

Styrolution® PS 158N is a heat resistant, rapid freezing general purpose grade. It is suitable for expanded sheet and film; for blends with high impact Polystyrol in heat contact applications, for transparent, resistant applications in blends with Styrolux.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	3	cm ³ /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	55	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	3	kJ/m ²	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	425	-	IEC 60112

Other Properties	Value	Unit	Test Standard
ISO Data			
Density	1050	kg/m ³	ISO 1183

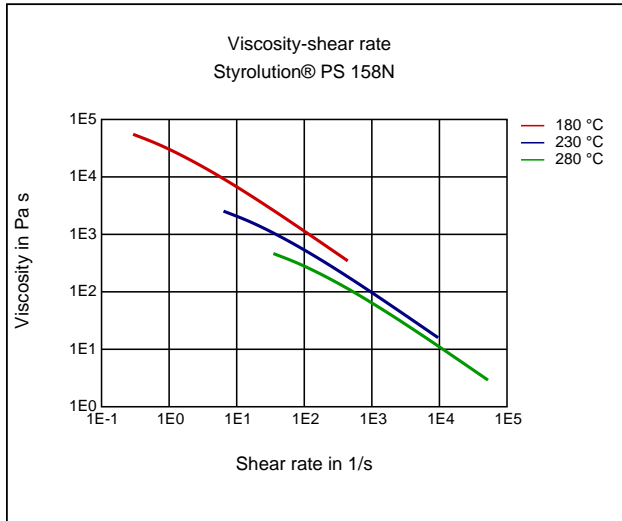
Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Viscosity number	96	cm ³ /g	ISO 307, 1157, 1628

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	936	kg/m ³	-
Thermal Conductivity of Melt	0.155	W/(m K)	-
Spec. heat capacity of melt	2300	J/(kg K)	-
Ejection temperature	96	°C	-

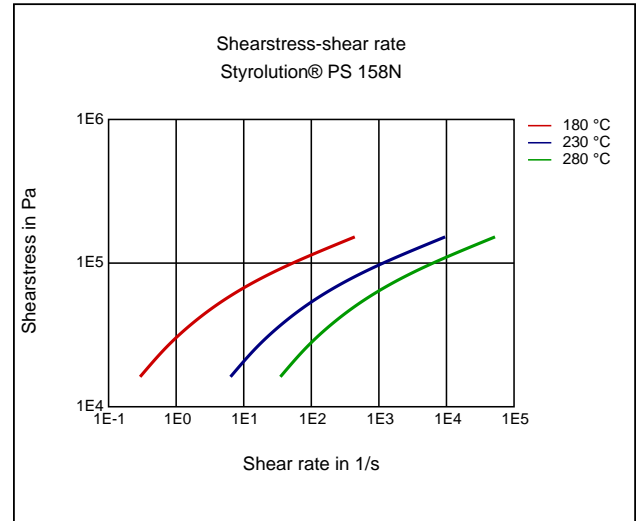
Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	230	°C	ISO 294
Injection Molding, mold temperature	40	°C	ISO 294

