



ZÜMRÜT INTERNATIONAL KİMYA SAN. VE TİC.LTD

## Technical data sheet of Polyvinyl Chloride (PVC)

Property	Description	Typical Values
Chemical Identification	Polyvinyl Chloride (PVC)	Formula: $(C_2H_3Cl)_n$
Appearance	White, odorless solid (pellets, powder, sheets)	—
Density	—	1.3–1.45 g/cm <sup>3</sup>
Melting Temperature	Temperature at which PVC softens	100–260°C
Tensile Strength	Measure of resistance to pulling force	30–60 MPa
Flexural Strength	Bending resistance	50–120 MPa
Impact Strength	Resistance to sudden force (varies by grade)	Low to High
Young's Modulus	Elastic modulus for rigidity	2000–3500 MPa
Hardness	Resistance to indentation	Shore D 75–80
Elongation at Break	Deformation before breaking	20–50%
Compressive Strength	Resistance under compression	60–70 MPa
Glass Transition Temperature	Point at which PVC becomes brittle	75–80°C
Thermal Conductivity	Heat conduction capacity	0.14–0.28 W/m·K
Coefficient of Thermal Expansion	Degree of expansion with heat	50–80 x 10 <sup>-6</sup> /K
Flammability	Tendency to burn or support combustion	Self-extinguishing, LOI: 45–49%
Decomposition Temperature	Temperature where harmful gases may form	Above 140°C
Dielectric Strength	Insulation quality under electric stress	10–40 kV/mm
Dielectric Constant	Electrical insulation measure	3.0–4.0
Volume Resistivity	Resistance to electrical flow	10 <sup>14</sup> –10 <sup>16</sup> Ω·cm
Surface Resistivity	Resistance to surface electrical flow	10 <sup>13</sup> –10 <sup>16</sup> Ω
Moisture Absorption	Tendency to absorb water	<0.1%

Polyvinyl Chloride (PVC) is a widely-used synthetic plastic polymer known for its durability, versatility, and affordability. It is produced through the polymerization of vinyl chloride and can be manufactured into both rigid and flexible forms. PVC's properties—such as high resistance to environmental degradation, chemicals, and moisture—make it an ideal material for various applications across industries.

### Application PVC :

Construction: Pipes, window frames, siding

Medical: IV bags, tubing

Electronics: Cable insulation

Automotive: Dashboards, seals

Packaging: Blister packs, shrink wraps



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