

## ACRYLIC RESIN

As continual advances in drug design occur, medical disposable delivery systems increasingly require materials with greater chemical resistance. Simultaneously, health care providers seek devices that can perform longer, reducing the need for multiple replacements during treatments. Plexiglas® acrylic medical resins offer a history of over 30 years of outstanding performance and durability in these applications.

Our Plexiglas® acrylic medical resins have excellent scratch resistance, outstanding bonding characteristics and good optical properties.

Plexiglas® acrylic medical resins offer ease of processing and exceptional flow properties, allowing for a wide range of manufacturing processes.

Plexiglas® SG10 and Plexiglas® SG7 impact modified acrylic resins will meet some of the toughest device requirements for processing, clarity, sterilization, performance and regulatory compliance. They are engineered specifically for intricate and multi-compartment parts, making them exceptional for applications such as dialysis cassettes, IV components, drug delivery systems, and canisters.

Plexiglas® VS-UVT resin provides exceptional UV transmission and excellent transparency, making it an outstanding choice for in vitro diagnostics use. The UV transmission of is considerably higher than all non-acrylic materials. Plexiglas® VS-UVT acrylic resin provides devices with the outstanding optical properties needed for diagnostic accuracy.



## Features and Benefits

- Impact resistance
- Resistance to gamma radiation
- Outstanding resistance to lipids and drug formulations
- Exceptional resistance to phthalate and non-phthalate plasticizers
- UV transmitting acrylic resins
- Excellent transparency
- Ease of processability/assembly
- Good bondability



[plexiglas.com](http://plexiglas.com)

**ALTUGLAS**  
INTERNATIONAL  
ARKEMA

**PLEXIGLAS**  
BY ARKEMA

# PLEXIGLAS® Medical Resins

April 2015

ACRYLIC RESIN

## Typical Properties

	Test Method	Units	Plexiglas® SG7	Plexiglas® SG 10	Plexiglas® VS-UVT
<b>Physical</b>					
Spiral Flow	2mm channel	In. of flow	21	18	30
Melt Flow Rate (446°F/8.4 lbs)	ASTM D1238	g / 10 min	10	3.3	27.0
Specific Gravity	ASTM D792	–	1.17	1.15	1.18
Mold Shrinkage	ASTM D955	%	0.3 - 0.6	0.3 - 0.8	0.2 - 0.6
Water Absorption (24 hrs. immersion)	ASTM D570	% weight gain	0.3	0.4	0.3
<b>Mechanical</b>					
Tensile Strength @ Max	ASTM D638	psi	6,800	5,300	9,400
Tensile Elongation @ Break	ASTM D638	%	35	50	3
Tensile Modulus	ASTM D638	psi	355,000	270,000	420,000
Flexural Strength @ Max	ASTM D790	psi	12,400	10,300	14,000
Flexural Modulus	ASTM D790	psi	355,000	270,000	430,000
Notched Izod Impact (73°F)	ASTM D256	ft-lb/in. notch	0.6	0.9	0.3
Rockwell Hardness	ASTM D785	M	60	38	84
<b>Thermal</b>					
HDT (66 psi; annealed) <sup>1</sup>	ASTM D648	°F/°C	190 / 88	190 / 88	177 / 80
HDT (264 psi; annealed) <sup>1</sup>	ASTM D648	°F/°C	179 / 82	181 / 83	169 / 76
Vicat Softening Point (122°F/hr; 2.2 lbs)	ASTM D1525	°F/°C	201 / 94	199 / 93	189 / 87
Vicat Softening Point (122°F/hr; 11.2 lbs)	ASTM D1525	°F/°C	182 / 84	176 / 80	178 / 81
Thermal Conductivity	ASTM C177	BTU/hr·ft <sup>2</sup> ·F/in	1.4	1.5	1.3
<b>Optical</b>					
Refractive Index (N <sub>d</sub> @ 73°F)	ASTM D542	–	1.49	1.49	1.49
Luminous Transmittance (0.125")	ASTM D1003	%	91	90	92
Haze (0.125 in/3.2mm)	ASTM D1003	%	<2	<2	<1
<b>Classification</b>					
ASTM Classification	ASTM D788	–	PMMA 0241V4	PMMA 0231V3	PMMA 0112V7

Data given are average values and should not be used for specification purposes.

<sup>1</sup> - Annealing cycle for Plexiglas® SG7 and Plexiglas® SG10 is 4 hours at 176°F and for Plexiglas® VS-UVT is 4 hours at 158°F.

The statements, technical information and recommendations contained herein are believed to be accurate as of the date hereof. Since the conditions and methods of use of the product and of the information referred to herein are beyond our control, ARKEMA expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information; NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE GOODS DESCRIBED OR THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be applicable when such product is used in combination with other materials or in any process. The user should thoroughly test any application before commercialization. Nothing contained herein constitutes a license to practice under any patent and it should not be construed as an inducement to infringe any patent and the user is advised to take appropriate steps to be sure that any proposed use of the product will not result in patent infringement. See SDS for Health & Safety Considerations.

Arkema has implemented a Medical Policy regarding the use of Arkema products in Medical Devices applications that are in contact with the body or circulating bodily fluids (<http://www.arkema.com/en/social-responsibility/responsible-product-management/medical-device-policy/index.html>). Arkema has designated Medical grades to be used for such Medical Device applications. Products that have not been designated as Medical grades are not authorized by Arkema for use in Medical Device applications that are in contact with the body or circulating bodily fluids. In addition, Arkema strictly prohibits the use of any Arkema products in Medical Device applications that are implanted in the body or in contact with bodily

fluids or tissues for greater than 30 days. The Arkema trademarks and the Arkema name shall not be used in conjunction with customers' medical devices, including without limitation, permanent or temporary implantable devices, and customers shall not represent to anyone else, that Arkema allows, endorses or permits the use of Arkema products in such medical devices.

It is the sole responsibility of the manufacturer of the medical device to determine the suitability (including biocompatibility) of all raw materials, products and components, including any medical grade Arkema products, in order to ensure that the final end-use product is safe for its end use; performs or functions as intended; and complies with all applicable legal and regulatory requirements (FDA or other national drug agencies). It is the sole responsibility of the manufacturer of the medical device to conduct all necessary tests and inspections and to evaluate the medical device under actual end-use requirements and to adequately advise and warn purchasers, users, and/or learned intermediaries (such as physicians) of pertinent risks and fulfill any postmarket surveillance obligations. Any decision regarding the appropriateness of a particular Arkema material in a particular medical device should be based on the judgment of the manufacturer, seller, the competent authority, and the treating physician.

See SDS for Health & Safety Considerations. Altuglas® and Plexiglas® are registered trademarks and Luctor™ is a trademark of Arkema. ©2015 Arkema Inc. All rights reserved.

[plexiglas.com](http://plexiglas.com)

**ALTUGLAS**  
INTERNATIONAL  
ARKEMA

Altuglas International, Arkema Inc., 100 PA Rt. 413, Bristol, PA 19007

800-523-1532

**PLEXIGLAS**  
BY ARKEMA

ROC\_4/2015