Pebax® 6333 SP 01

TPA

Pebax® 6333 SP 01 resin

Polyether block amide **Pebax® 6333 SP 01 resin** is a thermoplastic elastomer made of flexible polyether and rigid polyamide.
This SP grade has been developed to be heat and UV resistant.

Main applications:
- Athletic foot wear components.
- Ski boots.

Packaging:
This grade is delivered dried in sealed packaging (20 or 25 kg bags) ready to be processed.

Shelf Life:
Two years from the delivery. For any use above this limit, please refer to our technical services.

Rheological properties	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	**1.2 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.4 / ***	%	ISO 294-4, 2577

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	**307 / 285**	MPa	ISO 527-1/-2
Yield stress	**19 / 18**	MPa	ISO 527-1/-2
Yield strain	**22 / 22**	%	ISO 527-1/-2
Nominal strain at break	**>50 / >50**	%	ISO 527-1/-2
Charpy impact strength, +23°C	**N / N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N / N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**N / N**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**- / 20**	kJ/m²	ISO 179/1eA

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 10°C/min	**169 / ***	°C	ISO 11357-1/-3
Temp. of deflection under load, 0.45 MPa	**90 / ***	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	**157 / ***	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**140 / ***	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm nom. thickn.	**HB / ***	class	IEC 60695-11-10
Thickness tested	**1.6 / ***	mm	-
Yellow Card available	**yes / ***	-	-
Oxygen index	**20 / ***	%	ISO 4589-1/-2

Electrical properties	dry / cond	Unit	Test Standard
Relative permittivity, 100Hz	**9 / -**	-	IEC 60250
Relative permittivity, 1MHz	**4 / -**	-	IEC 60250

Pebax® 6333 SP 01

TPA

Dissipation factor, 100Hz	**1440 / -**	E-4	IEC 60250
Dissipation factor, 1MHz	**757 / -**	E-4	IEC 60250
Volume resistivity	**9E11 / -**	Ohm*m	IEC 60093
Surface resistivity	*** / 1E13**	Ohm	IEC 60093
Electric strength	**42.5 / -**	kV/mm	IEC 60243-1
Comparative tracking index	*** / 600**	-	IEC 60112

Other properties	**dry / cond**	**Unit**	**Test Standard**
Water absorption	**1.1 / ***	%	Sim. to ISO 62
Humidity absorption	**0.7 / ***	%	Sim. to ISO 62
Density	**1010 / 1010**	kg/m³	ISO 1183

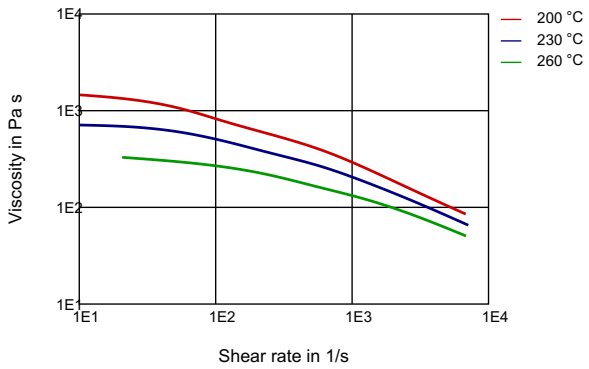
Rheological calculation properties	**Value**	**Unit**	**Test Standard**
Density of melt	**830**	kg/m³	-
Thermal conductivity of melt	**0.18**	W/(m K)	-
Spec. heat capacity of melt	**2800**	J/(kg K)	-

Test specimen production	**Value**	**Unit**	**Test Standard**
Injection Molding, melt temperature	**260**	°C	ISO 294
Injection Molding, mold temperature	**60**	°C	ISO 10724
Injection Molding, injection velocity	**200**	mm/s	ISO 294
Injection Molding, pressure at hold	**30**	MPa	ISO 294

