

# Techtron® HPV PPS

**Other material names HPV PPS:** POLYPHENYLENE SULPHIDE

**Material group:** Special plastics

PPS (polyphenylene sulfide) products offer the broadest resistance to chemicals of any advanced engineering plastic. They have no known solvents below 200°C and offer inertness to steam, strong bases, fuels and acids. Minimal moisture absorption and a very low coefficient of linear thermal expansion make these PPS products ideally suited for precise tolerance machined components. In addition, PPS products exhibit excellent electrical characteristics and are inherently flame retardant.

Color Dark blue

## Typical applications:

- Components used in high pressure liquid chromatography
- Socket assemblies extensively machined from PPS plate are used during high power / high speed testing of semiconductor packages
- Retaining rings used to retain wafers in chemical-mechanical polishing equipment

## The material is used in:

Electrotechnical industry  
Automobile industry  
Chemical industry  
Engineering industry

## Features:

- Excellent chemical resistance
- Essentially zero moisture absorption
- Machines to tight tolerances
- Excellent alternative to PEEK at lower temperatures

**Material availability:** Material in stock at the manufacturer  
Material properties table

<b>Specific weight</b>	1.42 g/cm <sup>3</sup>
<b>Tensile strength</b>	78 N/mm <sup>2</sup>
<b>Allowable mean pressure deformation 1%</b>	33.00 N/mm <sup>2</sup>
<b>Allowable mean pressure deformation 2%</b>	65.00 N/mm <sup>2</sup>
<b>Allowable mean pressure deformation 5%</b>	105.00 N/mm <sup>2</sup>
<b>Tensile modulus</b>	4 000 N/mm <sup>2</sup>
<b>Impact toughness</b>	25
<b>Notched toughness</b>	>4 kJ/m <sup>2</sup>
<b>Ball hardness</b>	160 N/mm <sup>2</sup>
<b>Friction coefficient</b>	0.12
<b>Antistatic material</b>	No
<b>Permittivity</b>	3.30
<b>Electrical strength</b>	24 kV/mm
<b>Specific internal resistance</b>	10 <sup>14</sup> Ω
<b>Specific surface resistance</b>	10 <sup>13</sup> Ω.cm
<b>Melting point</b>	280 °C
<b>Thermal expansion</b>	6 10 <sup>-5</sup> /K
<b>Thermal conductivity</b>	0.30 W/(K.m)

<b>Permanent use temperature</b>	-20 ; 220 °C
<b>Transient temperature of use</b>	-30 ; 260 °C
<b>Absorbability</b>	0,2 %
<b>Water absorption</b>	0,05 %
<b>Resistance - oils</b>	resistant
<b>Acid resistance</b>	resistant
<b>Durability - alcali</b>	resistant
<b>Food contact</b>	No

Engineering plastics are supplied in the form of bars, plates, strips, tubes and sheets. From the semi-finished products the company TechPlasty has regularly in stock, we also supply blanks.

All standard and special materials are designed to meet your specific requirements. Their mechanical, thermal, and electrical properties and chemical resistance satisfy the most demanding requirements and this allows them to work even in the most difficult conditions. If you need advice when choosing the appropriate material for your application, please contact us. We'll gladly advise you. You can utilize the long-term experience of our technical advisors free-of- charge, who can visit you right in your operation and solve your requirements for engineering plastics directly at the site of their usage.

**TechPlasty, s.r.o.**

Kysucká 7/A  
010 01 Žilina  
Slovakia

