

## PRODUCT INFORMATION

# CYROLITE® MDH15

### Product Profile:

CYROLITE®MD H15 acrylic polymer is an amorphous thermoplastic molding compound based on polymethyl methacrylate (PMMA) for the medical diagnostic industry.

Typical properties of CYROLITE® MD acrylic polymers are:

- Exceptional ultra-violet light transmittance
- Superior optical clarity
- Maximum flow characteristics
- Excellent dimensional stability
- Outstanding scratch resistance
- Total cost-of-use advantage over glass

The special properties of CYROLITE® MD H15 polymer are:

- High heat deflection temperature
- High tensile properties
- High melt strength

### Application:

Used for injection molding of medical devices requiring UV spectroscopy for fluid evaluation.

### Examples:

Well Plates, Diagnostic Test Packs, Microfluidics, and Crystallography Trays.

### Processing:

CYROLITE® MD H15 polymer can be processed in injection molding machines and extrusion lines with 3-zone generalpurpose 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 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	CYROLITE® MD H15 Typical Value
<b>Mechanical Properties</b>				
Tensile Strength		psi [MPa]	D 638	9800 [67.6]
Tensile Modulus		x10 <sup>6</sup> psi [GPa]	D 638	0.47 [3.2]
Tensile Elongation @ Yield		%	D 638	4 - 6
Tensile Elongation @ Break		%	D 638	4 - 6
Flexural Strength		psi [MPa]	D 790	17000 [117.2]
Flexural Modulus		x10 <sup>6</sup> psi [GPa]	D 790	0.49 [3.4]
Notched Izod	¼" bar @23°C	ft-lb/in [J/m]	D 256	0.36 [19]
Rockwell Hardness		M Scale	D 785	95
<b>Thermal Properties</b>				
Vicat Softening Point	50N, 50°C/h	°F [°C]	D 1525	221 [105]
Deflection Temperature, Annealed	1.8MPa, 0.250"	°F [°C]	D 648	203 [96]
Coeff. of Linear Therm. Expansion	32 - 312°F	1/°F	D 696	0.00004
Coeff. of Linear Therm. Expansion	0 - 100°C	1/°C	D 696	0.000072
<b>Rheological Properties</b>				
Melt Flow Rate	230°C & 3.8 kg	g/10min	D 1238	2.2
<b>Optical Properties</b>				
	d = 3.2 mm			
Light Transmission		%	D 1003	92
UV Transmittance	340 nm	%	D 1003	min. 87.7
Haze		%	D 1003	<1
Yellowness Index			E 313	<1
<b>Other Properties</b>				
Specific Gravity			D 792	1.19
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	0.66

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. ©2017 Roehm America LLC. All rights reserved

Roehm America LLC • 299 Jefferson Road • Parsippany NJ07054 • USA  
www.cyrolite.com  
www.roehm.com

Ref. No.: MC217 A1142

**RÖHM**