

## Product Information

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### ACRYLITE® H12 acrylic 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
<b>Mechanical Properties</b>				Typical Value
Tensile Strength		psi [MPa]	D 638	9500 [65.5]
Tensile Modulus		x10 <sup>6</sup> 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 <sup>6</sup> 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
<b>Thermal Properties</b>				
Vicat Softening Point		°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
<b>Rheological Properties</b>				
Melt Flow Rate	230°C & 3.8 kg	g/10min	D 1238	7.0
<b>Optical Properties</b>				d = 3.2 mm
Light Transmission		%	D 1003	92
Haze		%	D 1003	<1
Yellowness Index			D 1925	<1
<b>Other Properties</b>				
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
<b>Recommended processing conditions</b>				
Predrying Temperature		°F [°C]		170 [77]
Predrying Time		hour		3 – 4
Melt Temperature		°F [°C]		430 – 480 [221 – 250]
Cylinder Temperature		°F [°C]		430 – 480 [221 – 250]
Mold Temperature		°F [°C]		90 – 175 [32 – 80]

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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