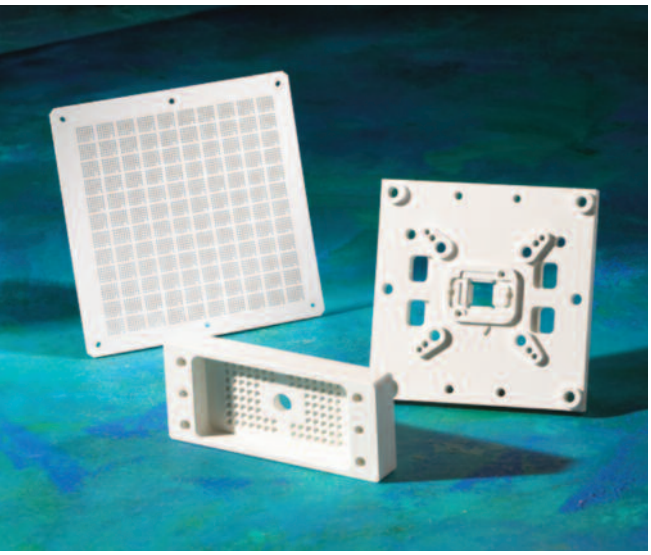
PIPER PLASTICS, INC.

Engineering • Machining • Distribution
Plastics and Metals

Kyron™ 2204
High Performance Ceramic PEEK



An excellent balance of properties including outstanding dimensional stability, ductility, low moisture absorption, and good strength. It is ideal for tight tolerance, intricate machined components, is resistant to heat and aggressive chemicals, and is available in white and gray.

PRODUCT BENEFITS

- **Unrivaled Dimensional Stability**
  Kyron 2204 polymer composites offer excellent dimensional stability from -40°F (-40°C) to 500+°F (260+°C) for applications having extreme tight tolerance requirements (± 0.001 inch).
- **Outstanding Thermal Stability**
  Kyron 2204 maintains consistent mechanical properties and performance across a broad temperature range and remains unaffected from exposure to repeated thermal cycling.
- **High Strength and Stiffness**
  Kyron 2204 materials have a tensile strength and flexural modulus more than double that of other high performance unfilled polymers while also having lower residual stress levels than conventional glass and carbon filled materials.
- **Low Moisture Absorption**
  Kyron 2204 is specifically formulated to resist water absorption resulting in virtually no dimensional change or mechanical performance even in saturated conditions.
- **Exceptional Chemical Resistance**
  Kyron 2204 polymer compounds have excellent resistance to solvents, and concentrated organic and inorganic chemicals, even at elevated temperatures.
- **High Purity**
  Kyron 2204 polymers are proven and accepted in challenging applications where the highest standards of purity and cleanliness are a must. Unlike conventional filled polymers that often lead to ionic contamination, Kyron 2204 assures uncompromising performance.

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TYPICAL PROPERTIES

MECHANICAL	Units ENGLISH	Units METRIC	Method	Kyron 2204 ENGLISH	Kyron 2204 METRIC
Tensile Strength	psi	MPa	D 638	15,500	107
Tensile Elongation	%	%	D 638	21	21
Tensile Modulus	psi	MPa	D 638	720,000	4964
Flexural Strength	psi	MPa	D 790	26,500	183
Flexural Modulus	psi	MPa	D 790	750,000	5171
Compressive Strength	psi	MPa	D 695	18,000	124
Hardness (Rockwell, R)			D 785	125	125
Izod Impact Strength – notched	ft-lb/in	J/m	D 256	1.00	53
– unnotched	ft-lb/in	J/m	D 256	no break	no break
ELECTRICAL					
Dielectric Strength, S/T, in oil	VPM	$kVmm^{-1}$	D 149	400	16
Dielectric Constant,	MHz	MHz	D 150	1, dry 3.5	1, dry 3.5
Dissipation Factor,	MHz	MHz	D 150	1, dry <0.0050	1, dry <0.0050
Volume/Surface Resistivity	Ω sq	Ω sq	EOS S11.11	1.0×10^{14}	1.0×10^{14}
THERMAL					
Melting Point	°F	°C	DSC	649	343
Glass Transition Temperature (T_g)	°F	°C	DSC	289	143
Continuous Use Temperature (RTI)	°F	°C	UL 746B	464	240
Heat Deflection Temperature @ 264 psi (1.82 MPa)	°F	°C	D 648	599	315
Coefficient of Linear Thermal Expansion	10^{-5}/°F	10^{-5}/°C	E 831	2.00	3.60
Thermal Conductivity	Btu in/hr ft^2 °F	W/mK	C 177	2.40	0.35
PHYSICAL					
Specific Gravity			D 792	1.51	1.51
Water Absorption 24h, @ 73°F (23°C)	%	%	D 570	0.37	0.37
Color				white or gray	

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

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