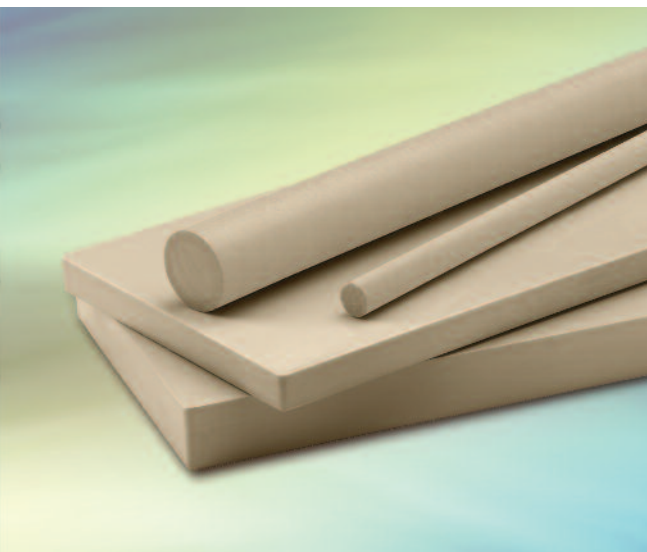


# PIPER PLASTICS, INC.

Engineering • Machining • Distribution  
**Plastics and Metals**

## Kyron™ 1000 High Performance PEEK



Kyron 1000, an unfilled PEEK polymer that is produced by Piper Plastics' proprietary process, that results in maximum mechanical performance. It has a good balance of strength and toughness and exceptional chemical and heat resistance.

### PRODUCT BENEFITS

- **Balanced Mechanical Performance**

Kyron 1000 is produced by a proprietary process that results in mechanical performance having the highest combination of strength, stiffness, and toughness for an unfilled polymer.

- **High Purity and Contamination Control**

Kyron 1000 is inherently pure with exceptionally low levels of ionic extractables, outgassing, and particle generation. It is ideal for semiconductor and microelectronic cleanroom environments. It is also suitable for sterilization for medical and food contact applications.

- **Elevated Temperature Performance**

Kyron 1000 offers excellent long term retention of mechanical properties at elevated temperatures with a higher relative temperature index (RTI) than most high performance plastics.

- **Exceptional Chemical Resistance**

Kyron 1000 is chemically resistant and is insoluble in common solvents including acids, oils, and salts, even in concentration at elevated temperatures.

- **Hydrolysis Resistance**

Kyron 1000 has low moisture absorption, is not chemically attacked by water or pressurized steam, and retains a high level of mechanical properties when continuously conditioned in water at elevated temperatures and pressures

- **Guaranteed Performance**

Mechanical testing is performed on every lot and batch produced. Piper Plastics' proprietary annealing process minimizes residual stresses.

## Kyron™ 1000 High Performance PEEK

### TYPICAL PROPERTIES

MECHANICAL	Units		Method	Kyron 1000	
	ENGLISH	METRIC		ENGLISH	METRIC
Tensile Strength	psi	MPa	D 638	15,700	108
Tensile Elongation	%	%	D 638	50	50
Tensile Modulus	psi	MPa	D 638	620,000	4275
Flexural Strength	psi	MPa	D 790	25,000	172
Flexural Modulus	psi	MPa	D 790	600,000	4137
Compressive Strength	psi	MPa	D 695	23,000	159
Hardness (Rockwell, R)			D 785	125	125
Izod Impact Strength – notched	ft-lb/in	J/m	D 256	1.50	80
	ft-lb/in	J/m	D 256	no break	no break
<b>THERMAL</b>					
Melting Point	°F	°C	DSC	649	343
Glass Transition Temperature (T <sub>g</sub> )	°F	°C	DSC	289	143
Continuous Use Temperature (RTI)	°F	°C	UL 746B	500	260
Heat Deflection Temperature @ 264 psi (1.82 MPa)	°F	°C	D 648	320	160
Coefficient of Linear Thermal Expansion	10 <sup>-5</sup> /°F	10 <sup>-5</sup> /°C	D 696	2.60	4.68
Thermal Conductivity	Btu in/hr ft <sup>2</sup> °F	W/mK	C 177	1.73	5.68
<b>PHYSICAL</b>					
Specific Gravity			D 792	1.30	1.30
Water Absorption 24h, @ 73°F (23°C)	%	%	D 570	0.50	0.50

[www.piperplastics.com](http://www.piperplastics.com)

Engineering & Design • Polymer Development • Precision Machining • Injection Molding • Distribution  
ISO 9001 • ISO 13485

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