



Property

Test Method

Techtron® HPV **Ketron® HPV**

Mechanical	Specific Gravity @ 73°F	ASTM D792	1.43	1.44
	Tensile Strength, psi	ASTM D638	10,900	11,000
	Tensile Modulus, psi	ASTM D638	540,000	850,000
	Elongation, at break, %	ASTM D638	5	2
	Flexural Strength, psi	ASTM D790	10,500	27,500
	Flexural Modulus of Elasticity, psi	ASTM D790	535,000	1,100,000
	Compressive Strength, psi @ 10% deformation	ASTM D695	15,500	26,700
	Compressive Modulus, psi	ASTM D695	342,000	1,000,000
	Hardness, Rockwell	ASTM D785	M84	M85
	Notched Izod Impact (1/8"), ft.-lb./in. of notch	ASTM D256	1.4	.7
Thermal	Surface Resistivity, ohms/sq.	EOS/ESD S11.11	>10 ¹³	<10 ⁴
	Melting Point, °F	ASTM D3418	536	644
	Deflection Temp., °F at 264 psi	ASTM D648	240	383
	Coefficient of Linear Thermal Expansion (in./in./°F), -40°F to +300°F	ASTM E831	3.3 X 10 ⁻⁵	1.7 X 10 ⁻⁵
	Continuous Use Temperature, °F ⁽¹⁾	-	430	482
Other	Water Absorption, %, 24 hrs. @ 73°F	ASTM D570	.01	.05
	Water Absorption, %, Saturation @ 73°F ⁽²⁾	ASTM D570	.09	.30
Tribological	Coefficient of Friction – Static	QEPP 55007	.25	.16
	Coefficient of Friction – Dynamic	QEPP 55007	.20	.21
	Limiting PV (4:1 Safety Factor Applied) – ft. -lbs. ft./in. ² min	QEPP 55007	8,750	20,000
	K-Factor - in. ³ - min/ft. lbs. hr.	QEPP 55010	62	100

(1) Data represent Quadrant's estimated maximum long-term service temperature based on practical field experience.
 (2) Specimens 1/8" thick x 2" dia. or square.

Property data shown are typical average values and will vary on specific production lots and by size and configuration of product. Where no value is listed, sufficient details are not available to present a usable figure. All statements, technical information and recommendations contained in this publication are presented in good faith, based upon tests believed to be reliable and practical field experience. The reader is cautioned, however, that Quadrant Engineering Plastic Products cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine the suitability of Quadrant products in any given application.

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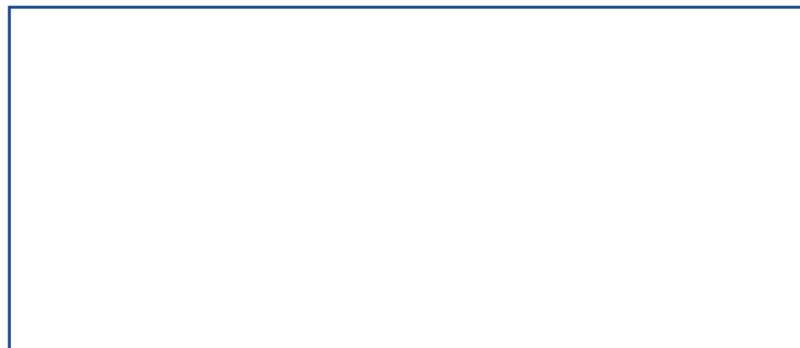
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QUADRANT

Extreme Materials Techtron® HPV and Ketron® HPV



- Unmatched chemical and wear resistance at 200° – 350° F
- High dimensional stability for precise tolerances

New alternatives to improve performance and cost in precision machined parts



QUADRANT

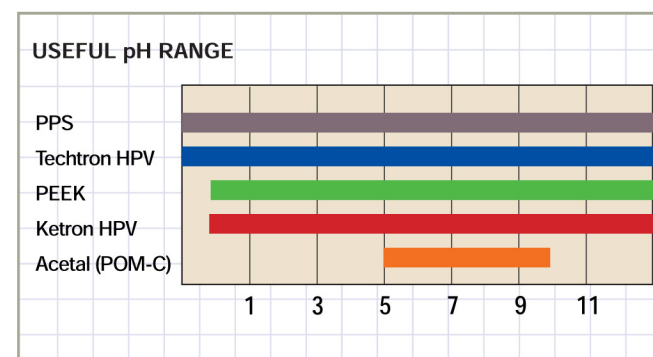
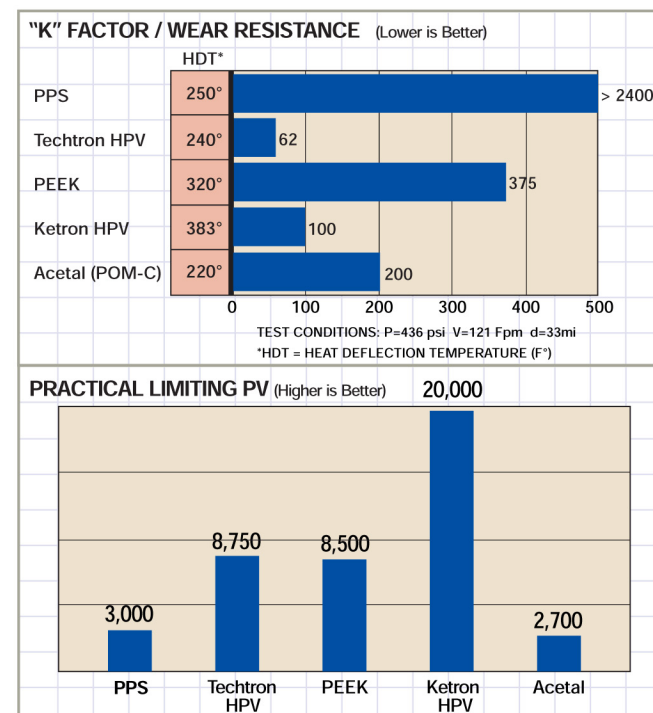
You inspire ... we materialize®

