INEOS STYROLUTION

ISCC International Sustainability & Carbon Certification

Styrolux ECO 684D

Styrene Butadiene Copolymer (SBC)

TECHNICAL DATASHEET

DESCRIPTION

The product line Styrolux® ECO 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® ECO grades food contact statements are available upon request. Styrolux® ECO 684D BB60 is a general purpose grade and can be used in injection molding for parts with enhanced toughness, in sheet and film extrusion as well as blow molding. Parts made of Styrolux® ECO 684D BB60 reveal excellent printability. Styrolux® ECO 684D BB60 is an ISCC compliant product leading to a substitution of fossil source styrene with ISCC certified bio-attributed styrene.

FEATURES

- Easy processing
- Well extrudable
- Good printability
- Sterilisable (ETO,NO2,Irradiation)
- Transparency

APPLICATIONS

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

Property, Test Condition	Standard	Unit	Values
Sustainability Properties			
Attributed Content of ISCC-certified Bio Sources (min.)	-	-	60
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	98
Tensile Stress at Yield, 23 °C	ASTM D 638	psi	3800
Elongation, Failure	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

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Property, Test Condition	Standard	Unit	Values
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
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
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)	ASTM D 792	g/cm³	1.01
Water Absorption, Saturated at 23 °C	ASTM D 570	%	0.07
Oxygen Transmission Rate (23 °C/0% RH)	ASTM D 3985	cc/100in²/day	8060
Water Vapor Transmission Rate (WVTR) (23 °C/0% to 85% RH gradient)	ASTM F1249-06	g/100in²/day	44.9
Processing			
Linear Mold Shrinkage	ASTM D 955	in/in	0.0065