

Product Information

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CYROLITE® GS-90 acrylic-based multipolymer

Product Profile:

CYROLITE GS-90 compound is an impact-modified acrylic-based multipolymer for molding and extrusion of medical applications.

Typical properties of CYROLITE® acrylic-based multipolymer compounds are:

- excellent chemical resistance to fats and oils
- excellent bonding and welding capabilities
- excellent bonding to PVC tubing
- good impact strength
- good light transmission
- good resistance to EtO, gamma and E-beam sterilization

The special properties of CYROLITE GS-90 compound are:

- superior gamma sterilization color stability
- excellent melt flow rate
- very good transmission and clarity

Application:

Used for injection molding and extrusion of medical devices, medical packaging, as well as toys and appliance parts.

Examples:

Y-Sites, luer locks, check valves and drip chambers.

Processing:

CYROLITE GS-90 compound 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 001 tint only; ISO 10993-1 in 001 tint 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	CYROLITE® GS-90 compound
Mechanical Properties				Typical Value
Tensile Strength		psi [MPa]	D 638	6300 [43.4]
Tensile Modulus		x10 ⁶ psi [GPa]	D 638	0.43 [3.0]
Tensile Elongation @ Yield		%	D 638	3.6
Tensile Elongation @ Break		%	D 638	6.7
Flexural Strength		psi [MPa]	D 790	10800 [74.5]
Flexural Modulus		x10 ⁶ psi [GPa]	D 790	0.33 [2.3]
Notched Izod	¼" bar @23°C	ft-lb/in [J/m]	D 256	2.0 [107]
Notched Izod	¼" bar @0°C	ft-lb/in [J/m]	D 256	0.8 [43]
Rockwell Hardness		M Scale	D 785	30
Thermal Properties				
Vicat Softening Point		°F [°C]	D 1525	210 [99]
Deflection Temperature, Annealed	1.8MPa, 0.250"	°F [°C]	D 648	163 [73]
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	0.000095
Rheological Properties				
Melt Flow Rate	230°C & 5.0 kg	g/10min	D 1238	6.5
Optical Properties				d = 3.2 mm
Light Transmission		%	D 1003	89
Haze		%	D 1003	3.0
Yellowness Index			Cyro TM	-0.3
Other Properties				
Specific Gravity			D 792	1.11
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	0.65
Recommended processing conditions				
Predrying Temperature		°F [°C]		160 [71]
Predrying Time		hour		3 – 4
Melt Temperature		°F [°C]		410 – 450 [210 – 232]
Mold Temperature		°F [°C]		120 – 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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Ref. No.: 3508-1008-ACCESSDB v0160-A Date: 11/07/2008