Diagrams

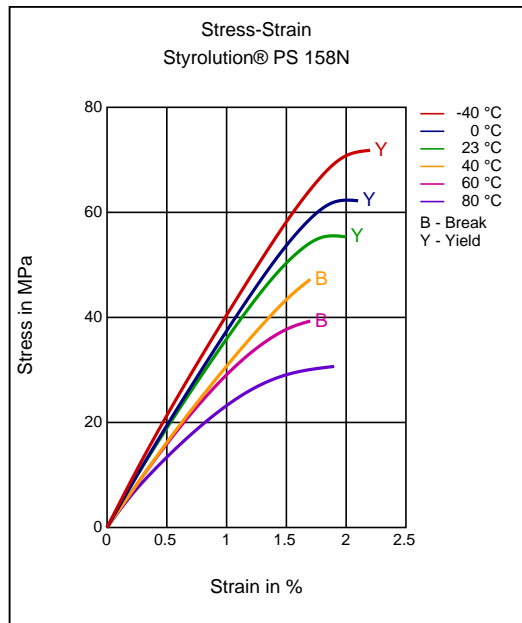
Viscosity-shear rate



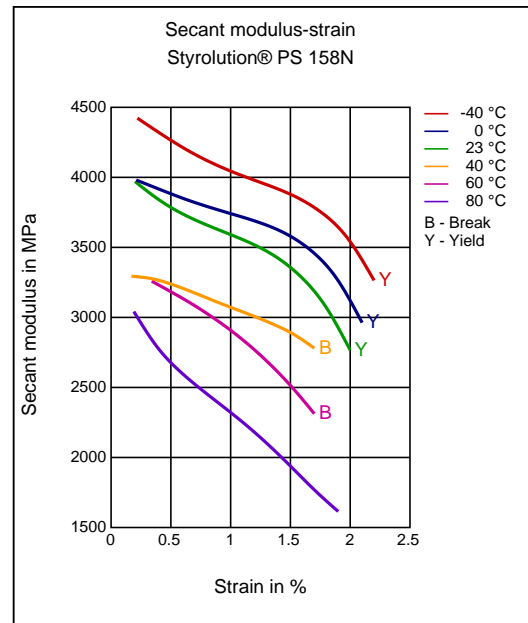
Shearstress-shear rate



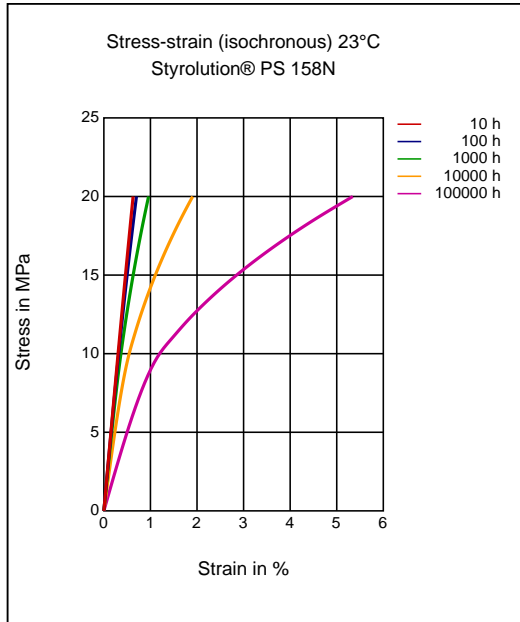
Stress-strain



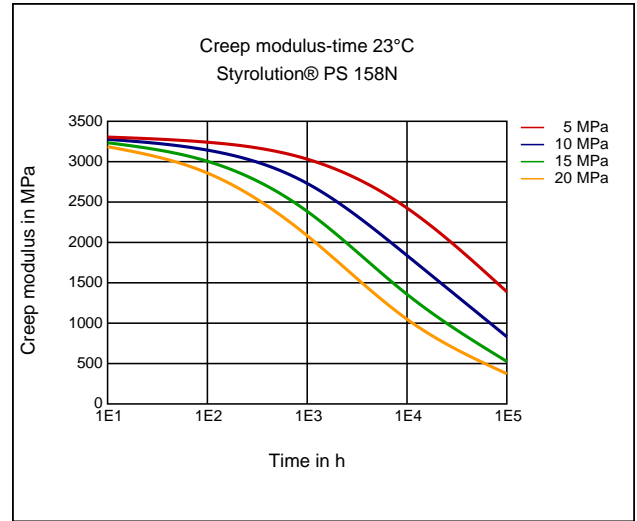
Secant modulus-strain



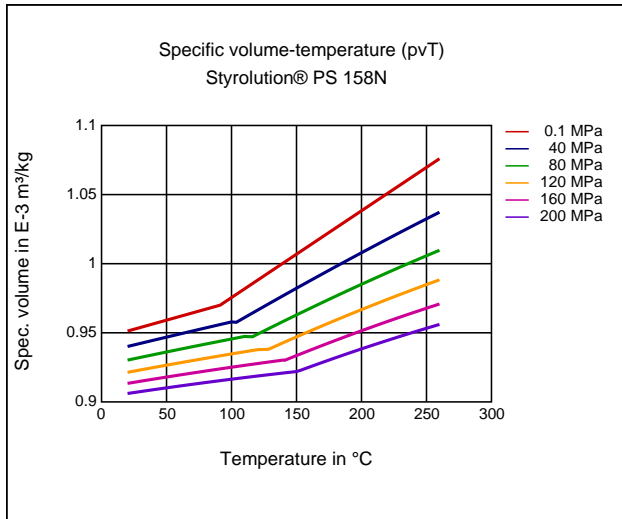
Stress-strain (isochronous) 23 °C



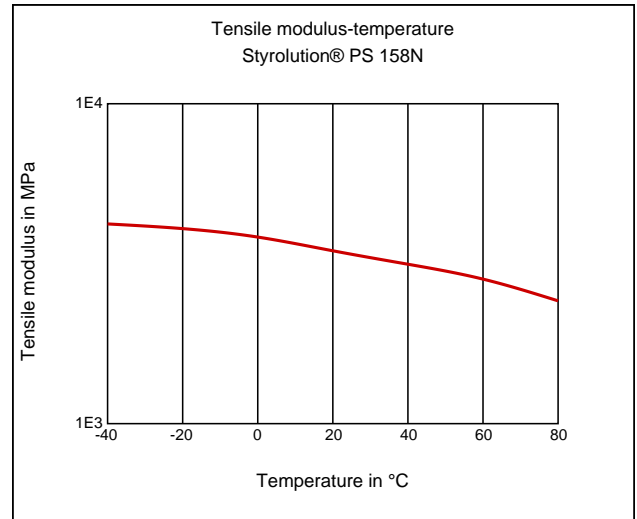
Creep modulus-time 23 °C



Specific volume-temperature (pvT)



Tensile Modulus-Temperature



Characteristics

Processing

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

Delivery form

Pellets

Special Characteristics

Transparent

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

Polystyrol 158N 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

Disclaimer

Liability Exclusion

These guide values are measured and provided by the product manufacturer and have been determined on standardised test specimens and can be affected by pigmentation, mould design and processing conditions. M-Base has taken the guide values from the producer's original Technical Data Sheet. **ALBIS AND M-BASE ARE THEREFORE NOT RESPONSIBLE FOR THE ACCURACY OF THE GUIDE VALUES AND CANNOT GIVE ANY WARRANTY WITH REGARD TO THEIR CORRECTNESS.**

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