

Styrolux 684D

Styrene Butadiene Copolymer (SBC)

TECHNICAL
DATASHEET

DESCRIPTION

Styrolux® 684D is a clear styrene-butadiene copolymer (SBC) used in injection molding for parts with enhanced toughness as well as in sheet and film extrusion and blow molding. Parts made of Styrolux® 684D reveal excellent printability.

FEATURES

- High clarity
- Improved toughness
- Good printability

APPLICATIONS

- Food and non-food packaging
- Container, cups and lids
- Toys
- Extruded sheet and thin film
- Medical devices
- Blow moldings

Property, Test Condition	Standard	Unit	Values
Rheological Properties			
Melt Flow Rate, 200 °C/5 kg	ASTM D 1238	g/10 min	10
Mechanical Properties			
Izod Notched Impact Strength, 23 °C (73 °F)	ASTM D 256	ft-lb/in	0.8
Instrumented Dart Impact (total energy)	ASTM D 3763	in-lbs	196
Instrumented Dart Impact (Peak force)	ASTM D 3763	in-lbs	97.8
Tensile Stress at Yield, 23 °C	ASTM D 638	psi	3770
Tensile Strain at Break, 23 °C	ASTM D 638	%	250
Tensile Modulus	ASTM D 638	psi x 10 ³	190
Tensile Modulus (MD)	ASTM D 882	psi	191000
Tensile Modulus (TD)	ASTM D 882	psi	171000
Elongation at Break (MD)	ASTM D 882	%	260
Elongation at Break (TD)	ASTM D 882	%	100
Flexural Strength, 23 °C	ASTM D 790	psi	4500
Flexural Modulus, 23 °C	ASTM D 790	psi x 10 ³	170
Hardness, Shore D	ASTM D 2240	-	68

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Property, Test Condition	Standard	Unit	Values
Elmendorf Tear (MD)	ASTM D 1922	lbs	0.56
Elmendorf Tear (TD)	ASTM D 1922	lbs	0.52
Thermal Properties			
Vicat Softening Temperature, B/1 (120 °C/h, 10N)	ASTM D 1525	°F	186
DTUL @ 264 psi - Unannealed	ASTM D 648	°F	158
DTUL @ 66 psi - Unannealed	ASTM D 648	°F	170
Coefficient of Linear Thermal Expansion	ASTM D 696	10 ⁻⁴ /°F	0.72
Electrical Properties			
Dielectric Constant at 106 CPS (1000000 Hz, 0,0394 in)	ASTM D 150	-	2.5
Volume Resistivity	ASTM D 257	-	>1E13
Surface Resistivity	ASTM D 257	-	>1E14
Optical Properties			
Refractive Index, Sodium D Line	ASTM D 542	-	1.575
Light Transmission at 550 nm	ASTM D 1003	%	90
Haze	ASTM D 1003	%	1.5
Other Properties			
Density	ASTM D 792	-	1.01
Water Absorption, Saturated at 23 °C	ASTM D 570	%	0.07
Oxygen Transmission Rate (23 °C/0% RH)	ASTM D 3985	cc/100in ² /day	8060
Water Vapor Transmission Rate (WVTR) (23 °C/0% to 85% RH gradient)	ASTM F1249-06	g/100in ² /day	44.9
Processing			
Linear Mold Shrinkage	ASTM D 955	in/in	0.0065
Melt Temperature Range		°F	356 to 482
Mold Temperature Range		°F	86 to 122

Typical values for uncolored products

SUPPLY FORM

Styrolux is supplied in pellet form and should be kept in its original containers in cool, dry place. Avoid direct exposure to sunlight. Styrolux® can be stored in silos at temperatures well below 45 °C.

PRODUCT SAFETY

During processing of Styrolux® small quantities of styrene monomer may be released into the atmosphere. At styrene vapor concentrations below 20 ppm no negative effects on health are expected. In our experience, the concentration of styrene does not exceed 1 ppm in well ventilated workplaces - that is where five to eight air changes per hour are made. For safety information please refer to our Material Safety Data Sheet for this product.

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