



STYRON® 610
General Purpose Polystyrene Resin

STYRON® 610 is a high flow zero additives / zero mineral oil General Purpose Polystyrene resin intended for very specific applications requiring an additive free polystyrene.

Main Characteristics

- Additive Free
- FDA Compliant ⁽¹⁾

Applications

- Films
- Optical
- Carrier resin
- Specialty blending

Properties ⁽¹⁾	Test Method		S.I.		English		Metric	
	ISO	ASTM	Value	Unit	Value	Unit	Value	Unit
Physical								
Melt flow rate (200°C / 5 kg)	1133/8	D 1238		g/10 min		g/10 min		g/10 min
Specific Gravity		D 792						
Linear Thermal Expansion (10 ⁻⁵)		D 696		cm/cm/°C		in/in/°F		cm/cm/°C
Mold Shrinkage		D 955		cm/cm		in/in		cm/cm
Optical								
Transmittance		D 1003	90.0	%	90.0	%	90.0	%
Haze		D 1003	1.0	%	1.0	%	1.0	%
Thermal								
Vicat Softening Temperature (120°C/hr, 1 kg)	306A	D 1525-B	108	°C	227	°F	108	°C
Heat Deflection Temperature (0.45MPa)	75A	D 648	97.7	°C	208	°F		
Injection Molded Mechanical Properties								
Impact Strength:								
Notched Izod 12.7x3.2 mm (0.5x.125 in) specimen @ 23°C (73°F)	180/4A	D 256		J/m		ft-lb/in		kg-cm/cm
Gardner Impact @ 23°C (73°F)		D 3029		J		in-lb		cm-kg
Tensile Properties 12.7x3.2 mm (0.5x0.125 in) specimen:								
Yield Tensile Strength 5 mm/min (0.2 in/min) rate	527	D 638	44	MPa	6400	psi		kg/cm ²
Ultimate Tensile Strength 5 mm/min (0.2 in/min) rate	527	D 638	44	MPa	6400	psi		kg/cm ²
Ultimate Elongation 5 mm/min (0.2 in/min) rate	527	D 638	3	%	3	%		%
Tensile Modulus 5 mm/min (0.2 in/min) rate	527	D 638	3100	MPa	454,000	psi		kg/cm ²
Flexural Properties 1.3 mm/min (0.05 in/min) rate								
Flexural Strength (3-point)	178	D 790		MPa		psi		kg/cm ²
Flexural Modulus (3-point)	178	D 790		MPa		psi		kg/cm ²
Flammability Properties ⁽³⁾								
UL 94 Classification: @1.47 mm (0.058 in) thickness				HB		HB		HB

(1) When used unmodified for the manufacture of food contact articles, STYRON® 665 will comply with Food Additive Regulations 21 CFR 177.1640 under the U.S. Food, Drug and Cosmetic Act. Such uses are subject to good manufacturing practices and any other limitations which are part of the statute or regulations. These should be consulted for complete details.
 (2) Typical properties, not to be considered as specification limits.
 (3) This numerical flame-spread rating is not intended to reflect hazards presented by material under actual fire conditions.

Product Stewardship

Americas Styrenics, LLC has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our Product Stewardship program rests with each and every individual involved with Americas Styrenics LLC products — from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Americas Styrenics, LLC strongly encourages its customers to review both their manufacturing processes and their applications of Americas Styrenics, LLC products from the standpoint of human health and environmental quality to ensure that Americas Styrenics LLC products are not used in ways for which they are not intended or tested. Americas Styrenics, LLC personnel are available to answer your questions and to provide reasonable technical support. Americas Styrenics LLC product literature, including safety data sheets, should be consulted prior to use of Americas Styrenics LLC products. Current safety data sheets are available from Americas Styrenics, LLC.

Medical Application Policy

Americas Styrenics, LLC will not knowingly sell or sample any product or service ("Product") into any commercial or developmental application that is intended for:

- a. permanent (long term) contact with internal body fluids or internal body tissues. Long term is a use which exceeds 72 continuous hours
- b. use in cardiac prosthetic devices regardless of the length of time involved (Cardiac prosthetic devices include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems, and ventricular bypass assisted devices);
- c. use as a critical component in medical devices that support or sustain human life; or
- d. use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Additionally, all Products intended for use in pharmaceutical applications, other than pharmaceutical packaging, must pass the current Pharmaceutical Liability Guidelines.

- For the products sold by the Americas Styrenics LLC, new business opportunities require a business assessment prior to sale or sampling of Americas Styrenics, LLC products.
- Authorized distributors and resellers will adhere to this medical policy.
- Americas Styrenics, LLC does not endorse or claim suitability of their products for specific medical applications. It is the responsibility of the medical device or pharmaceutical manufacturer to determine that the Americas Styrenics, LLC product is safe, lawful, and technically suitable for the intended use. AMERICAS STYRENICS, LLC MAKES NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING THE SUITABILITY OF ANY AMERICAS STYRENICS, LLC PRODUCT FOR USE IN MEDICAL APPLICATIONS.

Disclaimer

Before using this product, the user is advised and cautioned to make its own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained herein as it may relate to any specific use or application. It is the ultimate responsibility of the user to ensure that the product is suited and the information is applicable to the user's specific application. Americas Styrenics LLC, does not make, and expressly disclaims, all warranties, including warranties of merchantability or fitness for a particular purpose, regardless of whether oral or written, express or implied, or allegedly arising from any usage of any trade or from any course of dealing in connection with the use of the information contained herein or the product itself. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or the product itself. Further, information contained herein is given without reference to any intellectual property issues, as well as federal, state or local laws which may be encountered in the use thereof. Such questions should be investigated by the user.

Additional Information

Headquarters
24 Waterway Avenue
Suite 1200
The Woodlands, TX 77380
Toll Free 888-55-AMSTY (888-552-6789)

© AmericasStyrenics LLC 2008