Quadrant's New Extreme Materials Techtron® HPV PPS - Ketron® HPV PEEK

An improved balance of performance and cost for severe service machined components.

Limited choices – high costs

Many engineering plastics work well in applications at 200° F to 350° F. But if you need either chemical resistance or bearing and wear performance in combination with high temperature resistance, the field has always been narrow. And if you need all of these properties, you had very few choices. This narrow range could limit you to materials beyond your targets on performance – and cost.



New alternatives – new opportunities

New Ketron HPV and Techtron HPV extend your high performance materials choices. Compare and consider your opportunity for improved performance and cost.

Compare: Temperature resistance and bearing wear properties

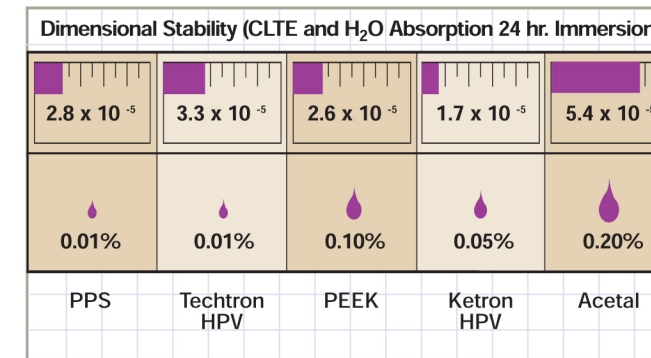
Ketron HPV and Techtron HPV enhance wear resistance, which means you can now extend service life of parts – and the production life of equipment.

Engineering note:
• Quadrant publishes PV values with a 4x safety factor for integrity during unexpected temperature and load excursions.

Compare: Chemical resistance

Techtron HPV and Ketron HPV, like standard PEEK and PPS, provide the broadest chemical resistance in engineering plastics. They also outperform virtually all other plastics in hydrocarbon based solvents.

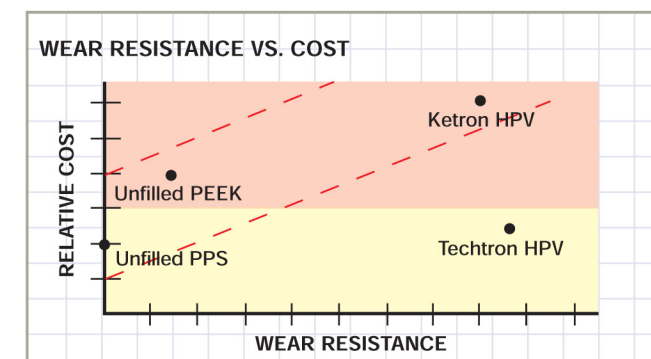
Engineering note:
• Complete chemical resistance data are available upon request. Quadrant recommends the user test specific variables of chemicals, stress and temperature to ensure part performance.



Compare: Dimensional stability

This balance of properties affords dimensional stability in a variety of application conditions and makes Techtron and Ketron HPV ideal for precision parts.

The ultimate engineering challenge: Materials that do it all – within the engineering budget



Compare: Relative cost of performance

Consider the opportunity to improve cost with Techtron HPV for applications below 250° F. Or, improve wear life of standard PEEK parts with new Ketron HPV PEEK for a better balance of performance and cost.

Technical support and quality systems that ensure consistency.

Application and production support when and where you need it. Quadrant's technical support team works with engineers and machinists from material selection through machining, for optimum performance, productivity and cost.

Quadrant locations around the world offer an experienced technical team and the most comprehensive testing laboratories in the industry. You can count on reliable support at every phase of your project:

- Evaluation of performance needs and application environment
- Material selection – including selection software
- Material certifications
- Regulatory agency compliance
- Set-up and production recommendations from experienced machinists
- A wide range of material selection, design and fabrication guides and tools – all available on the Quadrant Engineering Plastic Products web site, www.quadrantplastics.com

From full lot traceability to ISO certifications, Quadrant meets your requirements for consistent quality, performance and machinability. As the first to line mark shapes materials, Quadrant set the standard for traceability on our products right back to the resin lot and production shift. We have also kept pace with industry standards and quality systems to comply with the needs of the industries that your company also serves. Count on Quadrant. It is the inspiration behind our drive to provide the best levels of support for our materials in your applications.