

Styrolux® 684D
SB

INEOS Styrolution

Styrolux® 684D comprises of clear styrene butadiene copolymer. The grade has in general an intrinsic toughness, is easy to process and works as modifier and compatibilizer not only in polystyrene but in many other polymers, e.g. polyolefins. For Styrolux® 684D food contact statements are available upon request. Styrolux® 684D 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 684D reveal excellent printability.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	11	cm ³ /10min	ISO 1133
Temperature	200	°C	-
Load	5	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	1400	MPa	ISO 527
Yield stress	26	MPa	ISO 527
Yield strain	2.3	%	ISO 527
Notched Impact Strength (Charpy), +23°C	2	kJ/m ²	ISO 179/1eA

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	59	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	73	°C	ISO 75-1/-2

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.07	%	Sim. to ISO 62
Density	1010	kg/m ³	ISO 1183

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Thermal Conductivity of Melt	0.155	W/(m K)	-
Spec. heat capacity of melt	2100	J/(kg K)	-
Ejection temperature	77	°C	-

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Melt temperature	180 - 250	°C	-
Mold temperature	30 - 50	°C	-

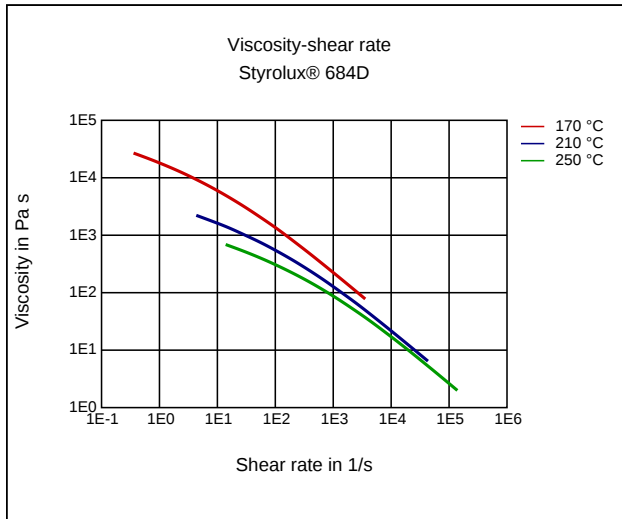
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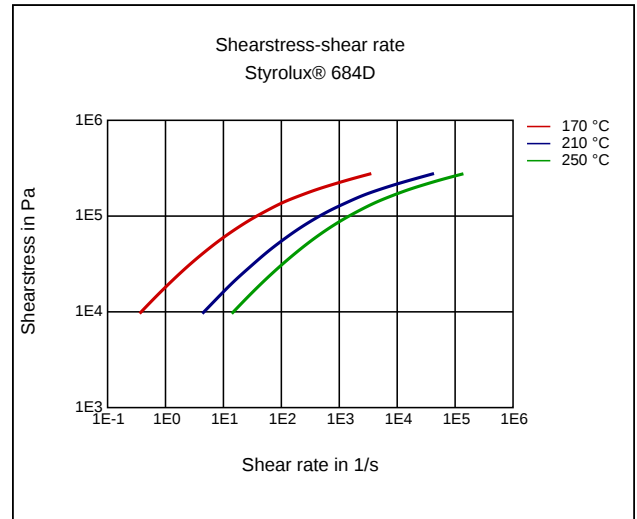
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Diagrams

