+135-3858-6433 (GuangDong)
+188-1699-6168 (ShangHai)
+852-6957-5415 (HongKong)

INEOS Styrolution

ALBIS

Styrolution® PS 165N

PS

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Styrolution® PS 165N is a high molecular weight, good flowing grade, often blended with high impact extrusion grades.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	3.4	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	52	MPa	ISO 527
Strain at Break	2	%	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	3	kJ/m²	ISO 179/1eA

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Glass Transition Temperature (10°C/min)	90	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	76	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	84	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	89	°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	0.7	E-4	IEC 62631-2-1
Comparative tracking index	375	-	IEC 60112

Other Properties	Value	Unit	Test Standard
ISO Data			
Density	1040	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	82	°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
Injection Molding, injection velocity	200	mm/s	ISO 294

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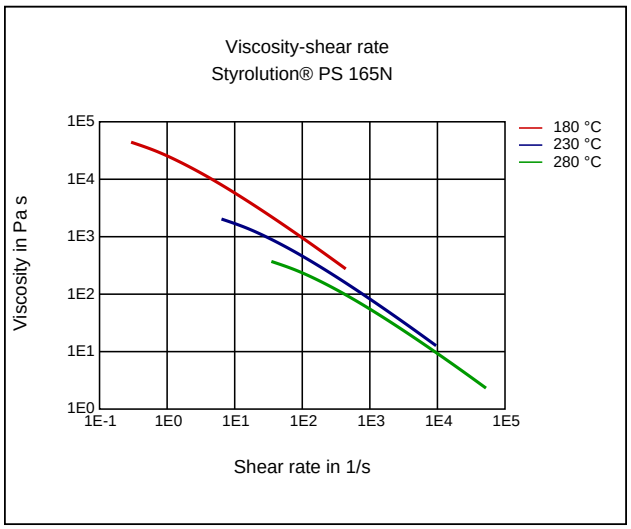
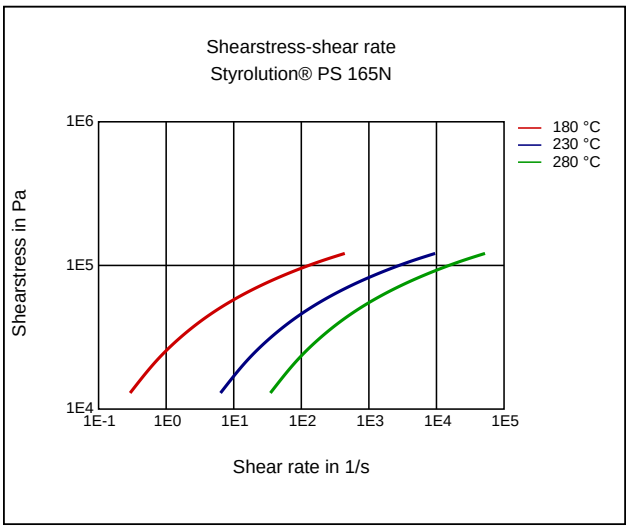
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Melt temperature	180 - 280	°C	-
Mold temperature	10 - 60	°C	-

