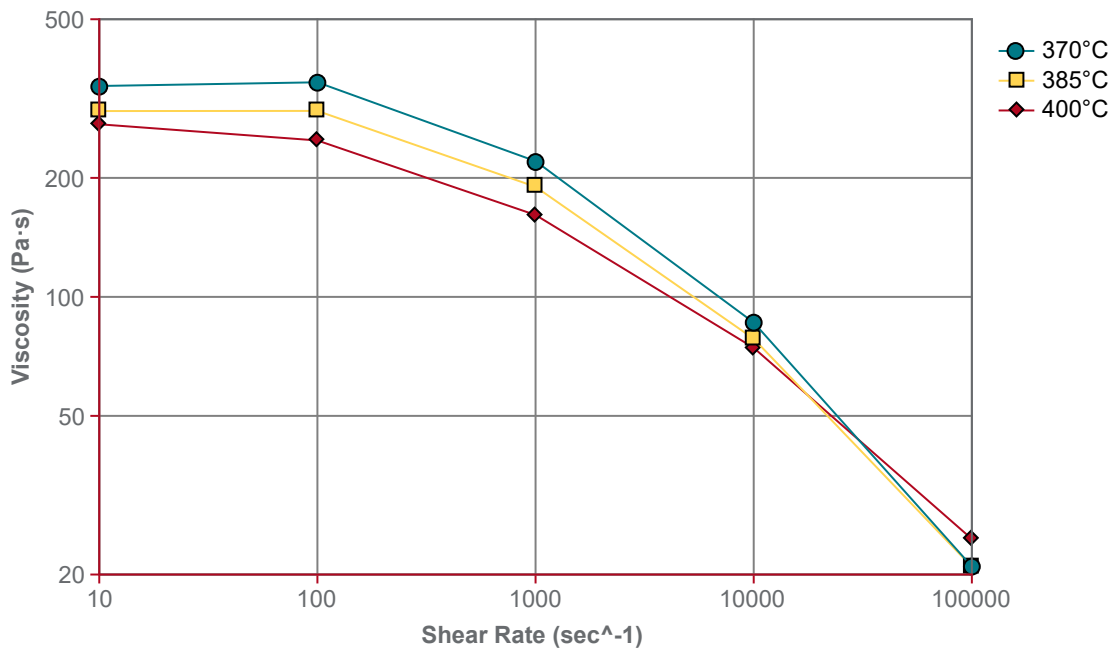
Injection	Nominal Value Unit
Drying Temperature	150 °C
Drying Time	4.0 hr
Rear Temperature	355 °C
Middle Temperature	365 °C
Front Temperature	370 °C
Nozzle Temperature	375 °C
Mold Temperature	175 to 205 °C
Injection Rate	Fast
Screw Compression Ratio	2.5:1.0 to 3.5:1.0



Isothermal Stress vs. Strain (ISO 11403-1)



Viscosity vs. Shear Rate (ISO 11403-2)



Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Only KT-880 NT has been NSF STD-51 certified.

⁴ KT-880 NT only

⁵ Pellets are supplied lightly dusted with the lubricant calcium stearate (0.01% level). For non-lubricated, natural color grade, order KT-880 NL.

⁶ Typical properties: these are not to be construed as specifications.

⁷ 5" x 0.5" x 0.125" (127 x 12.7 x 3.18mm)

⁸ 1.0 mm/min

⁹ 51 mm/min

¹⁰ 50 mm/min



Where to Buy

Supplier

Solvay Specialty Polymers

Alpharetta, GA USA

Telephone: 800-621-4557

Web: <https://www.solvay.com/en/chemical-categories/specialty-polymers>

Distributor

ALBIS Plastic

ALBIS Plastic is a global distribution and compounding company. Contact ALBIS Plastic for availability of individual products per country.

Telephone: +49-40-78105-0

Web: <http://www.albis.com/>

Availability: Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom

