

## PRODUCT INFORMATION

# CYROLITE® G-20 CP

### Product Profile:

CYROLITE® G-20 CP is a PMMA-based copolymer for injection molding and extrusion of UV- Light protective medical applications.

Typical properties of CYROLITE® G-20 CP are:

- Excellent Processability
- 5 times the impact resistance of unmodified acrylics
- Resistant to body fluids and many chemicals
- Excellent bonding to PVC tubing
- Can be thermal bonded, ultrasonic and laser welded
- Good heat resistance
- Resistance to EtO, gamma and E-beam sterilization

Special Properties of CYROLITE® G-20 CP compound are:

- Low UV-light transmission <1.0% 260 - 480 nm
- Excellent Transmittance between 500 – 780 nm

### Application:

Used for injection molding and extrusion applications that require UV-light protection in infusion therapy medical devices.

CYROLITE® G-20 CP ensures integrity of photosensitive substances such as oncology drugs, antibiotic, and antifungal agents.

### Examples:

Filter housings, Y-sites, luer connectors, needleless connectors and check valves.

### Processing:

CYROLITE® G-20 CP 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 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®<br>G-20 CP<br>Typical Value |
|-----------------------------------|----------------|----------------------------|---------------|---------------------------------------|
| <b>Mechanical Properties</b>      |                |                            |               |                                       |
| Tensile Strength                  |                | psi [MPa]                  | D 638         | 6800 [46.9]                           |
| Tensile Modulus                   |                | x10 <sup>6</sup> psi [GPa] | D 638         | 0.32 [2.2]                            |
| Tensile Elongation @ Yield        |                | %                          | D 638         | 4.0                                   |
| Tensile Elongation @ Break        |                | %                          | D 638         | 9.5                                   |
| Flexural Strength                 |                | psi [MPa]                  | D 790         | 10500 [72.4]                          |
| Flexural Modulus                  |                | x10 <sup>6</sup> psi [GPa] | D 790         | 0.34 [2.3]                            |
| Notched Izod                      | ¼" bar @23°C   | ft-lb/in [J/m]             | D 256         | 1.9 [101]                             |
| Notched Izod                      | ¼" bar @0°C    | ft-lb/in [J/m]             | D 256         | 1.1 [59]                              |
| Rockwell Hardness                 |                | M Scale                    | D 785         | 39                                    |
| <b>Thermal Properties</b>         |                |                            |               |                                       |
| Vicat Softening Point             | 50N, 50°C/h    | °F [°C]                    | D 1525        | 214 [101]                             |
| Deflection Temperature, Annealed  | 1.8MPa, 0.250" | °F [°C]                    | D 648         | 186 [86]                              |
| Coeff. of Linear Therm. Expansion | 32 - 312°F     | 1/°F                       | D 696         | 0.0000514                             |
| Coeff. of Linear Therm. Expansion | 0 - 100°C      | 1/°C                       | D 696         | 0.0000925                             |
| <b>Rheological Properties</b>     |                |                            |               |                                       |
| Melt Flow Rate                    | 230°C & 5.0 kg | g/10min                    | D 1238        | 2.6                                   |
| <b>Optical Properties</b>         |                |                            |               |                                       |
|                                   | d = 0.5 mm     |                            |               |                                       |
| UV Transmittance                  | 260 – 480nm    |                            | D 1003        | > 1.0%                                |
| <b>Other Properties</b>           |                |                            |               |                                       |
| Specific Gravity                  |                |                            | D 792         | 1.11                                  |
| 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        | 0.65                                  |

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 and IATF 16949:2016.

This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer.

Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

ACRYLITE, ACRYMID, CYROLITE, CYREX, CYRO, Vu-Stat and XT polymer are registered trademarks of Roehm America LLC. Roehm is a worldwide manufacturer of PMMA products sold under the ACRYLITE® trademark in the Americas and under the PLEXIGLAS® trademark in the European, Asian, African and Australian continents. ©2022 Roehm America LLC. All rights reserved.

Roehm America LLC • 8 Campus Drive • Suite 450 • Parsippany, NJ 07054 • USA  
[www.cyrolite.com](http://www.cyrolite.com)  
[www.roehm.com](http://www.roehm.com)