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INEOS Styrolution

ALBIS

Styrolution® PS 168N

PS

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Styrolution® PS 168N is a high molecular, heat resistant grade used where high strength is required. Suitable for physically or chemically expanded extruded sheet. As blend component with high impact Polystyrol or Styrolux.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	1.5	cm³/10min	ISO 1133
Temperature	200	°C	-
Load	5	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	3300	MPa	ISO 527
Stress at Break	59	MPa	ISO 527
Strain at Break	3	%	ISO 527
Tensile Creep Modulus, 1h	3300	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	2600	MPa	ISO 899-1
Notched Impact Strength (Charpy), +23°C	4	kJ/m²	ISO 179/1eA

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Glass Transition Temperature (10°C/min)	100	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	86	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	98	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	101	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	80	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB	class	UL 94
Thickness tested	1.5	mm	-
UL recognition	yes	-	-
Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	3.2	mm	-
UL recognition	yes	-	-
Oxygen index	18	%	ISO 4589-1/-2

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	2.5	-	IEC 62631-2-1
Relative permittivity, 1MHz	2.5	-	IEC 62631-2-1
Dissipation Factor, 100Hz	0.9	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	0.5	E-4	IEC 62631-2-1
Comparative tracking index	475	-	IEC 60112

Other Properties	Value	Unit	Test Standard
ISO Data			
Density	1050	kg/m³	ISO 1183

Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Viscosity number	119	cm³/g	ISO 307, 1157, 1628

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	936	kg/m³	-
Thermal Conductivity of Melt	0.155	W/(m K)	-
Spec. heat capacity of melt	2300	J/(kg K)	-
Ejection temperature	96	°C	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	230	°C	ISO 294
Injection Molding, mold temperature	40	°C	ISO 294

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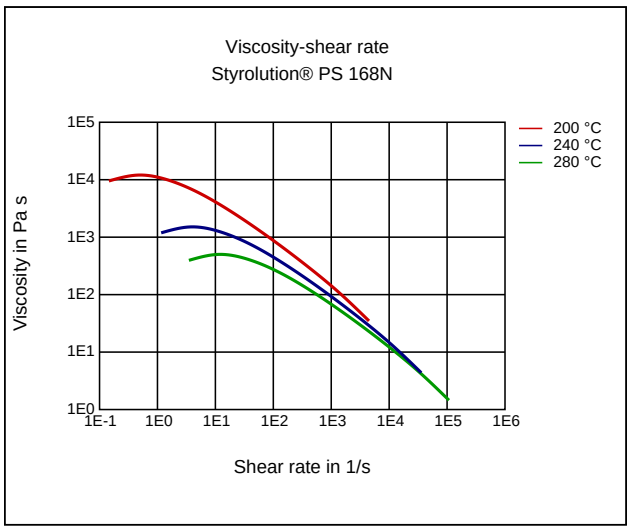
Injection Molding, injection velocity	200	mm/s	ISO 294

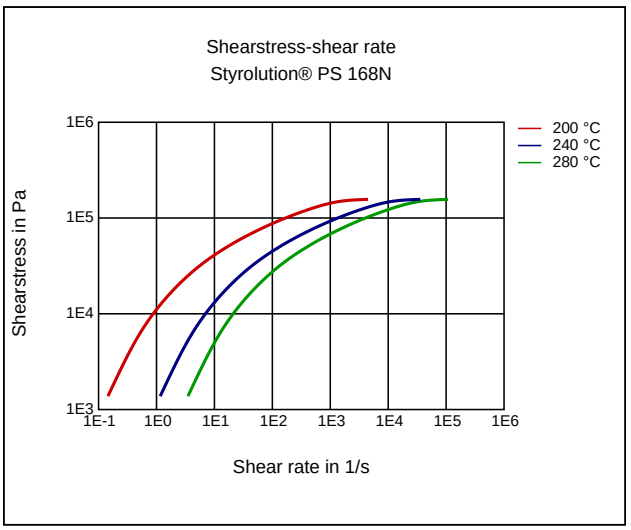
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Melt temperature	180 - 280	°C	-
Mold temperature	10 - 60	°C	-

