

# Styrolux 3G55

Styrene Butadiene Copolymer (SBC)

## TECHNICAL DATASHEET

### DESCRIPTION

Styrolux® 3G55 is a clear styrene butadiene copolymer (SBC) used mainly in sheet extrusion and thermoforming applications. It is specifically designed for improved performance in blends with general-purpose polystyrene, providing parts with an excellent balance of toughness, transparency and economics. Because of the tendency of blocking, 3G55 is mainly used in inline thermoforming. 3G55 is difficult to print and decorate since it contains a microcrystalline wax.

### FEATURES

- Outstanding toughness
- Highest GPPS blend capability
- Good clarity

### APPLICATIONS

- Food and non-food packaging
- Food service items
- Drinking cups
- Extruded films
- In-line thermoforming

Property, Test Condition	Standard	Unit	Values
<b>Rheological Properties</b>			
Melt Flow Rate, 200 °C/5 kg	ASTM D 1238	g/10 min	13
<b>Mechanical Properties</b>			
Izod Notched Impact Strength, 23 °C (73 °F)	ASTM D 256	ft-lb/in	NB
Instrumented Dart Impact (total energy)	ASTM D 3763	in-lbs	187
Instrumented Dart Impact (Peak force)	ASTM D 3763	in-lbs	88.9
Tensile Stress at Yield, 23 °C	ASTM D 638	psi	2320
Tensile Strain at Break, 23 °C	ASTM D 638	%	>300
Tensile Modulus	ASTM D 638	psi x 10 <sup>3</sup>	170
Tensile Modulus (MD)	ASTM D 882	psi	121000
Tensile Modulus (TD)	ASTM D 882	psi	99300
Elongation, Failure	ASTM D 638	%	>300
Elongation at Break (MD)	ASTM D 882	%	310
Elongation at Break (TD)	ASTM D 882	%	350
Flexural Strength, 23 °C	ASTM D 790	psi	2460
Flexural Modulus, 23 °C	ASTM D 790	psi x 10 <sup>3</sup>	110

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Property, Test Condition	Standard	Unit	Values
Elmendorf Tear (MD)	ASTM D 1922	lbs	1.83
Elmendorf Tear (TD)	ASTM D 1922	lbs	0.75
<b>Thermal Properties</b>			
Vicat Softening Temperature, B/1 ( 120 °C/h, 10N)	ASTM D 1525	°F	161
DTUL @ 264 psi - Unannealed	ASTM D 648	°F	114
DTUL @ 66 psi - Unannealed	ASTM D 648	°F	152
Coefficient of Linear Thermal Expansion	ASTM D 696	10 <sup>-4</sup> /°F	0.72
<b>Electrical Properties</b>			
<b>Optical Properties</b>			
Refractive Index, Sodium D Line	ASTM D 542	-	1.570
Light Transmission at 550 nm	ASTM D 1003	%	90
Haze	ASTM D 1003	%	1.6
<b>Other Properties</b>			
Density	ASTM D 792	-	1.01
Water Absorption, Saturated at 23 °C	ASTM D 570	%	0.07
Moisture Absorption, Equilibrium 23 °C/50% RH		%	0.07
Oxygen Transmission Rate (23 °C/0% RH)	ASTM D 3985	cc/100in <sup>2</sup> /day	7750
Water Vapor Transmission Rate (WVTR) (23 °C/0% to 85% RH gradient)	ASTM F1249-06	g/100in <sup>2</sup> /day	26.3
<b>Processing</b>			
Linear Mold Shrinkage	ASTM D 955	in/in	0.0065
Melt Temperature Range		°F	356 to 482
Mold Temperature Range		°F	86 to 122

Typical values for uncolored products

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## SUPPLY FORM

Styrolux is supplied in pellet form and should be kept in its original containers in cool, dry place. Avoid direct exposure to sunlight. Styrolux® can be stored in silos at temperatures well below 45 °C.

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## PRODUCT SAFETY

During processing of Styrolux® small quantities of styrene monomer may be released into the atmosphere. At styrene vapor concentrations below 20 ppm no negative effects on health are expected. In our experience, the concentration of styrene does not exceed 1 ppm in well ventilated workplaces - that is where five to eight air changes per hour are made. For safety information please refer to our Material Safety Data Sheet for this product.

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