

ACRYLITE[®] MD[™] H12 polymer

Product Profile:

ACRYLITE[®] MD[™] H12 acrylic polymer is an amorphous thermoplastic molding compound based on polymethyl methacrylate (PMMA) for the medical diagnostic industry.

Typical properties of ACRYLITE[®] MD[™] acrylic polymers are:

- exceptional ultra-violet light transmittance (UVT)
- exceptional optical clarity
- good dimensional stability for controlled fluid flow

The special properties of ACRYLITE[®] MD[™] H12 polymer are:

- medium heat resistance
- medium melt flow rate
- UV light transmitting
- Lubricant free

Application:

Used for injection molding of medical devices requiring UV spectroscopy for fluid evaluation.

Examples:

Diagnostic test packs, microfluidics and crystallography trays.

Processing:

ACRYLITE[®] MD[™] 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.

Regulatory and compliance requirements:

Meets requirements of the United States Pharmacopeia Class VI in colorless (000) only; ISO 10993-1 in colorless (000) only and FDA for food contact for all use conditions up to and including hot filled or pasteurized above 150 degrees F (e.g. Condition 21 CFR 176.170) for all food types except those containing more than 8% alcohol.

Properties:

	Parameter	Unit	ASTM-Standard	ACRYLITE® MD™ 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
UV Transmittance	340 nm	%	D 1003	min. 87.7
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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Evonik Cyro LLC 379 Interpace Parkway, Parsippany, NJ 07054 USA
 Phone: 800-631-5384 Email: cyro.polymer@evonik.com www.acrylite-polymers.com
 Technical Support: visit the TechKnowledge Center at cyro.custhelp.com

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