

POLIESTIRENO

Brief characteristic:

High impact polystyrene (HIPS) with high mechanical properties and good frost resistance. This material has a good heat resistance and an improved stress cracking resistance.

Mechanical properties

Yield strength	ISO 527	MPa	16
Elongation at yield	ISO 527	%	3
Tensile strength at break	ISO 527	MPa	16
Elongation at break	ISO 527	%	> 35
Modulus in flexure	EN ISO 178	MPa	1500
Flexural stress at conventional deflection	DIN 53452	N/mm ²	39
Impact strength at 23°C	EN ISO 179/1eU	kJ/m ²	≥ 40
Impact strength at -30°C	EN ISO 179/1eU	kJ/m ²	30
Impact strength notched at 23°C	EN ISO 179/1eA	kJ/m ²	≥ 7
Impact strength notched at -30°C	EN ISO 179/1eA	kJ/m ²	5
Ball Indentation hardness (H 358/30)	EN ISO 2039-1	N/mm ²	80

Thermal properties

Vicat softening point VST B 50	ISO 306	°C	90
ISO/R75 process A	ISO 75	°C	78
ISO/R75 process B	ISO 75	°C	89
Continuous working temperature		°C	~ 70
Thermal coefficient of linear expansion	ISO 7991	10 ⁻⁵ /K	8-10
Thermal conductivity	ISO 8302	W/Km	0,17
Specific heat		kJ/kgK	1,2

Electrical properties

Dielectric constant (at 10 ⁶ Hz)	IEC 250		2,5
Dielectric dissipation factor	IEC 250	10 ⁻⁴	4
Specific volume resistivity	DIN EN 61340-5-1	Ω cm	> 10 ¹⁶
Surface resistivity	DIN EN 61340-5-1	Ω	> 10 ¹³
Dielectric strength	VDE 0303	kV/mm	155

Other properties

Shrinkage		%	0,4 – 0,7
Water absorption, till saturation	ISO 62	%	< 0,1
Density (nature)	ISO 1183	g/cm ³	1,05