



# Polystyrene (PS)

## Alternative Designations

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## Key Features

Transparent • Hard • Brittle • Suitable for household items

## Description

Polystyrene (PS) is a synthetic polymer made from the monomer styrene. This is a transparent, amorphous thermoplastic. It is hard, brittle, rigid and resistant to gamma radiation. It has good electrical properties and is easy to mold. Its tensile strength is about 16 MPa. However, it has poor resistance to chemicals and UV light. Its transparent nature makes it suitable for a variety of household items, toys, containers etc.

## Mechanical Properties

Tensile modulus	1500 MPa
Tensile strength	16 MPa
Elongation at break	35 %
Flexural strength	39 MPa
Flexural modulus	2.9 GPa
Hardness (Shore D)	80

## Thermal Properties

Melting temperature (20°C/min)	270°C
Heat deflection temperature (1.80 MPa)	108°C
Softening temperature	90°C

## Physical Properties

Density	1.05 g/cm <sup>3</sup>
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## Reference

Datasheets provided by Xometry contain materials sourced through trusted OEMs, material distributors, and databases. Please visit [Materialdatacenter.com](https://Materialdatacenter.com) for further information on this material.