Diagrams

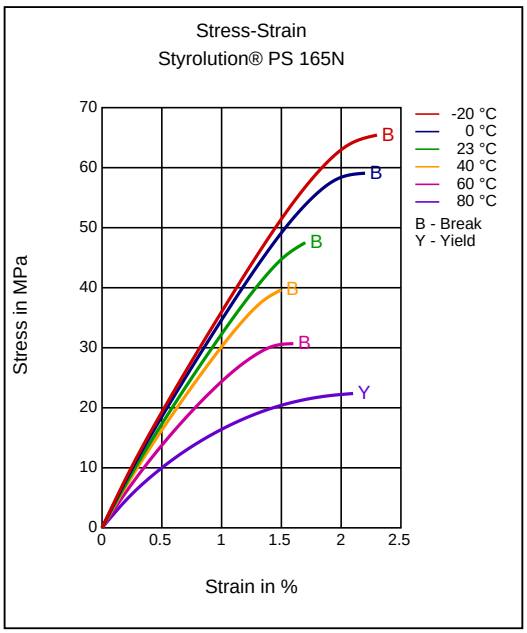
Viscosity-shear rate



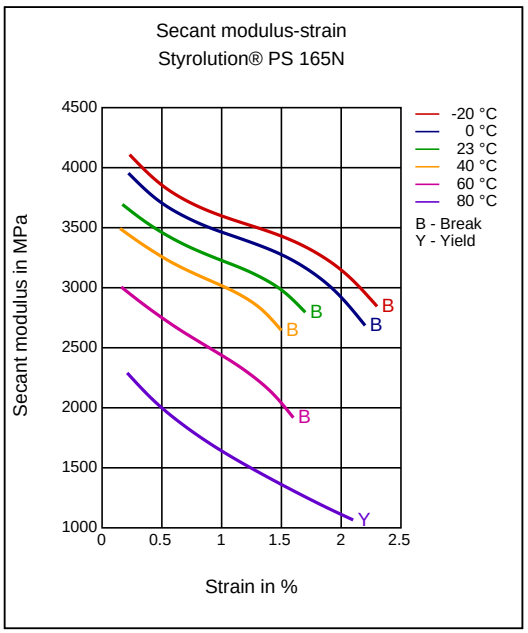
Shearstress-shear rate



Stress-strain



Secant modulus-strain



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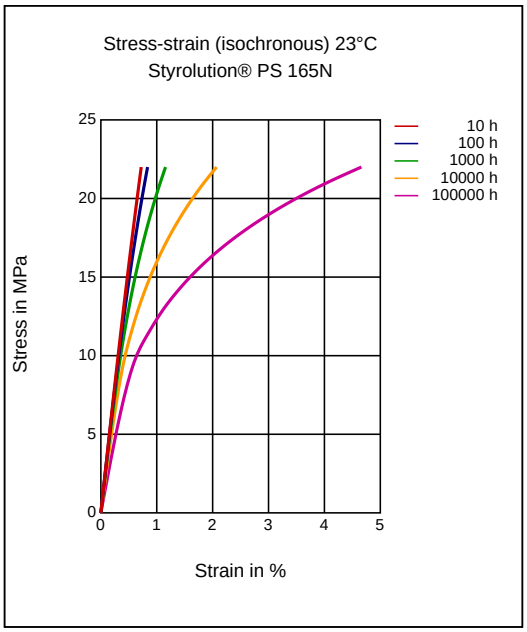
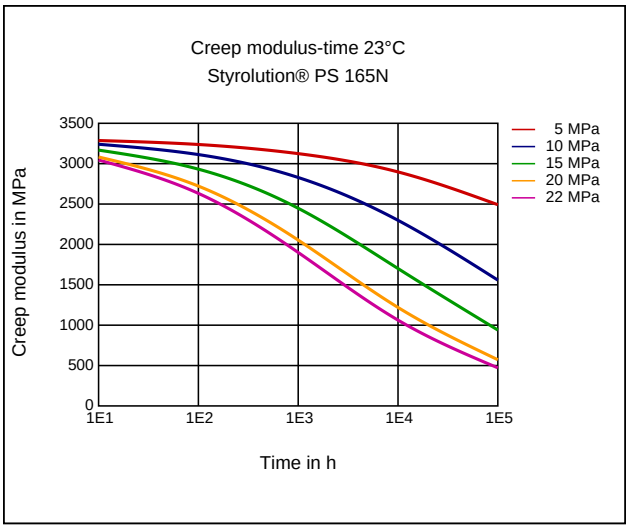
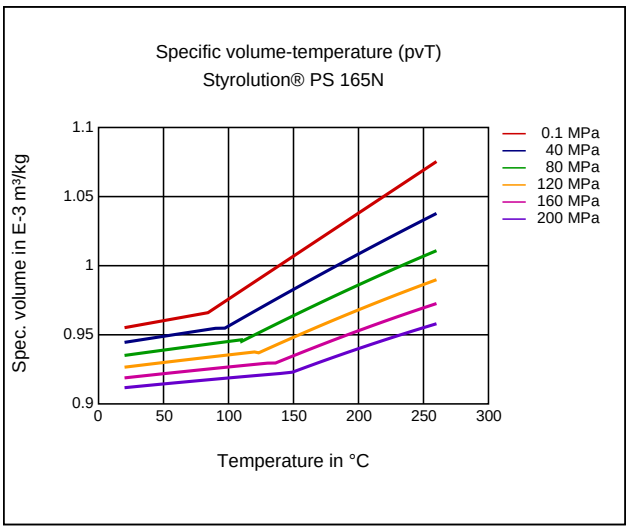
Stress-strain (isochronous) 23 °C



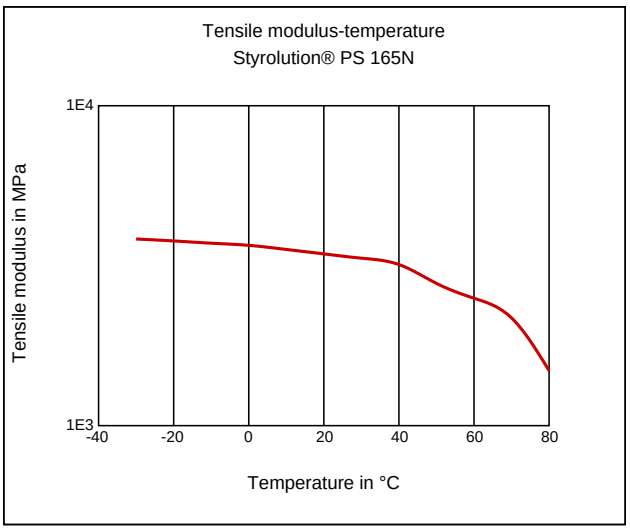
Creep modulus-time 23 °C



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 165N 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: 180 - 210 °C
Extrusion, Flat film, Melt temperature: 200 - 240 °C

Extrusion melt temperature should not exceed 240°C.

Other Extrusion

PROCESSING
Extrusion, Pipes, Melt temperature: 180 - 210 °C

Profile extrusion

PROCESSING
Extrusion, Profiles, Melt temperature: 210 °C

Sheet Extrusion

PROCESSING
Extrusion, Plates, Melt temperature: 200 - 230 °C