



STYRON
A -TECH 1115 High Impact Polystyrene Resin

STYRON™ A-TECH™ 1115 advanced technology polystyrene resin is a high gloss, high-impact resin for injection molding and extrusion thermoforming applications.

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| <p>Main Characteristics</p> <ul style="list-style-type: none"> • Easy Processing • High Gloss • High Impact | <ul style="list-style-type: none"> • Consistent Colorability • FDA Compliant ⁽¹⁾ |
| <p>Applications</p> <ul style="list-style-type: none"> • Custom High Gloss Extruded Sheet • Opaque Injection Molded Parts • Refrigeration Accessories • Small Appliances | <ul style="list-style-type: none"> • Electric Lawn and Garden Equipment • Toys • Remote Controls |

Properties ⁽²⁾	Test Method		S.I.		English		Metric		
	ISO	ASTM	Value	Unit	Value	Unit	Value	Unit	
Physical									
Melt flow rate (200°C / 5 kg)	1133	D 1238	2.8	g/10 min	2.8	g/10 min	2.8	g/10 min	
Specific Gravity	1183	D 792	1.03		1.03		1.03		
Linear Thermal Expansion (10 ⁻⁵)	1135	D 696	8.1	cm/cm /°C	4.5	in/in/° F	8.1	cm/cm/°C	
Mold Shrinkage		D 955	0.003 - 0.007	cm/cm	0.003 - 0.007	in/in	0.003 - 0.007	cm/cm	
Optical									
60° Gardner Gloss		D 523							
Injection Molded			92	%	92	%	92	%	
Thermoformed			80	%	80	%	80	%	
Thermal									
Vicat Softening Temperature (120°C/hr, 1 kg)	306A	D 1525-B	101	°C	213	°F	101	°C	
Deflection Temperature Under Load (Injection molded)	75A	D 648							
@ 0.45 MPa (66 psi), Unannealed			84	°C	183	°F	84	°C	
@ 1.8 MPa (264 psi), Unannealed			71	°C	160	°F	71	°C	
Injection Molded Mechanical Properties									
Impact Strength:									
Notched Izod specimen	12.7x3.2 mm (0.5x.125 in)	180/4A	D 256						
@ 23°C (73°F)			224	J/m	4.2	ft-lb/in	23	kg-cm/cm	
@ -18°C (0°F)			85	J/m	1.6	ft-lb/in	86	kg-cm/cm	
Gardner Impact @ 23°C (73°F)		D 3029	37	J	320	in-lb	367	cm-kg	
Tensile Properties 12.7x3.2 mm (0.5x0.125 in) specimen:									
Yield Tensile Strength (0.2 in/min) rate	5 mm/min	527	D 638	21	MPa	3000	psi	211	kg/cm ²
Ultimate Tensile Strength (0.2 in/min) rate	5 mm/min	527	D 638	18	MPa	2570	psi	181	kg/cm ²
Ultimate Elongation mm/min (0.2 in/min) rate	5	527	D 638	55	%	55	%	55	%

Technical Information



Tensile Modulus	5	527	D 638	1827	MPa	265,000	psi	18630	kg/cm ²
mm/min (0.2 in/min) rate									
Flexural Properties 1.3 mm/min (0.05 in/min) rate									
Flexural Strength (3-point)	178	D 790	44	MPa	6400	psi	450	kg/cm ²	
Flexural Modulus (3-point)	178	D 790	2089	MPa	303,000	psi	21300	kg/cm ²	
Flammability Properties ⁽³⁾									
UL 94 Classification:									
@1.5 mm (0.06 in) thickness			HB			HB			HB

- 1) When used unmodified for the manufacture of food contact articles, STYRON A-TECH 1115 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 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 products – from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

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

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Americas Styrenics 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.

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Additional Information

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