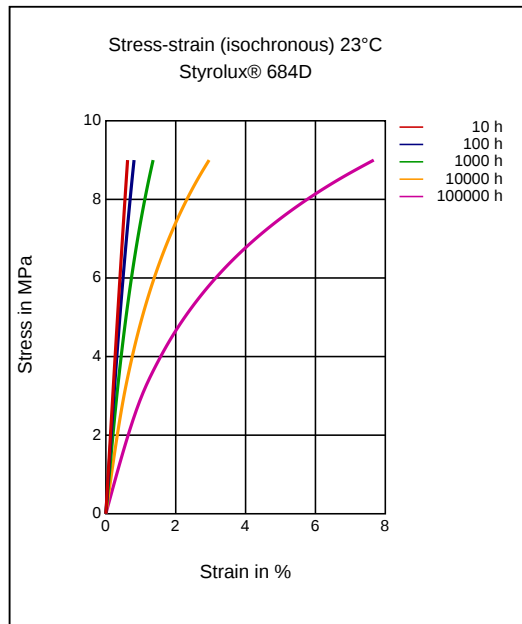
Viscosity-shear rate



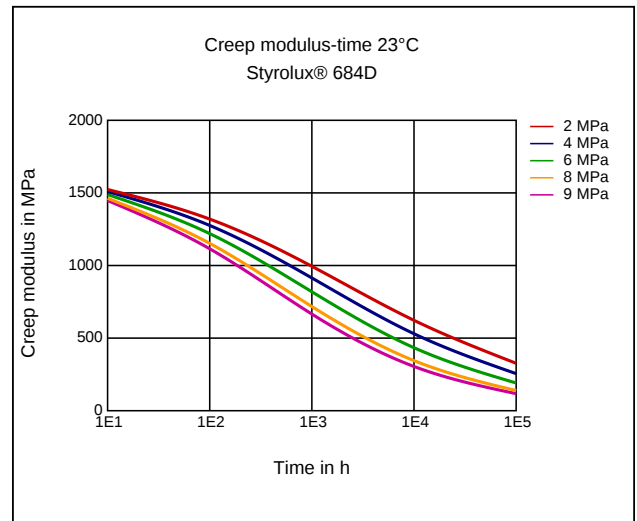
Shearstress-shear rate



Stress-strain (isochronous) 23 °C



Creep modulus-time 23 °C

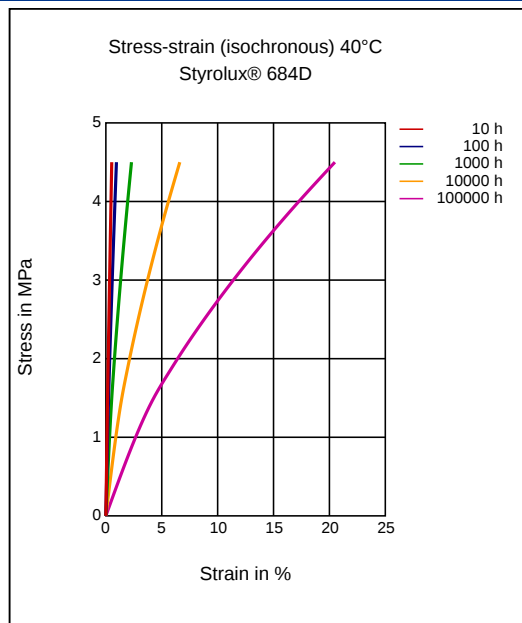


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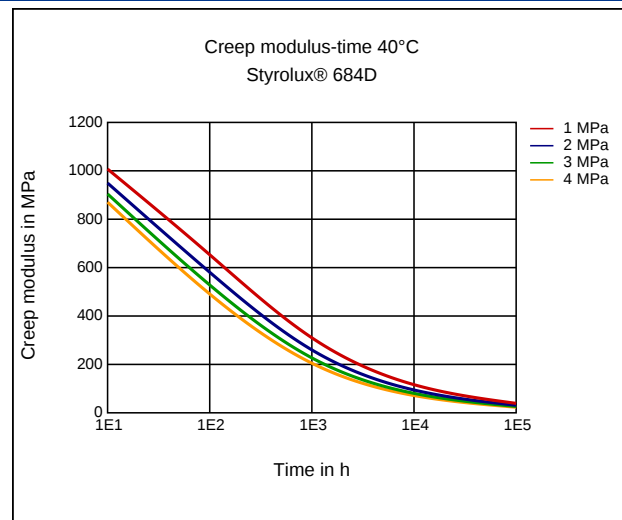
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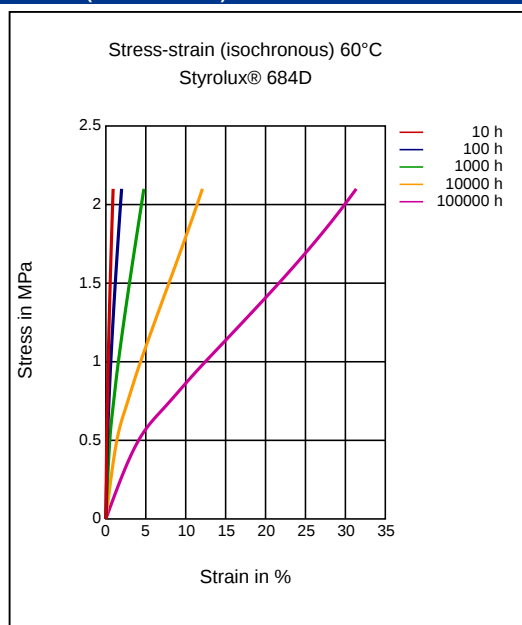
Stress-strain (isochronous) 40 °C



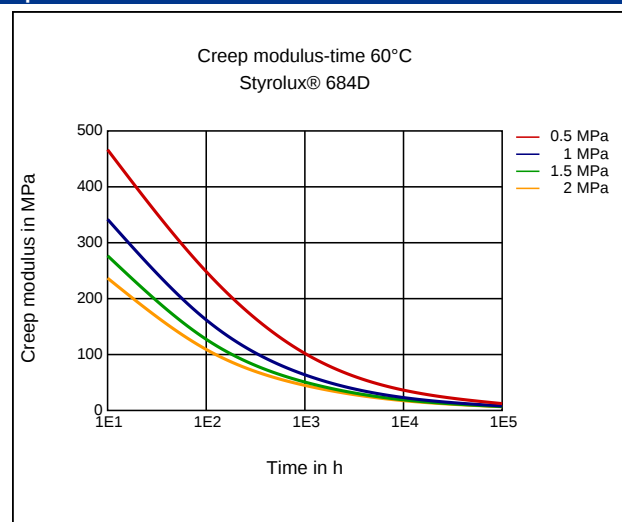
Creep modulus-time 40 °C



Stress-strain (isochronous) 60 °C



Creep modulus-time 60 °C



Characteristics

Processing

Injection Molding, Film Extrusion, Sheet Extrusion, Other Extrusion, Blow Molding

Delivery form

Pellets

Special Characteristics

Sterilizable, Ethylene Oxide (EtO) Sterilization, Gamma irradiation sterilization

Chemical Resistance

Radiation Resistance

Certifications

Medical, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved, Drug Master File, Long term supply assurance, Food approval, Food approval 10/2011, Food Contact (FDA)

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Applications

Medical

Injection Molding

As a rule, the Styrolux® granules do not have to be pre-dried. However, in the event of unfavorable storage or transportation conditions involving severe temperature fluctuations, moisture can condense on the surface of the granules and this then has to be removed in a pre-drying step. The granules should be pre-dried in a dry-air dryer for 3 to 4 hours at a temperature of about 50 °C.

PROCESSING

Melt temperature, range: 180 - 250 °C

Mold temperature, range: 30 - 50 °C

Film Extrusion

PROCESSING

Blown film, Melt temperature: 180 °C

Flat film, Melt temperature: 190 - 230 °C

Other Extrusion

PROCESSING

Pipes, Melt temperature: 230 °C

Sheet Extrusion

PROCESSING

Sheets, Melt temperature: 190 °C