

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		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
Elemendorf Tear (MD)	ASTM D 1922	lbs	0.56
Elemendorf 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	-	>10 ¹³
Surface Resistivity	ASTM D 257	-	>10 ¹⁴
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	lb/in ³	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