

STYRON 487 High Impact Polystyrene Resin

STYRON™ 487 is a high impact polystyrene with an excellent balance of flow, toughness, stiffness and heat resistance as compared to other high impact polystyrene resins. It has excellent deep draw characteristics and has higher impact resistance than STYRON 484. It is appropriate for extrusion applications where stiffness and toughness combined with high contact clarity and trim ability are important, but can also be used in injection molding situations.

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|----------------------|-------------------------|--------------------------------|
| Main Characteristics | • Heat resistance | • Stiffness |
| | • Toughness | • FDA Compliant ⁽¹⁾ |
| Applications | • Packaging/Disposables | • Extrusion |
| | • Appliances | • Thermoforming |
| | • Housewares | • Injection molding |

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	1.04		1.04		1.04	
Mold Shrinkage		D 955	0.003-0.007	cm/cm	0.003-0.007	in/in	0.003-0.007	cm/cm
Thermal								
Vicat Softening Temperature (120°C/hr, 1 kg)	306A	D 1525-B	105	°C	221	°F	105	°C
Deflection Temperature Under Load (Injection molded)	75A	D 648	89	°C	192	°F	89	°C
@ 0.45 MPa (66 psi), Unannealed			76	°C	168	°F	76	°C
@ 1.8 MPa (264 psi), Unannealed								
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)				176.2	J/m	3.3	ft-lb/in	18.0
@ -18°C (0°F)				85.4	J/m	1.6	ft-lb/in	8.7
Gardner Impact @ 23°C (73°F)		D 3029	28	J	250	in-lb	280	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	25.3	MPa	3750	psi	253
Ultimate Tensile Strength (0.2 in/min) rate	5 mm/min	527	D 638	25.5	MPa	3700	psi	260
Ultimate Elongation mm/min (0.2 in/min) rate	5	527	D 638	70	%	70	%	70
Tensile Modulus mm/min (0.2 in/min) rate	5	527	D 638	1958	MPa	284,000	psi	19580
Flexural Properties 1.3 mm/min (0.05 in/min) rate								
Flexural Strength (3-point)		178	D 790	47.1	MPa	6800	psi	471
Flexural Modulus (3-point)		178	D 790	2282	MPa	331,000	psi	22820
Generic Properties								
Rockwell Hardness, R-scale		2309/2	D 785	97		97		97

Flammability Properties ⁽³⁾

UL 94 Classification:

@1.5 mm (0.06 in) thickness

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- (1) When used unmodified for the manufacture of food contact articles, STYRON 487 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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- 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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