

# Styrolux ECO 3G46 BC60

Styrene Butadiene Copolymer (SBC)

## TECHNICAL DATASHEET

### DESCRIPTION

The product line Styrolux® comprises clear styrene butadiene copolymers. The grades have in general an intrinsic toughness, are easy to process and work as modifiers and compatibilizers not only in polystyrene but in many other polymers, e.g. polyolefins. For all Styrolux® grades food contact statements are available upon request. Styrolux® ECO 3G46 BC60 is specifically designed for sheet- and film extrusion and thermoformed articles. It shows a high performance in blends with general-purpose polystyrene, providing parts with an excellent balance of transparency and toughness. 3G46 is also offered for medical applications and is Gamma, X-ray & ETO sterilizable. Styrolux ECO 3G46 BC60 is an ISCC compliant product leading to a substitution of fossil source styrene with ISCC certified bio-attributed styrene.

### FEATURES

- Easy processing
- Well extrudable
- Very good miscibility with GPPS
- Sterilisable(ETO,NO2,Irradiation)
- Transparency

### APPLICATIONS

- Food contact applications
- Medical devices
- Rigid packaging
- Cosmetic packaging
- Toys, sports & leisure

Property, Test Condition	Standard	Unit	Values
<b>Sustainability Properties</b>			
Carbon Footprint Reduction vs Fossil-Based (3rd party validated)	ISO 14044	%	85
Attributed Content of ISCC-certified Bio-Circular Sources (min.)	-	%	60
<b>Rheological Properties</b>			
Melt Volume Rate, 200 °C/5 kg	ISO 1133	cm <sup>3</sup> /10 min	12
<b>Mechanical Properties</b>			
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m <sup>2</sup>	1.5
Charpy Unnotched, 23 °C	ISO 179/1eU	kJ/m <sup>2</sup>	> 80
Tensile Modulus	ISO 527	MPa	1500
Tensile Stress at Yield, 23 °C	ISO 527	MPa	27
Tensile Strain at Yield, 23 °C	ISO 527	%	2
Tensile Stress at Break, 23 °C	ISO 527	MPa	18
Tensile Strain at Break, 23 °C	ISO 527	%	90
Nominal Strain at Break, 23 °C	ISO 527	%	180
Flexural Modulus, 23 °C	ISO 178	MPa	1400

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Property, Test Condition	Standard	Unit	Values
Flexural Strength, 23 °C	ISO 178	MPa	30
Hardness, Shore D	ISO 868	-	55
<b>Thermal Properties</b>			
Heat Deflection Temperature A; (annealed 4 h/80 °C; 1.8 MPa)	ISO 75	°C	62
Heat Deflection Temperature B; (annealed 4 h/80 °C; 0.45 MPa)	ISO 75	°C	76
Coefficient of Linear Thermal Expansion	ISO 11359	10 <sup>-6</sup> /°C	60 - 90
<b>Optical Properties</b>			
Refractive Index, Sodium D Line	ISO 489	-	1.573
Haze	ASTM D 1003	%	1
Light Transmission at 550 nm	ASTM D 1003	%	91
<b>Other Properties</b>			
Density	ISO 1183	kg/m <sup>3</sup>	1020
Water Absorption, Saturated at 23 °C	ISO 62	%	0.07
<b>Processing</b>			
Linear Mold Shrinkage	ISO 294-4	%	0.3 - 1
Melt Temperature Range	ISO 294	°C	180 - 250
Mold Temperature Range	ISO 294	°C	30 - 50