Styrolux® 3G46

Styrene Butadiene Block Copolymer

INEOS Styrolution Group GmbH

Message:

Styrolux® 3G46 is a clear styrene-butadiene copolymer (SBC) developed specifically for sheet- and film extrusion and for thermoformed articles. Styrolux 3G46 is designed for improved performance in blends with general-purpose polystyrene, providing parts with an excellent balance of transparency and toughness.

General Information	
Features	Block Copolymer Good Stiffness Good Toughness High Clarity
Uses	Blending Caps Displays Food Packaging Household Goods Lids Packaging Toys
Appearance	Clear/Transparent
Forms	Pellets
Processing Method	Film Extrusion Injection Molding Sheet Extrusion Thermoforming

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.02	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	11	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	12.0	cm³/10min	ISO 1133
Molding Shrinkage			
Flow	0.65	%	ASTM D955
--	0.30 to 1.0	%	ISO 294-4
Water Absorption (Saturation, 23°C)	0.070	%	ASTM D570, ISO 62
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			

Shore D	75		ASTM D2240
Shore D	65		ISO 868
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
--	1640	MPa	ASTM D638
--	1550	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	25.5	MPa	ASTM D638
Yield, 23°C	27.0	MPa	ISO 527-2
Tensile Strain			
Yield, 23°C	2.0	%	ISO 527-2
Break	220	%	ASTM D638
Nominal Tensile Strain at Break (23°C)	180	%	ISO 527-2
Flexural Modulus			
--	1330	MPa	ASTM D790
--	1550	MPa	ISO 178
Flexural Strength			
--	27.2	MPa	ASTM D790
5.0% Strain	31.0	MPa	
--	31.0	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	3.0	kJ/m^2	ISO 179
Charpy Unnotched Impact Strength (23°C)	No Break		ISO 179
Notched Izod Impact			
23°C	32	J/m	ASTM D256
-30°C	2.0	kJ/m^2	ISO 180/A
23°C	3.0	kJ/m^2	ISO 180/A
Instrumented Dart Impact (Total energy)	20.1	J	ASTM D3763
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed	75.6	°C	ASTM D648
0.45 MPa, Annealed	75.0	°C	ISO 75-2/B
1.8 MPa, Unannealed	60.0	°C	ASTM D648
1.8 MPa, Annealed	58.0	°C	ISO 75-2/A
Vicat Softening Temperature			
--	87.8	°C	ASTM D1525 [1]
--	81.0	°C	ISO 306/A50
--	51.0	°C	ISO 306/B50
CLTE - Flow			
--	1.3E-4	cm/cm/°C	ASTM D696
--	6.0E-5 to 9.0E-5	cm/cm/°C	ISO 11359-2
Electrical	**Nominal Value**	**Unit**	**Test Method**

Surface Resistivity			
--	> 1.0E+14	ohms	ASTM D257
--	1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	ASTM D257, IEC 60093
Dielectric Constant			
1.00 mm, 1 MHz	2.50		ASTM D150
100 Hz	2.50		IEC 60250
Comparative Tracking Index	600	V	IEC 60112
Optical	Nominal Value	Unit	Test Method
Refractive Index [2]	1.573		ASTM D542, ISO 489
Transmittance (550 nm)	91.0	%	ASTM D1003
Haze	0.20	%	ASTM D1003
Injection	Nominal Value	Unit	
Processing (Melt) Temp	180 to 250	°C	
Mold Temperature	30.0 to 50.0	°C	
NOTE			
1.	Rate B (120°C/h), Loading 1 (10 N)		
2.	Sodium D Line		

Recommended distributors for this material

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