Diagrams

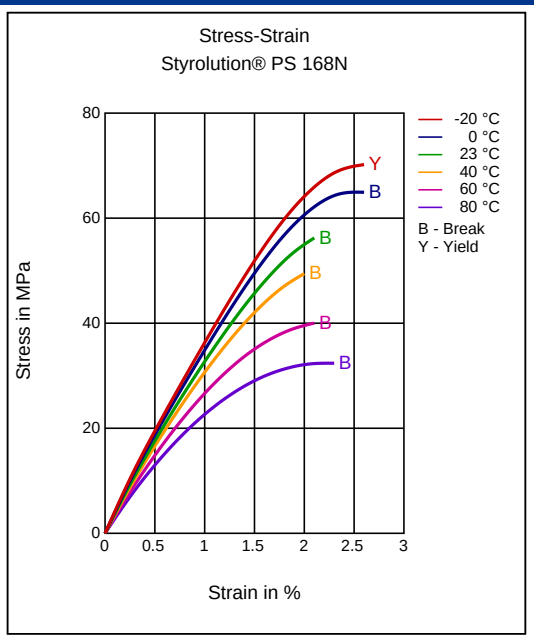
Viscosity-shear rate



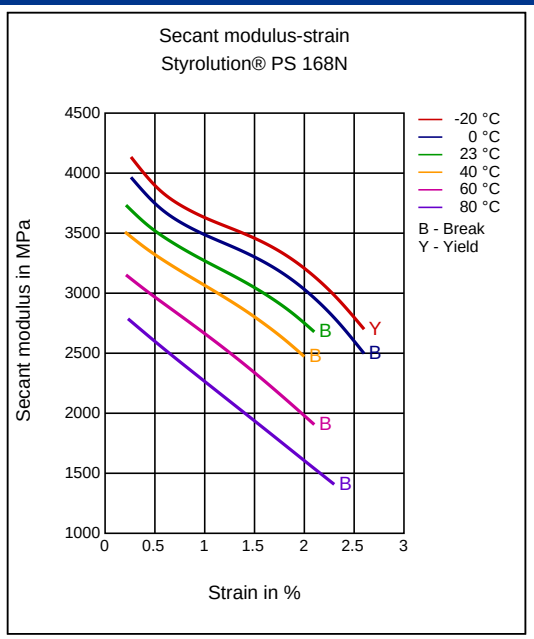
Shearstress-shear rate



Stress-strain



Secant modulus-strain



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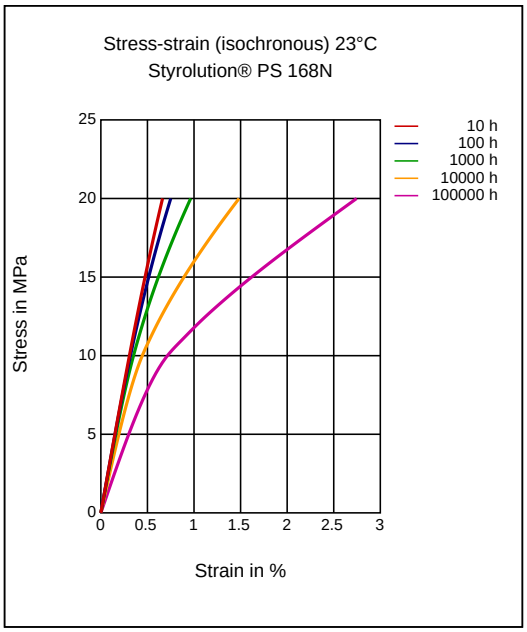
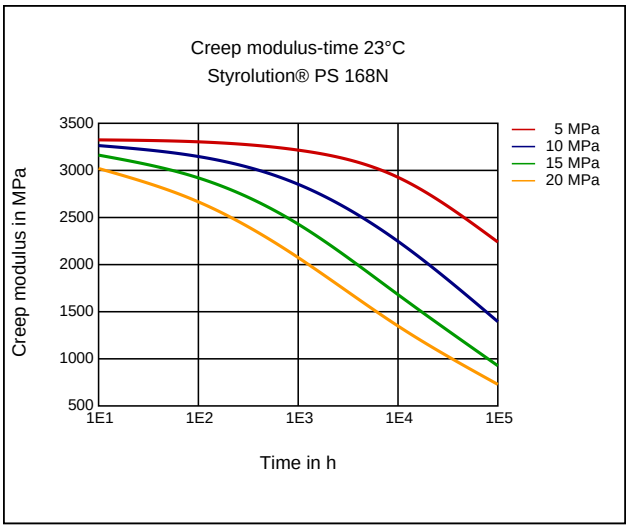
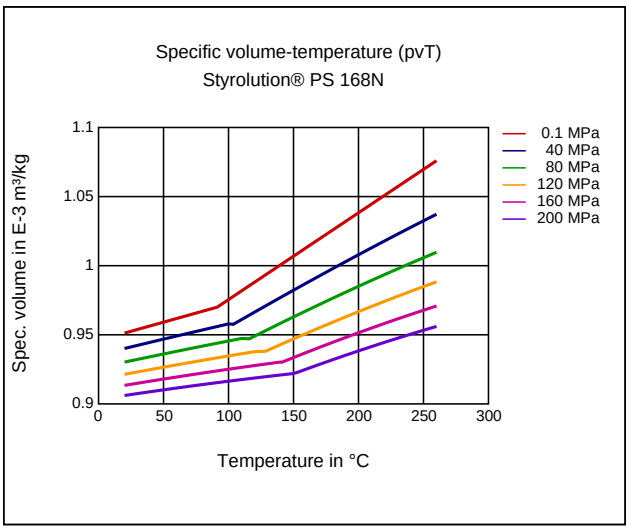
Stress-strain (isochronous) 23 °C



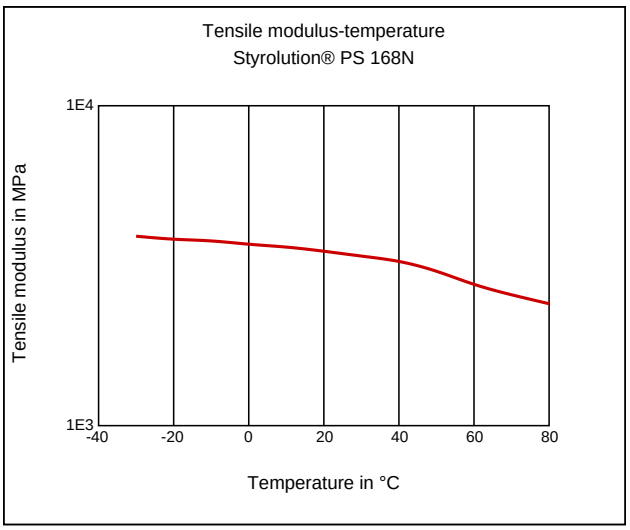
Creep modulus-time 23 °C



Specific volume-temperature (pvT)



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding, Film Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion

Special Characteristics

Transparent

Delivery form

Pellets

Injection Molding

PROCESSING
injection molding, Melt temperature, range: 180 - 280 °C
injection molding, Melt temperature, recommended: 230 °C
injection molding, Mold temperature, range: 10 - 60 °C
injection molding, Mold temperature, recommended: 40 °C

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Polystyrol 168N can be injection molded at temperatures between 180 and 280°C.Recommended mold temperatures are between 10 and 60°C.

Film Extrusion

PROCESSING
Extrusion, Blown film, Melt temperature: 190 - 220 °C
Extrusion, Flat film, Melt temperature: 210 - 240 °C

Extrusion melt temperature should not exceed 240°C.

Other Extrusion

PROCESSING
Extrusion, Pipes, Melt temperature: 180 - 220 °C

Profile extrusion

PROCESSING
Extrusion, Profiles, Melt temperature: 220 °C

Sheet Extrusion

PROCESSING
Extrusion, Plates, Melt temperature: 210 - 240 °C