

Styrolux® 684D

Styrene Butadiene Block Copolymer

BASF Corporation

Product Description

Styrolux 684D is a thermoplastic styrene-butadiene block copolymer which is suitable for injection molding, extrusion, and thermoforming. It offers an outstanding combination of crystal clarity and good toughness.

General

Material Status	• Commercial: Active		
Availability	• North America		
Additive	• Impact Modifier		
Features	• Good Toughness	• High Clarity	• Impact Modified
Agency Ratings	• FDA Unspecified Rating	• USP Class VI	
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Blow Molding • Extrusion	• Film Extrusion • Injection Molding	• Sheet Extrusion • Thermoforming
Multi-Point Data	• Creep Modulus vs. Time (ISO 11403-1)	• Isochronous Stress vs. Strain (ISO 11403-1)	• Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.01	g/cm ³	ASTM D792
--	1010	kg/m ³	ISO 1183 ²
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	11	g/10 min	ASTM D1238
Melt volume-flow rate (200°C/5.0 kg)	11.0	cm ³ /10min	ISO 1133 ²
Molding Shrinkage - Flow	0.65	%	ASTM D955
Water Absorption (Saturation, 23°C)	0.070	%	ASTM D570

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C ³	1310	MPa	ASTM D638
--	1550	MPa	ISO 527-2 ²
Tensile Strength			
Yield, 23°C	26.0	MPa	ASTM D638
Yield	28.0	MPa	ISO 527-2 ²
Tensile Strain			
Yield	2.3	%	ISO 527-2 ²
Break, 23°C	250	%	ASTM D638
Nominal strain at break	> 50	%	ISO 527-2 ²
Tensile Creep Modulus			ISO 899-1 ²
1 hr	1300	MPa	
1000 hr	790	MPa	
Flexural Modulus			
23°C	1170	MPa	ASTM D790
23°C	1700	MPa	ISO 178
Flexural Strength			
23°C	31.0	MPa	ASTM D790
23°C	40.0	MPa	ISO 178

Styrolux® 684D
Styrene Butadiene Block Copolymer
BASF Corporation

Thursday, December 24, 2009

Films	Nominal Value	Unit	Test Method
Secant Modulus			ASTM D882
MD: 25.4 µm, Blown Film	1320	MPa	
TD: 25.4 µm, Blown Film	1180	MPa	
Tensile Elongation			ASTM D882
MD: Break, 25.4 µm, Blown Film	260	%	
TD: Break, 25.4 µm, Blown Film	100	%	
Dart Drop Impact (25.4 µm, Blown Film)	< 70	g	ASTM D1709
Elmendorf Tear Strength			ASTM D1922
MD: 25.4 µm, Blown Film	250	g	
TD: 25.4 µm, Blown Film	240	g	
Oxygen Transmission Rate			ASTM D3985
23°C, 25.4 µm, Blown Film, 50% RH	8060	cm ³ /m ² /24 hr	
Water Vapor Transmission ⁴	45	g/m ² /24 hr	ASTM F1249
Impact	Nominal Value	Unit	Test Method
Charpy notched impact strength			ISO 179/1eA ²
-30°C	3.00	kJ/m ²	
23°C	4.00	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179
-30°C	30	kJ/m ²	
23°C	100	kJ/m ²	
Notched Izod Impact (23°C)	43.0	J/m	ASTM D256
Unnotched Izod Impact Strength (23°C)	4.00	kJ/m ²	ISO 180
Instrumented Dart Impact			ASTM D3763
Energy to Peak Force	11.0	J	
Total Energy	22.0	J	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	68		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	77.0	°C	ASTM D648
0.45 MPa	75.0	°C	ISO 75-2 ²
1.8 MPa, Unannealed	70.0	°C	ASTM D648
1.8 MPa	65.0	°C	ISO 75-2 ²
Vicat Softening Temperature			
--	86.0	°C	ASTM D1525 ⁵
50°C/h, B (50N)	59.0	°C	ISO 306 ²
CLTE			
Flow	0.000075	cm/cm/°C	ISO 11359-2
Transverse	0.000072	cm/cm/°C	ASTM E831
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+14	ohms	ASTM D257 IEC 60093 ²
Volume Resistivity			
--	> 1.0E+13	ohm·cm	ASTM D257
--	> 1.0E+11	ohm·m	IEC 60093 ²
Dielectric Constant			
1.00 mm, 1 MHz	2.50		ASTM D150
100 Hz	2.50		IEC 60250 ²
1 MHz	2.50		IEC 60250 ²
Dissipation Factor			IEC 60250 ²
100 Hz	3.0		
1 MHz	8.0		
Comparative tracking index	600		IEC 60112 ²
Electric Strength (1.50 mm)	80	kV/mm	IEC 60243-1

Dongguan Yi-Ming Plastic Chemical Co., Ltd.

如需要更多物性资料请查阅 www.kedisujiao.com

备注：以上原料物性数据由厂家发布, 我公司仅提供参考！数据如有变动，请联系原料生产厂家获知。我公司不承担任何法律责任！

Styrolux® 684D
Styrene Butadiene Block Copolymer
BASF Corporation

Thursday, December 24, 2009

Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL (1.50 mm)		HB	UL 94
UL 746	Nominal Value	Unit	Test Method
RTI Str (1.50 mm)	50.0	°C	UL 746
RTI Imp (1.50 mm)	50.0	°C	UL 746
RTI Elec (1.50 mm)	50.0	°C	UL 746
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.573		ASTM D542
Transmittance	90.0	%	ASTM D1003
Haze (25.4 µm, Blown Film)	1.5	%	ASTM D1003
Injection	Nominal Value	Unit	
Processing (Melt) Temp	180 to 250	°C	
Mold Temperature	30.0 to 50.0	°C	
Extrusion	Nominal Value	Unit	
Melt Temperature	190 to 230	°C	

Notes

¹ Typical properties: these are not to be construed as specifications.

² Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

³ 51 mm/min

⁴ 23°C, 100% RH, 1 mil, Blown Film

⁵ Rate B (120°C/h), Loading 1 (10 N)

Dongguan Yi-Ming Plastic Chemical Co., Ltd.

如需要更多物性资料请查阅 www.kedisujiao.com

备注：以上原料物性数据由厂家发布,我公司仅提供参考！数据如有变动，请联系原料生产厂家获知。我公司不承担任何法律责任！