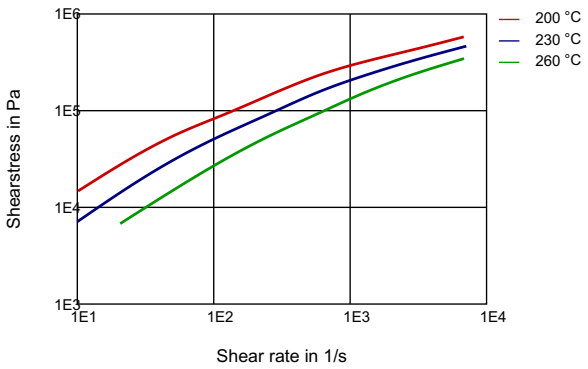
Mechanical properties (TPE)	**dry / cond**	**Unit**	**Test Standard**
Stress at 10% elongation	**14 / ***	MPa	ISO 527-1/-2
Stress at 100% elongation	**17 / ***	MPa	ISO 527-1/-2
Strain at break TPE	**>300 / ***	%	ISO 527-1/-2
Stress at break TPE	**53 / ***	MPa	ISO 527-1/-2
Compression set at 23 °C, 24h	**47 / ***	%	ISO 815
Tear strength	**127 / ***	kN/m	ISO 34-1
Abrasion resistance	**55 / ***	mm³	ISO 4649
Shore D hardness, 15s	**58 / ***	-	ISO 7619-1

