

PRODUCT INFORMATION

CYROLITE® MDzk6

Product Profile:

CYROLITE® MD zk6 acrylic polymer is an amorphous, impact modified thermoplastic injection molding and extrusion compound based on polymethyl methacrylate (PMMA) for the medical industry.

Typical properties of CYROLITE® MD zk6 acrylic polymers are:

- High light transmission with little haze
- 3 times the impact resistance of unmodified acrylics
- Excellent dimensional stability
- Excellent bonding to PVC tubing
- Can be thermal bonded, ultrasonic and laser welded
- Improved tensile elongation

The special Properties of CYROLITE® MD zk6 polymer are:

- High impact/ break resistance and strength
- Medium heat resistance
- Lower melt flow rate applications

Application:

Used for injection molding of medical devices and diagnostics industries.

Examples:

Cassettes, Test Packs, Filter Housings, Lenses, Microfluidics, Guard Clips, Luers, Luer Locks, Tube Connectors, IV Catheter Hubs, Y Sites.

Processing:

CYROLITE® MD zk6 polymer can be processed in injection molding machines and extrusion lines with 3-zone general purpose screws.

Physical Form / 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; ISO 10993-1 in 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® MD zk6 Typical Value |
|-----------------------------------|----------------|----------------------------|---------------|--------------------------------------|
| Mechanical Properties | | | | |
| Tensile Strength | | psi [MPa] | D 638 | 6300 [43.4] |
| Tensile Modulus | | x10 ⁶ psi [GPa] | D 638 | 0.22 [1.5] |
| Tensile Elongation @ Yield | | % | D 638 | 5 |
| Tensile Elongation @ Break | | % | D 638 | 55 |
| Flexural Strength | | psi [MPa] | D 790 | 8600 [59.3] |
| Flexural Modulus | | x10 ⁶ psi [GPa] | D 790 | 0.22 [1.5] |
| Notched Izod | ¼" bar @ 23°C | ft-lb/in [J/m] | D 256 | 1.1 [58.1] |
| Notched Izod | ¼" bar @ 0°C | ft-lb/in [J/m] | D 256 | 0.70 [36.8] |
| Rockwell Hardness | | M Scale | D 785 | 40 |
| Thermal Properties | | | | |
| Vicat Softening Point | 264 psi | °F [°C] | D 1525 | 201 [94] |
| Deflection Temperature, Annealed | 1.8MPa, 0.250" | °F [°C] | D 648 | 194 [90] |
| 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 | 1.7 |
| Optical Properties | | | | |
| | d = 3.2 mm | | | |
| Light Transmission | | % | D 1003 | 91.5 |
| Haze | | % | D 1003 | 1 |
| Yellowness Index | | | E 313 | 0.3 |
| Other Properties | | | | |
| Specific Gravity | | | D 792 | 1.16 |
| Water Absorption | | % Max | D 570 | 0.3 |
| Mold Shrinkage | | in/in, mm/mm | D 955 | 0.004 - 0.007 |
| Bulk Density | | g/cc | D 1895 | 0.71 |

All listed technical data are typical values intended for your guidance. They are given without obligation and do not constitute a materials specification.

Certified to ISO 9001:2015, ISO 14001:2015.

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