

# PC1000 - machine grade polycarbonate

**Other material names PC1000:**

**Material group:** Polycarbonate

PC 1000 machine grade polycarbonate (PC) is a transparent amorphous thermoplastic which offers very high impact strength and high modulus of elasticity. The material has a 145°C heat deflection temperature at 264 psi, absorbs very little moisture and resists acidic solutions. These properties, in addition to good electrical characteristics, make PC 1000 machine grade polycarbonate stock shapes an excellent choice for electrical/electronic applications. Its strength, impact resistance and transparency also make it an ideal material for certain transparent structural applications such as sight glasses and windows.

PC 1000 machine grade polycarbonate is stress relieved making it ideal for close tolerance machined parts. Our stock shapes are produced from polycarbonate resins which meet the requirements of ASTM D 3935.

A food grade polycarbonate that is compliant with FDA and Canada AG regulations is available upon request. A glass fiber reinforced polycarbonate grade is available upon request.

## Typical applications:

- Manifolds
- Parts used on processing lines offer chemical resistance and minimal expansion rates
- Medical Equipment Components

## The material is used in:

Beverage industry  
Automobile industry

## Features:

- Excellent impact resistance, toughness and elongation properties elasticity
- Transparent
- Good dielectric properties
- Economical thermal performance

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

|   |                         |
|---|-------------------------|
| <b>Specific weight</b>                        | 1.20 g/cm <sup>3</sup>  |
| <b>Yield strength</b>                         | 70 N/mm <sup>2</sup>    |
| <b>Allowable mean pressure deformation 1%</b> | 18.00 N/mm <sup>2</sup> |
| <b>Allowable mean pressure deformation 2%</b> | 35.00 N/mm <sup>2</sup> |
| <b>Allowable mean pressure deformation 5%</b> | 72.00 N/mm <sup>2</sup> |
| <b>Tensibility</b>                            | 50 %                    |
| <b>Tensile modulus</b>                        | 2 400 N/mm <sup>2</sup> |
| <b>Impact toughness</b>                       | bez zlomu               |
| <b>Notched toughness</b>                      | >60 kJ/m <sup>2</sup>   |
| <b>Ball hardness</b>                          | 120 N/mm <sup>2</sup>   |
| <b>Friction coefficient</b>                   | 0.50                    |
| <b>Sliding wear</b>                           | 22.00 um/km             |
| <b>Antistatic material</b>                    | No                      |
| <b>Permittivity</b>                           | 3.00                    |
| <b>Electrical strength</b>                    | 28 kV/mm                |
| <b>Specific internal resistance</b>           | 10 <sup>15</sup> Ω      |
| <b>Specific surface resistance</b>            | 10 <sup>15</sup> Ω.cm   |

|                                     |                       |
|-------------------------------------|-----------------------|
| <b>Thermal expansion</b>            | 7 10 <sup>-5</sup> /K |
| <b>Thermal conductivity</b>         | 0.21 W/(K.m)          |
| <b>Permanent use temperature</b>    | -50 ; 115 °C          |
| <b>Transient temperature of use</b> | -60 ; 125 °C          |
| <b>Absorbability</b>                | 0,15 %                |
| <b>Water absorption</b>             | 0,35 %                |
| <b>Resistance - oils</b>            | podmienečne odolný    |
| <b>Food contact</b>                 | No                    |

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

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