INEOS STYROLUTION

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
Rheological Properties			
Melt Flow Rate, 200 °C/5 kg	ASTM D 1238	g/10 min	13
Mechanical Properties			
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 Modulus	ASTM D 638	psi x 10^3	170
Tensile Modulus (MD)	ASTM D 882	psi	121000
Tensile Modulus (TD)	ASTM D 882	psi	99300
Elongation at Break (MD)	ASTM D 882		310
Elongation at Break (TD)	ASTM D 882	%	350
Flexural Strength, 23 °C	ASTM D 790		2460
Flexural Modulus, 23 °C	ASTM D 790	psi x 10^3	110
Elemendorf Tear (MD)	ASTM D 1922	lbs	1.83
Elemendorf Tear (TD)	ASTM D 1922	lbs	0.75
Thermal Properties			

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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^{-4}/°F	0.72
Optical Properties			
Refractive Index, Sodium D Line	ASTM D 542	-	1.57
Light Transmission at 550 nm	ASTM D 1003	%	90
Haze	ASTM D 1003	%	6
Other Properties			
Density	ASTM D 792	lb/in³	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/100in²/day	7750
Water Vapor Transmission Rate (WVTR) (23 °C/0% to 85% RH gradient)	ASTM F1249-06	g/100in²/day	26.3
Processing			
Linear Mold Shrinkage	ASTM D 955	in/in	0.0065