Diagrams

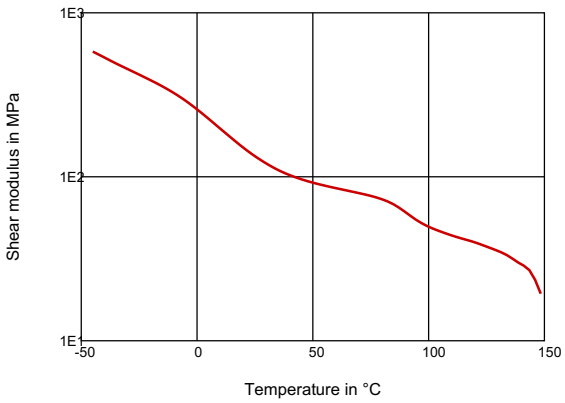
Viscosity-shear rate



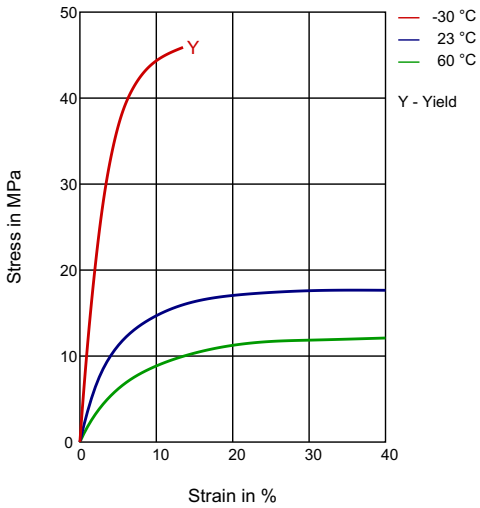
Shearstress-shear rate



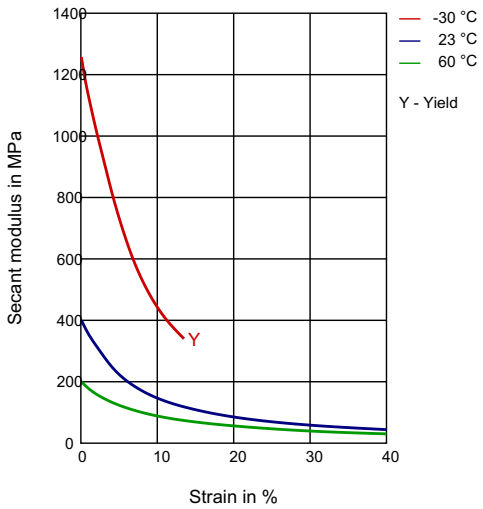
Dynamic Shear modulus-temperature



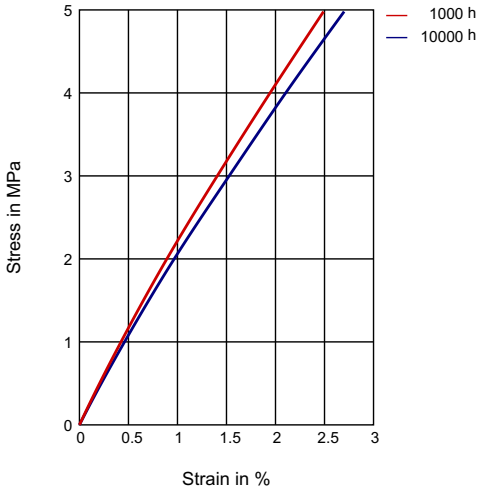
Stress-strain



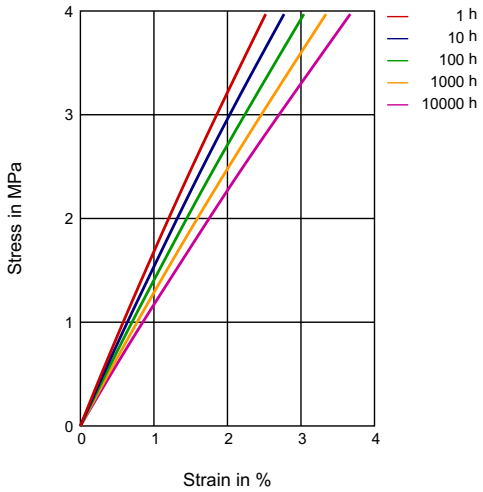
Secant modulus-strain



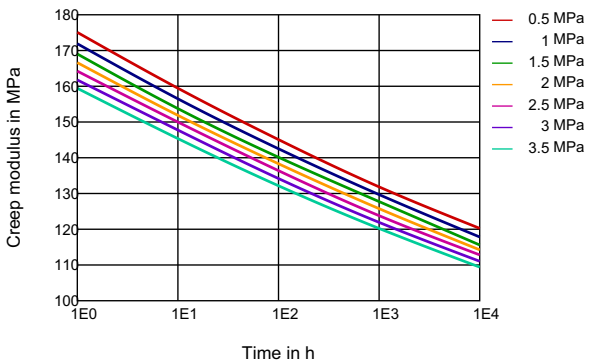
Stress-strain (isochronous) 23°C



Stress-strain (isochronous) 40°C



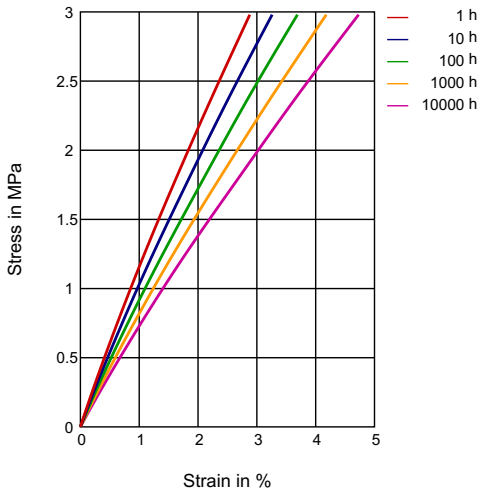
Creep modulus-time 40°C



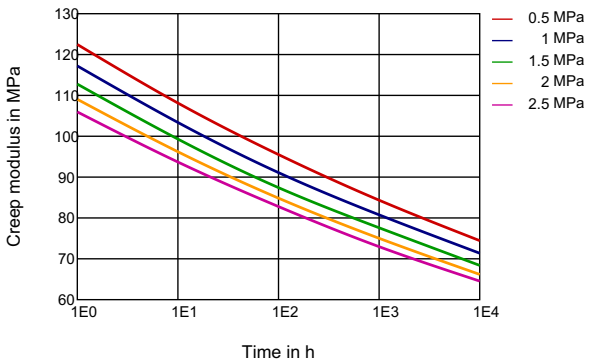
Pebax® 6333 SP 01

TPA

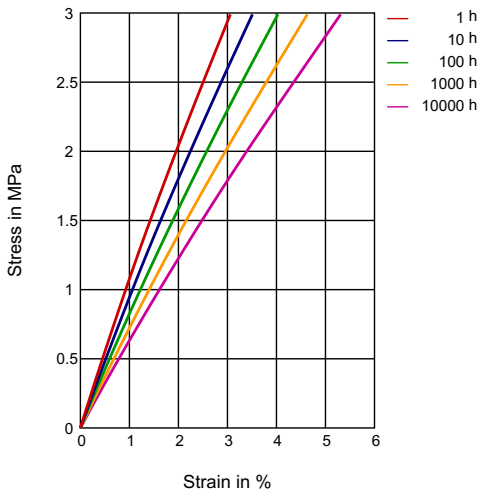
Stress-strain (isochronous) 60°C



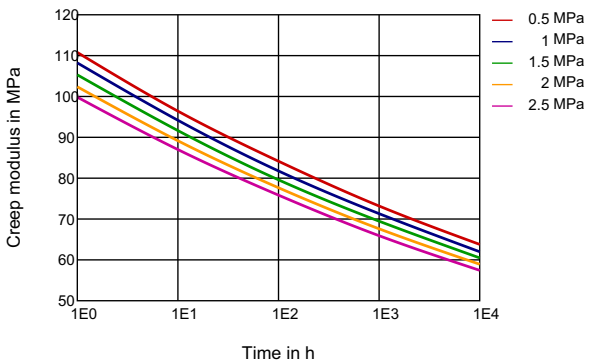
Creep modulus-time 60°C



Stress-strain (isochronous) 80°C



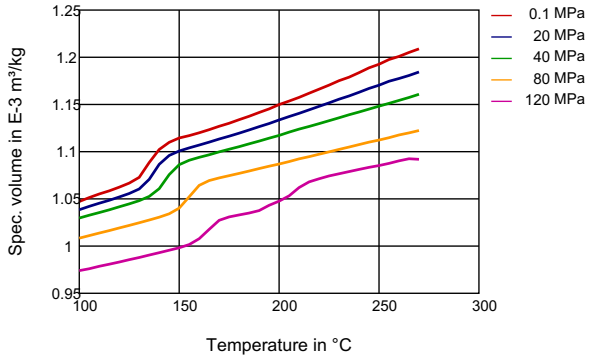
Creep modulus-time 80°C



Pebax® 6333 SP 01

TPA

Specific volume-temperature (pvT)



Processing conditions:

- Typical melt temperature (Min / Recommended / Max) : 230°C / 260°C / 290°C.
- Typical mold temperature : 25 – 60°C.
- Drying time and temperature (only necessary for bags opened for more than two hours) : 4-6 hours at 65-75°C.

Processing conditions:

- Typical melt temperature (Min / Recommended / Max) : 210°C / 225°C / 240°C.
- Drying time and temperature (only necessary for bags opened for more than two hours) : 4-6 hours at 65-75°C.

Characteristics

Processing

Injection Molding, Film Extrusion, Profile Extrusion, Other Extrusion, Transfer Molding, Casting, Thermoforming

Special Characteristics

Platable, Light stabilized or stable to light, U.V. stabilized or stable to weather, Heat stabilized or stable to heat

Delivery form

Pellets

Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Chemical Media Resistance

Acids

✔ Sulfuric Acid (38% by mass) (23°C)

Bases

✔ Sodium Hydroxide solution (1% by mass) (23°C)

Alcohols

✔ Ethanol (23°C)

Hydrocarbons

✔ iso-Octane (23°C)

Ketones

✔ Acetone (23°C)

Salt solutions

✔ Zinc Chloride solution (50% by mass) (23°C)

Other

- ✔ Water (23°C)