

# Polyvinyl chloride (PVC)

## Details

This is the third most synthesized thermoplastic material. It is resistant to weathering, chemicals, corrosion and shock. It has good resistance to abrasion and good insulation properties. Furthermore, it is tough, lightweight and fire retardant. It is commonly used for pipes, window frames, bottles, electrical distribution boxes etc.

## Key Features

Resistant to weathering, chemicals, corrosion and shock

## Thermal Properties

Property	Value
Heat deflection [°C]	92
Glass transition temperature [°C]	70
Vicat softening temperature [°C]	83
Coefficient of thermal expansion [K <sup>-1</sup> · 10 <sup>-6</sup> ]	80
Thermal conductivity [W/m · K]	0.16
Specific heat capacity [J/kg · K]	1700
Melting point [°C]	100

## Mechanical Properties

Property	Value
Tensile strength [MPa]	55
Modulus of elasticity [GPa]	3.1
Flexural strength [MPa]	73.1

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Flexural modulus [GPa]	4.5
Hardness	82
Elongation at break [%]	3

## Physical Properties

Property	Value
Density [g/cm <sup>3</sup> ]	1.47
Water Absorption [%]	0.2
Electrical Resistivity [ohm-cm]	$15 \times 10^{15}$

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