Product Information

ACRYLITE PLUS® ZD23 impact light diffusing acrylic polymer

Product Profile:

ACRYLITE PLUS® ZD23 impact light diffusion acrylic polymer is an amorphous, impact-modified thermoplastic molding and extrusion compound based on polymethyl methacrylate (PMMA).

Typical properties of ACRYLITE PLUS® impact acrylic polymers are:
- high weather resistance
- high light transmission
- improved resistance to stress cracking
- good melt flow rate
- easy to color

The special properties of ACRYLITE PLUS ZD23 polymer are:
- high impact/break resistance and strength
- medium melt flow rate
- high heat resistance
- FDA food contact uses

Application:

Used for injection molded parts.

Examples:

Injection molded light covers requiring filament hiding capabilities, fountain pens, appliance housings, appliance lenses and housewares.

Processing:

ACRYLITE PLUS ZD23 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 PLUS® ZD23 polymer
Mechanical Properties				Typical Value
Tensile Strength		psi [MPa]	D 638	6400 [44.1]
Tensile Modulus		x10⁶ psi [GPa]	D 638	0.25 [1.7]
Tensile Elongation @ Yield		%	D 638	4
Tensile Elongation @ Break		%	D 638	20
Flexural Strength		psi [MPa]	D 790	10000 [69.0]
Flexural Modulus		x10⁶ psi [GPa]	D 790	0.26 [1.8]
Notched Izod	¼" bar @23°C	ft-lb/in [J/m]	D 256	1.0 [52.5]
Notched Izod	¼" bar @0°C	ft-lb/in [J/m]	D 256	0.5 [26.3]
Rockwell Hardness		M Scale	D 785	44
Thermal Properties				
Vicat Softening Point		°F [°C]	D 1525	226 [108]
Deflection Temperature, Annealed	1.8MPa, 0.250"	°F [°C]	D 648	185 [85]
Coeff. of Linear Therm. Expansion	32 - 312°F	in/ in/°F	D 696	0.00005
Coeff. of Linear Therm. Expansion	0 - 100°C	mm/mm/°C	D 696	0.00009
Rheological Properties				
Melt Flow Rate	230°C & 3.8 kg	g/10min	D 1238	3.1
Optical Properties	d = 3.2 mm			
Light Transmission		%	D 1003	85
Haze		%	D 1003	96
Yellowness Index			D 1925	5.5
Other Properties				
Specific Gravity			D 792	1.15
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	0.71
Recommended processing conditions				
Predrying Temperature		°F [°C]		180 [82]
Predrying Time		hour		3 - 4
Melt Temperature		°F [°C]		450 - 480 [232 - 250]
Cylinder Temperature		°F [°C]		450 - 480 [232 - 250]
Mold Temperature		°F [°C]		110 - 180 [49 - 82]

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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