

Product Information **Styrolux®**

684 D

11/2010

S/B/S, Copolymer



Product description

Styrolux® 684 D is a clear styrene-butadiene copolymer (SBC) used in injection molding for parts with enhanced toughness as well as in sheet and film extrusion and blow molding.
Parts made of Styrolux® 684 D reveal excellent printability.

Major applications include: food and non-food packagings, transparent containers and cups for cold beverages, thermoformed lids, thin film with high gas and water vapor permeability, toys, boxes.

Physical form and storage

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.

Product safety

During processing of Styrolux® small quantities of styrene monomer may be released into the atmosphere. At styrene vapour 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.

Styrolux® complies with the requirements of the FDA regulation 21 CFR 177.1640 and with most of the food regulations in European countries. The suitability of the articles for the intended food-contact application, the influence on taste and odor of the contents, global migration as well as adherence to specific limits has to be tested by the manufacturer or user in every case.

For safety information please refer to our Material Safety Data Sheet for this product.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. In order to check the availability of products please contact us or our sales agency.

Product Information

Typical values for uncoloured product at 23 °C ¹⁾	Test method ²⁾	Unit	Values ³⁾
Properties			
Density	ISO 1183	kg/m ³	1010
Water absorption, equilibrium in water at 23°C	similar to ISO 62	%	0.07
Moisture absorption, equilibrium 23°C/50% r.h.	similar to ISO 62	%	0.07
Processing			
Processing: Injection moulding (M), Extrusion (E), Blow moulding (B)	-	-	M.E.B.
Melt volume-flow rate MVR 200 °C/5 kg	ISO 1133	cm ³ /10min	11
Melt temperature, injection moulding	-	°C	180 - 250
Mould temperature, injection moulding	-	°C	30 - 50
Melt temperature, flat film extrusion	-	°C	190 - 230
Flammability			
UL 94 rating at 1.6 mm thickness	IEC 60695-11-10	class	HB
UL 94 rating at 3.18 mm thickness	IEC 60695-11-10	class	HB
Mechanical properties			
Tensile modulus	ISO 527-1/-2	MPa	1500
Stress at yield	ISO 527-1/-2	MPa	26
Yield strain	ISO 527-1/-2	%	2.3
Nominal strain at break	ISO 527-1/-2	%	160
Flexural modulus	ISO 178	MPa	1700
Flexural stress	ISO 178	MPa	40
Charpy unnotched impact strength (23°C)	ISO 179/1eU	kJ/m ²	N
Charpy notched impact strength (23°C)	ISO 179/1eA	kJ/m ²	4
Izod notched impact strength 1A (23°C)	ISO 180/A	kJ/m ²	4
Izod notched impact strength 1A (-30°C)	ISO 180/A	kJ/m ²	3
Izod notched impact strength (23°C)	ASTM D 256	J/m	23
Shore D hardness	ISO 868	-	68
Thermal properties			
Vicat-softening-temperature VST/A/50	ISO 306	°C	83
Vicat-softening-temperature VST/B/50	ISO 306	°C	59
Deflection temperature at 1,8 MPa (HDT A)	ISO 75-1/-2	°C	65
HDT B (0.45 MPa)	ISO 75-1/-2	°C	75
Electrical properties			
Relative permittivity (100Hz)	IEC 60250	-	2.5
Relative permittivity (1 MHz)	IEC 60250	-	2.5
Volume resistivity	IEC 60093	Ohm*m	>1E13
Surface resistivity	IEC 60093	Ohm	1E15
Electric strength K20/P50	IEC 60243-1	kV/mm	140
Optical properties			
Transparency, d = 2 mm	DIN 5036-3	%	89
Haze	DIN 5036-3	%	1.5

Footnotes

1) If product name or properties don't state otherwise.

2) Specimens according to CAMPUS.

3) The asterisk symbol "*" signifies inapplicable properties.

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