

HIPS (High Impact Polystyrene)

HIPS is a low cost plastic material that is easy to machine and fabricate. HIPS is often specified for low strength structural applications when impact resistance, machinability, and low cost are required. It is frequently used machining pre-production prototypes since it has excellent dimensional stability and is easy to fabricate, paint and glue. Natural (translucent white) HIPS is FDA compliant for use in food processing applications. The following physical property information is based on typical values of the base high impact polystyrene resin.

Advantages of HIPS:

- Good impact resistance
- Excellent machinability
- Good dimensional stability
- Excellent aesthetic qualities
- Easy to paint and glue
- Low cost
- FDA compliant

Applications Include:

- Machined prototypes
- Low-strength structural components
- Housings
- Covers

Property	ASTM Test Method	Units	HIPS
Physical			
Specific Gravity	D792	—	1.04
Mechanical			
Flexural Modulus	D790	psi	277,000
Flexural Strength @yield	D790	psi	6,200
Hardness-Rockwell	D785	—	R95, L60
Gardener Impact @73°F	D3029	in-lb	160
Izod Impact Strength Notched @73°F	D256	ft-lb/in	2.1
Notched @0°F	D256	ft-lb/in	1.2
Tensile Elongation @break	D638	%	52.0
Tensile Modulus	D638	psi	239,000
Tensile Strength @break @yield	D638 D638	psi psi	3,500 2,800
Thermal			
Coefficient of Thermal Expansion	D696	in/in/°F	5.0 x 10 ⁻⁵
Flammability Rating—UL94 @.058"	—	—	HB
Heat Deflection Temperature @66 psi	D648	°F	189
@264 psi	D648	°F	165

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.