Styrolution Styrolux 684D SBC

Category : Polymer , Thermoplastic , Styrene-Butadiene , Styrene-Butadiene Copolymer, SBC

Material Notes:

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.Information provided by STYROLUTION, which is a joint venture between BASF and INEOS.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Styrolution-Styrolux-684D-SBC.php

Physical Properties	Metric	English	Comments
Density	1.01 g/cc	0.0365 lb/inÂ³	ISO 1183
Water Absorption	0.070 %	0.070 %	ISO 62
Moisture Absorption at Equilibrium	0.070 %	0.070 %	23Â°C/50% R.H.; ISO 62
Moisture Vapor Transmission	2.90 cc-mm/mÂ²-24hr-atm	7.37 cc-mil/100 inÂ²-24hr-atm	100% RH; ASTM Test
Oxygen Transmission Rate	520 cc/mÂ²/day	33.5 cc/100 inÂ²/day	0% RH; ASTM Test
Linear Mold Shrinkage	0.0065 cm/cm	0.0065 in/in	ASTM Data; MD
Melt Flow	11 g/10 min @Load 5.00 kg, Temperature 200 Â°C	11 g/10 min @Load 11.0 lb, Temperature 392 Â°F	ISO 1133
	11 g/10 min @Load 5.00 kg, Temperature 200 Â°C	11 g/10 min @Load 11.0 lb, Temperature 392 Â°F	ASTM Test

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	68	68	ASTM Test
Tensile Strength, Yield	26.0 MPa	3770 psi	2 in/min; ASTM Test
	28.0 MPa	4060 psi	50mm/min; ISO 527
Elongation at Break	>= 50 %	>= 50 %	50mm/min, Nominal strain; ISO 527
	250 %	250 %	2 in/min; ASTM Test
	250 %	250 %	0.2 in/min; ASTM Test
Elongation at Yield	2.3 %	2.3 %	50mm/min; ISO 527
Tensile Modulus	1.31 GPa	190 ksi	2 in/min; ASTM Test

Mechanical Properties	Metric	English	Comments
Flexural Strength	31.0 MPa	4500 psi	ASTM Test
	40.0 MPa	5800 psi	ISO Data
Flexural Modulus	1.17 GPa	170 ksi	ASTM Test
	1.70 GPa	247 ksi	ISO Data
Secant Modulus, MD	1.32 GPa	191 ksi	ASTM Test
Secant Modulus, TD	1.18 GPa	171 ksi	ASTM Test
Izod Impact, Notched	0.430 J/cm @Thickness 3.17 mm	0.806 ft-lb/in @Thickness 0.125 in	ASTM Test
Izod Impact, Notched (ISO)	4.00 kJ/mÂ²	1.90 ft-lb/inÂ²	ISO Test
Charpy Impact Unnotched	10.0 J/cmÂ²	47.6 ft-lb/inÂ²	ISO 179
	3.00 J/cmÂ² @Temperature -30.0 Â°C	14.3 ft-lb/inÂ² @Temperature -22.0 Â°F	ISO 179
Charpy Impact, Notched	0.400 J/cmÂ²	1.90 ft-lb/inÂ²	ISO 179
	0.300 J/cmÂ² @Temperature -30.0 Â°C	1.43 ft-lb/inÂ² @Temperature -22.0 Â°F	ISO 179
Dart Drop, Total Energy	22.0 J	16.2 ft-lb	ASTM Test
Impact Test	11.0 J	8.11 ft-lb	Instrumented Dart Impact (Energy at Peak Force); ASTM Test
Tensile Creep Modulus, 1 hour	1300 MPa	189000 psi	ISO 899
Tensile Creep Modulus, 1000 hours	790 MPa	115000 psi	ISO 899
Elmendorf Tear Strength MD	253 g	253 g	ASTM Data
Elmendorf Tear Strength TD	237 g	237 g	ASTM Data
Film Tensile Strength at Break, MD	260 MPa	37700 psi	ASTM Data
Film Tensile Strength at Break, TD	100 MPa	14500 psi	ASTM Data

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	75.0 Âµm/m-Â°C	41.7 Âµin/in-Â°F	ISO 11359
CTE, linear, Transverse to Flow	72.0 Âµm/m-Â°C	40.0 Âµin/in-Â°F	ASTM Test

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	[illegible]	[illegible]	ISO 75
	77.0 Â°C	171 Â°F	ASTM Test
Deflection Temperature at 1.8 MPa (264 psi)	65.0 Â°C	149 Â°F	ISO 75
	70.0 Â°C	158 Â°F	ASTM Test
Vicat Softening Point	59.0 Â°C	138 Â°F	(50 Â°C/h / 50N) - B/50; ISO 306
	86.0 Â°C	187 Â°F	Rate "B" Loading 1 (120 degC/h 10N); ASTM Test
Flammability, UL94	HB @Thickness 1.57 mm	HB @Thickness 0.0618 in	
	HB @Thickness 3.20 mm	HB @Thickness 0.126 in	

Optical Properties	Metric	English	Comments
Refractive Index	1.573	1.573	ASTM Test
Haze	1.5 % @Thickness 3.20 mm	1.5 % @Thickness 0.126 in	ASTM Test
Transmission, Visible	90 %	90 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+14 ohm	>= 1.00e+14 ohm	IEC 60093
Dielectric Constant	2.5 @Frequency 1e+9 Hz	2.5 @Frequency 1e+9 Hz	ASTM Data
	2.5 @Frequency 1.00e+6 Hz	2.5 @Frequency 1.00e+6 Hz	ASTM Data
	2.5 @Frequency 100 Hz	2.5 @Frequency 100 Hz	IEC 60250
	2.5 @Frequency 1.00e+6 Hz	2.5 @Frequency 1.00e+6 Hz	IEC 60250
Dielectric Strength	80.0 kV/mm	2030 kV/in	IEC 60243-1

Electrical Properties	Metric	English	Comments
Dissipation Factor	@Frequency 1e+9 Hz	@Frequency 1e+9 Hz	ASTM Data
	0.00030 @Frequency 100 Hz	0.00030 @Frequency 100 Hz	IEC 60250
	0.00080 @Frequency 1.00e+6 Hz	0.00080 @Frequency 1.00e+6 Hz	ASTM Data
	0.00080 @Frequency 1.00e+6 Hz	0.00080 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	190 - 230 Â°C	374 - 446 Â°F	Extrusion
	180 - 250 Â°C	356 - 482 Â°F	Injection Molding
	230 Â°C	446 Â°F	Injection molding
Mold Temperature	30.0 - 50.0 Â°C	86.0 - 122 Â°F	Injection Molding
Injection Velocity	50.0 mm/sec	1.97 in/sec	Injection molding

Descriptive Properties	Value	Comments
Color	Clear	
Commercial Status	Active America	
FDA	Yes	
Form	Yes	
Impact Modified	Yes	
NSF Std. 51	No	
NSF Std. 61	No	
Primary Processing Technique	Extrusion	
Processing	Blow Molding	
	Film Extrusion	
	Injection Molding	

Descriptive Properties	Value	Comments
	Blow Extrusion	
	Sheet Extrusion	
UL.UL-C	No	

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