

ACRYLITE® H12 polymer

Product Profile:

ACRYLITE® H12 acrylic polymer is an amorphous thermoplastic molding and extrusion compound based on polymethyl methacrylate (PMMA).

Typical properties of ACRYLITE® acrylic polymers are:

- excellent weather resistance
- high light transmission
- high mechanical strength
- high surface hardness and mar resistance
- good melt flow rate
- versatile colorability due to crystal clarity

The special properties of ACRYLITE H12 polymer are:

- medium heat resistance
- medium melt flow rate
- UV light transmitting
- Low levels of lubricant

Application:

Used for injection molding and extrusion of optical and technical parts.

Examples:

Extruded rods, tubes and profiles, light guides, pipes, cutting boards, medical and electronic instrument lenses, medical analysis devices and point-of-purchase displays.

Processing:

ACRYLITE H12 polymer can be processed in injection molding machines and extrusion lines with 3-zone general purpose screws.

Packaging:

Available in 1500 lb. gaylord boxes; other packaging available on request.

Properties:

	Parameter	Unit	ASTM-Standard	ACRYLITE® H12 polymer
Mechanical Properties				Typical Value
Tensile Strength		psi [MPa]	D 638	9500 [65.5]
Tensile Modulus		x10 ⁶ psi [GPa]	D 638	0.47 [3.2]
Tensile Elongation @ Yield		%	D 638	4 - 6
Tensile Elongation @ Break		%	D 638	4 - 6
Flexural Strength		psi [MPa]	D 790	17000 [117.2]
Flexural Modulus		x10 ⁶ psi [GPa]	D 790	0.49 [3.4]
Notched Izod	¼" bar @23°C	ft-lb/in [J/m]	D 256	0.36 [19]
Rockwell Hardness		M Scale	D 785	94
Thermal Properties				
Vicat Softening Point	264 psi	°F [°C]	D 1525	221 [105]
Deflection Temperature, Annealed	1.8MPa, 0.250"	°F [°C]	D 648	201 [95]
Coeff. of Linear Therm. Expansion	32 - 312°F	in/ in/°F	D 696	0.00004
Coeff. of Linear Therm. Expansion	0 - 100°C	mm/mm/°C	D 696	0.000072
Rheological Properties				
Melt Flow Rate	230°C & 3.8 kg	g/10min	D 1238	7.0
Optical Properties				d = 3.2 mm
Light Transmission		%	D 1003	92
Haze		%	D 1003	<1
Yellowness Index			D 1925	<1
Other Properties				
Specific Gravity			D 792	1.19
Water Absorption		% Max	D 570	0.3
Mold Shrinkage		in/in, mm/mm	D 955	0.004 - 0.006
Bulk Density		g/cc	D 1895	0.66

All listed technical data are typical values intended for your guidance. They are given without obligation and do not constitute a materials specification.

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