



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.

Main Characteristics

- Easy Processing
- High Gloss
- High Impact
- Consistent Colorability
- FDA Compliant ⁽¹⁾

Applications

- Custom High Gloss Extruded Sheet
- Opaque Injection Molded Parts
- Refrigeration Accessories
- Small Appliances
- 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)	1133/8	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)	11359	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 12.7x3.2 mm (0.5x.125 in) specimen	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 (0.5x.125 in) specimen:								
Yield Tensile Strength 5 mm/min (0.2 in/min) rate	527	D 638	21	MPa	3000	psi	211	kg/cm ²
Ultimate Tensile Strength 5 mm/min (0.2 in/min) rate	527	D 638	18	MPa	2570	psi	181	kg/cm ²
Ultimate Elongation 5 mm/min (0.2 in/min) rate	527	D 638	55	%	55	%	55	%
Tensile Modulus 5 mm/min (0.2 in/min) rate	527	D 638	1827	MPa	265,000	psi	18630	kg/cm ²
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.

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Published February 2006

