



## Material Datasheet — PVC (Polyvinyl chloride, rigid)

Rigid PVC offers good stiffness, chemical resistance, and self-extinguishing behaviour with excellent electrical insulation.

### Physical Properties

| Property                       | Unit            | Value |
|--------------------------------|-----------------|-------|
| Density                        | $\text{g/cm}^3$ | 1.42  |
| Water absorption (24 h, 23 °C) | %               | 0.04  |

### Mechanical Properties

| Property                        | Unit | Value |
|---------------------------------|------|-------|
| Tensile strength (yield, 23 °C) | MPa  | 55    |
| Tensile modulus                 | MPa  | 3000  |
| Elongation at break             | %    | 20    |
| Flexural strength               | MPa  | 90    |



## Thermal Properties

| Property                       | Unit    | Value |
|--------------------------------|---------|-------|
| Continuous service temperature | °C      | 60    |
| Softening temperature (Vicat)  | °C      | 92    |
| Thermal conductivity           | W/(m·K) | 0.16  |

## Electrical Properties

| Property                      | Unit  | Value |
|-------------------------------|-------|-------|
| Dielectric strength           | kV/mm | 30    |
| Relative permittivity (1 MHz) | —     | 3.2   |
| Dissipation factor (1 MHz)    | —     | 0.03  |

## Flammability & Environmental

| Property                 | Unit | Value                                                                        |
|--------------------------|------|------------------------------------------------------------------------------|
| Flammability (UL 94)     | —    | V-0                                                                          |
| Chemical resistance      | —    | Good resistance to many acids and bases; limited vs aromatic/ketone solvents |
| UV/weathering resistance | —    | Moderate; stabilised grades recommended for outdoor use                      |