

High impact Polystyrol (HIPS)

General

Basically, HIPS behaves very similarly to ABS. This is because HIPS is made from the same base polymer as ABS.

HIPS is a very widespread plastic in various applications worldwide. HIPS is particularly popular in the packaging industry.

In the area of 3D printing, the material can be used directly as building material or as support material. Finished parts can, for example, ideally be painted with acrylic varnishes.

If HIPS is used as support material for overhangs, a second nozzle package is required. After printing a combination of e.g. ABS and HIPS as support material or PLA and HIPS as support material, the unfinished construct can be placed in D-limonene or orange terpetene solvent. After a few hours, only the finished part made of ABS, PLA or whatever is left. The HIPS filament dissolves without residue. We recommend using HIPS nature, otherwise there may be paint residues on the good part. The solvents D-limonene and orange terpetene are only slightly harmful to the environment and are often used in light cleaners. This filament meets the composition requirements of the European Regulation No. 10/2011 on plastic materials for food contact.

advantageous

- high impact strength up to temperatures of -40 °C
- odorless and tasteless
- Good electrical insulation properties
- Soluble in many solvents

disadvantageous

- Bad weather and UV resistance (not suitable for outdoor use)
- Extremely flammable

Processing data

Printing temperature

210-260 °C

Heated bed temperature

70-100 °C

Drying temperature

75 °C

Drying time

2 h

Technical specifications

Shrinkage	-	%
MFR (ISO 1133)	12	g/10min
Yield stress (ISO 527-2/5)	16	MPa
Elongation at yield (ISO 527-2/5)	1.5	%
Elongation at break (ISO 527-2/5)	50	%
Tensile modulus (ISO 178)	2000	MPa
Heat deflection temperature 0.45 MPa (ISO 75-2/B)	88	°C
Vicat softening temperature A (ISO 306/A120)	96	°C
Thermal conductivity 23°C	-	W/(K*m)
Flammability (UL 94)	HB	
Density (ISO 1183)	1.05	g/cm ³