Styrolux® 693 D

Styrene Butadiene Styrene Block Copolymer

BASF Corporation

Product Description
Styrolux® 693 D is a clear styrene-butadiene copolymer (SBC) with a well balanced combination of toughness and clarity. Styrolux® 693 D is mainly used for thermoformed articles, especially in blends with general-purpose polystyrene. Styrolux® 693 D contains a microcrystalline wax which acts as an antiblock providing processing benefits but decreases the printability. Major applications include: food and non-food packagings, thermoformed transparent containers and cups for cold beverages, thermoformed lids, toys, boxes.

General			
Material Status	• Commercial: Active		
Availability	• Europe		
Additive	• Antiblock		
Features	• Antiblocking • Food Contact Acceptable	• Good Toughness • High Clarity	
Uses	• Blending • Containers • Cups	• Food Packaging • Lids • Packaging	• Toys
Agency Ratings	• FDA 21 CFR 177.1640		
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Blow Molding • Extrusion	• Injection Molding • Thermoforming	
Multi-Point Data	• Viscosity vs. Shear Rate (ISO 11403-2)		

Physical	Nominal Value	Unit	Test Method
Density	1.01	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	14.0	cm³/10min	ISO 1133
Water Absorption			ISO 62
Saturation, 23°C	0.070	%	
Equilibrium, 23°C, 50% RH	0.070	%	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (23°C)	1300	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	22.0	MPa	ISO 527-2
Tensile Strain (Yield, 23°C)	2.2	%	ISO 527-2
Nominal Tensile Strain at Break (23°C)	260	%	ISO 527-2
Flexural Modulus (23°C)	1400	MPa	ISO 178
Flexural Strength (23°C)	32.0	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	5.0	kJ/m²	
23°C	No Break		
Notched Izod Impact			
23°C	35.0	J/m	ASTM D256A
-30°C	2.80	kJ/m²	ISO 180/1A
23°C	3.50	kJ/m²	ISO 180/1A
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness (Shore D)	64		ISO 868
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, Unannealed	72.0	°C	ISO 75-2/B
1.8 MPa, Unannealed	59.0	°C	ISO 75-2/A
Vicat Softening Temperature			
--	76.0	°C	ISO 306/A50
--	48.0	°C	ISO 306/B50

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Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohm·cm	IEC 60093
Relative Permittivity			IEC 60250
23°C, 100 Hz	2.50		
23°C, 1 MHz	2.50		
Electric Strength (23°C)	88	kV/mm	IEC 60243-1

Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL			UL 94
1.60 mm	HB		
3.20 mm	HB		

Optical	Nominal Value	Unit	Test Method
Haze	2.0	%	DIN 5036-3

Additional Information	Nominal Value	Unit	Test Method
Transparency (2.00 mm)	89	%	DIN 5036-3

Injection	Nominal Value	Unit
Processing (Melt) Temp	180 to 250	°C
Mold Temperature	20.0 to 40.0	°C

Extrusion Notes
Flat Film Extrusion Melt Temperature: 190 to 230°C

Notes

[1] Typical properties: these are not to be construed as specifications.