

## Solvay Specialty Polymers KetaSpire® KT-880 GF30 Polyetheretherketone (PEEK) (Unverified Data\*\*)

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK) , Polyetheretherketone, PEEK, Glass Fiber Filled

### Material Notes:

KetaSpire KT-880 GF30 is the high-flow, 30% glass-fiber reinforced grade of polyetheretherketone (PEEK). This resin offers higher strength and stiffness properties relative to unreinforced KetaSpire PEEK resin. Reinforcement also affords greater mechanical robustness in structural applications, particularly those with service temperatures approaching 300°C. 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. - Beige: KT-880 GF30 BG 20 Information provided by Solvay Specialty Polymers.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Solvay-Specialty-Polymers-KetaSpire-KT-880-GF30-Polyetheretherketone-PEEK-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-KetaSpire-KT-880-GF30-Polyetheretherketone-PEEK-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.53 g/cc	1.53 g/cc	ASTM D792
Filler Content	30 %	30 %	Glass Fiber Reinforcement
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ASTM D570
Viscosity	350000 cP @Shear Rate 1000 1/s, Temperature 400 °C	350000 cP @Shear Rate 1000 1/s, Temperature 752 °F	Melt; ASTM D3835
Linear Mold Shrinkage, Flow	0.0010 - 0.0030 cm/cm @Thickness 3.18 mm	0.0010 - 0.0030 in/in @Thickness 0.125 in	5" x 0.5" x 0.125"; ASTM D955
Linear Mold Shrinkage, Transverse	0.013 - 0.015 cm/cm @Thickness 3.18 mm	0.013 - 0.015 in/in @Thickness 0.125 in	5" x 0.5" x 0.125"; ASTM D955
Melt Flow	14 g/10 min @Load 2.16 kg, Temperature 400 °C	14 g/10 min @Load 4.76 lb, Temperature 752 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	105	105	M-Scale; ASTM D785
Tensile Strength	162 MPa	23500 psi	ASTM D638
Tensile Strength, Yield	174 MPa	25200 psi	ISO 527-2/1A/5

Mechanical Properties	Metric	English	Comments
	2.8 %	2.8 %	ISO 527-2/1A/5
Tensile Modulus	10.8 GPa	1570 ksi	5.0 mm/min; ASTM D638
	11.2 GPa	1620 ksi	ISO 527-2/1A/1
Flexural Strength	239 MPa	34700 psi	ISO 178
	260 MPa	37700 psi	ASTM D790
Flexural Modulus	10.5 GPa	1520 ksi	ASTM D790
	10.6 GPa	1540 ksi	ISO 178
Compressive Strength	183 MPa	26500 psi	ASTM D695
Shear Strength	94.4 MPa	13700 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
	8.50 J/cm	15.9 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	11.0 kJ/m <sup>2</sup>	5.23 ft-lb/in <sup>2</sup>	ISO 180
Izod Impact, Unnotched (ISO)	62.0 kJ/m <sup>2</sup>	29.5 ft-lb/in <sup>2</sup>	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	19.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	10.6 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	TMA; ASTM E831
	@Temperature -50.0 - 50.0 $^{\circ}\text{C}$	@Temperature -58.0 - 122 $^{\circ}\text{F}$	
Specific Heat Capacity	1.28 J/g- $^{\circ}\text{C}$	0.306 BTU/lb- $^{\circ}\text{F}$	DSC
	@Temperature 50.0 $^{\circ}\text{C}$	@Temperature 122 $^{\circ}\text{F}$	
Thermal Conductivity	1.70 J/g- $^{\circ}\text{C}$	0.406 BTU/lb- $^{\circ}\text{F}$	DSC
	@Temperature 200 $^{\circ}\text{C}$	@Temperature 392 $^{\circ}\text{F}$	
Melting Point	343 $^{\circ}\text{C}$	649 $^{\circ}\text{F}$	Peak; ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	315 $^{\circ}\text{C}$	599 $^{\circ}\text{F}$	Annealed; ASTM D648
Glass Transition Temp, Tg	147 $^{\circ}\text{C}$	297 $^{\circ}\text{F}$	ASTM D3418
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 0.800 mm	@Thickness 0.0315 in	

Thermal Properties	V-0 Metric	V-0 English	Comments
	@Thickness 1.60 mm	@Thickness 0.0630 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	3.80e+17 ohm-cm	3.80e+17 ohm-cm	ASTM D257
Surface Resistance	>= 1.90e+17 ohm	>= 1.90e+17 ohm	ASTM D257
Dielectric Constant	3.49	3.49	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.53	3.53	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	3.53	3.53	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	16.0 kV/mm	406 kV/in	ASTM D149
	@Thickness 3.00 mm	@Thickness 0.118 in	
Dissipation Factor	0.0020	0.0020	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0020	0.0020	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	0.0040	0.0040	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	365 °C	689 °F	
Middle Barrel Temperature	371 °C	700 °F	
Front Barrel Temperature	377 °C	711 °F	
Nozzle Temperature	382 °C	720 °F	
Mold Temperature	177 - 204 °C	351 - 399 °F	
Drying Temperature	150 °C	302 °F	
Dry Time	4.00 hour	4.00 hour	

<b>Descriptive Properties</b>	<b>Value</b>	<b>Comments</b>
<b>Agency Ratings</b>	ISO 10993	
	ISO 10993-Part 1	
<b>Appearance</b>	Light Beige	
<b>Availability</b>	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
<b>Features</b>	Autoclave Sterilizable	
	Biocompatible	
	E-beam Sterilizable	
	Ethylene Oxide Sterilizable	
	Fatigue Resistant	
	Flame Retardant	
	Good Chemical Resistance	
	Good Dimensional Stability	
	Good Sterilizability	
	Heat Sterilizable	
	High Flow	
	High Heat Resistance	
	High Stiffness	
	High Strength	
	Radiation (Gamma) Resistant	
	Radiation Sterilizable	
	Radiotranslucent	
	Steam Resistant	
	Steam Sterilizable	

Descriptive Properties	Value	Comments
Generic	PEEK	
Injection Rate	Fast	
Processing Method	Injection Molding	
	Machining	
	Profile Extrusion	
RoHS Compliance	RoHS Compliant	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	
Uses	Aircraft Applications	
	Connectors	
	Dental Applications	
	Electrical/Electronic Applications	
	Film	
	Hospital Goods	
	Industrial Applications	
	Medical Appliances	
	Medical/Healthcare Applications	
	Oil/Gas Applications	
	Pump Parts	
	Seals	
	Surgical Instruments	

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