Product Information

ACRYLITE® MD™ L40 polymer

Product Profile:

ACRYLITE® MD™ L40 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™ L40 polymer are:
- highest melt flow rate
- UV light transmitting
- low heat resistance
- medium levels of lubricant

Application:

Used for injection molded thin-wall medical devices requiring UV spectroscopy for fluid evaluation.

Examples:

Medical diagnostic parts including cuvettes, test packs and rotors.

Processing:

ACRYLITE® MD™ L40 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™ L40 polymer
Mechanical Properties				Typical Value
Tensile Strength		psi [MPa]	D 638	8800 [60.7]
Tensile Modulus		x10⁶ psi [GPa]	D 638	0.47 [3.2]
Tensile Elongation @ Yield		%	D 638	2 – 4
Tensile Elongation @ Break		%	D 638	2 – 4
Flexural Strength		psi [MPa]	D 790	14200 [97.9]
Flexural Modulus		x10⁶ psi [GPa]	D 790	0.44 [3.0]
Notched Izod	¼" bar @23°C	ft-lb/in [J/m]	D 256	0.36 [19]
Rockwell Hardness		M Scale	D 785	84
Thermal Properties				
Vicat Softening Point	264 psi	°F [°C]	D 1525	180 [82]
Deflection Temperature, Annealed	1.8MPa, 0.250"	°F [°C]	D 648	165 [74]
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	26.0
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	0.003 – 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.