

PEBAX®

4033 SP 01

Polyether block amide **Pebax® 4033 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.

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Molding Shrinkage, parallel	0.4 / *	%	ISO 294-4, 2577
Molding Shrinkage, normal	1.1 / *	%	ISO 294-4, 2577
MECHANICAL PROPERTIES			
Tensile Modulus	73 / 71	MPa	ISO 527-1/-2
	10600 / 10300	psi	
Stress at 50% Strain	9 / 9	MPa	ISO 527-1/-2
	1310 / 1310	psi	
Strain at Break	>50 / >50	%	ISO 527-1/-2
Stress at 10% Elongation	5 / *	MPa	ISO 527-1/-2
	725 / *	psi	
Stress at 100% Elongation	11 / *	MPa	ISO 527-1/-2
	1600 / *	psi	
Strain at Break TPE	>300 / *	%	ISO 527-1/-2
Stress at Break TPE	40 / *	MPa	ISO 527-1/-2
	5800 / *	psi	
Compression Set at 23 °C, 24h	32 / *	%	ISO 815
Tear Strength	85 / *	kN/m	ISO 34-1
Abrasion Resistance	48 / *	mm ³	ISO 4649
Shore A Hardness	90 / *	-	ISO 868
Shore D Hardness	35 / *	-	ISO 868
Charpy Impact Strength, +23°C	- / No Break	kJ/m ²	ISO 179/1eU
Charpy Impact Strength, -30°C	- / No Break	kJ/m ²	ISO 179/1eU
Charpy Notched Impact Strength, +23°C	- / No Break	kJ/m ²	ISO 179/1eA
Charpy Notched Impact Strength, -30°C	- / No Break	kJ/m ²	ISO 179/1eA
THERMAL PROPERTIES			
Melting Temperature, 10°C/min	160 / *	°C	ISO 11357-1/-3
Glass Transition Temperature, 10°C/min	-65 / *	°C	ISO 11357-1/-2
	-85 / *	°F	

PEBAX®

4033 SP 01

Temp. of Deflection Under Load, 0.45 MPa	52 / *	°C	ISO 75-1/-2
	126 / *	°F	
Coeff. of Linear Thermal Expansion, parallel	195 / *	E-6/K	ISO 11359-1/-2
ELECTRICAL PROPERTIES			
Relative Permittivity, 100Hz	7 / -	-	IEC 60250
Relative Permittivity, 1MHz	5 / -	-	IEC 60250
Dissipation Factor, 100Hz	710 / -	E-4	IEC 60250
Dissipation Factor, 1MHz	604 / -	E-4	IEC 60250
Volume Resistivity	2.6E11 / -	Ohm*m	IEC 60093
Surface Resistivity	* / 3E12	Ohm	IEC 60093
Dielectric (Electric) Strength	39 / -	kV/mm	IEC 60243-1
	991 / -	kV/in	
Comparative Tracking Index	* / 600	-	IEC 60112
OTHER PROPERTIES			
Water Absorption	1.2 / *	%	Sim. to ISO 62
Humidity Absorption	0.5 / *	%	Sim. to ISO 62
Density	1000 / 1000	kg/m³	ISO 1183
	1 / 1	g/cm³	
Spec. heat capacity of melt	2800	J/(kg K)	-
Thermal conductivity of melt	0.18	W/(m K)	-
Density of melt	830	kg/m³	-
	51.8	lb/ft³	

MAIN APPLICATIONS:

- Flexible injected parts
- High performance power trasmission belts
- Silent gears
- PA6 film modifier

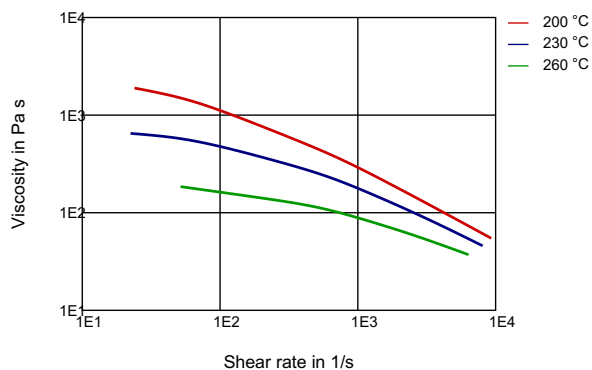
PACKAGING:

This grade is delivered dried in sealed packaging (25 kg bags and 550 rigid containers) ready to be processed.

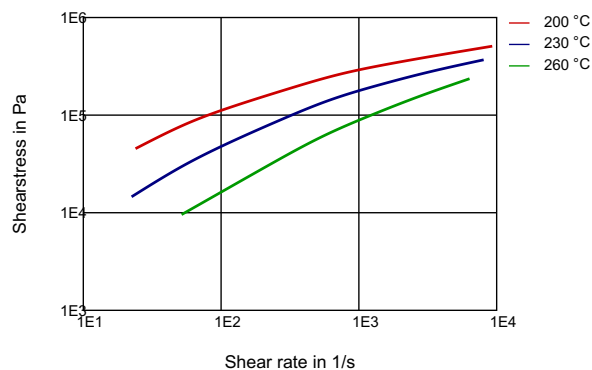
PEBAX® 4033 SP 01

DIAGRAMS

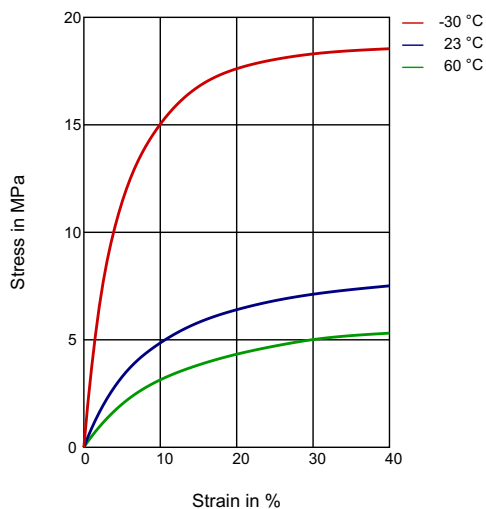
VISCOSITY-SHEAR RATE



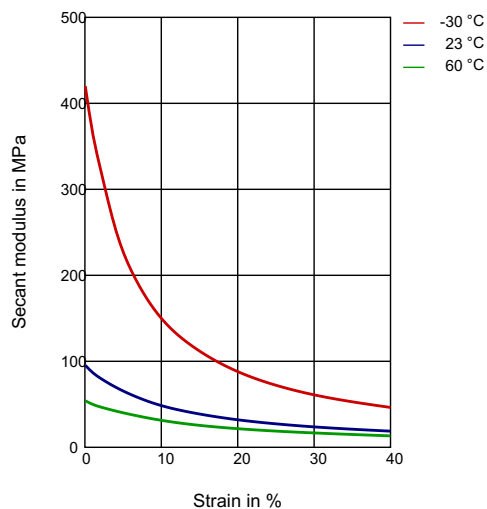
SHEARSTRESS-SHEAR RATE



STRESS-STRAIN

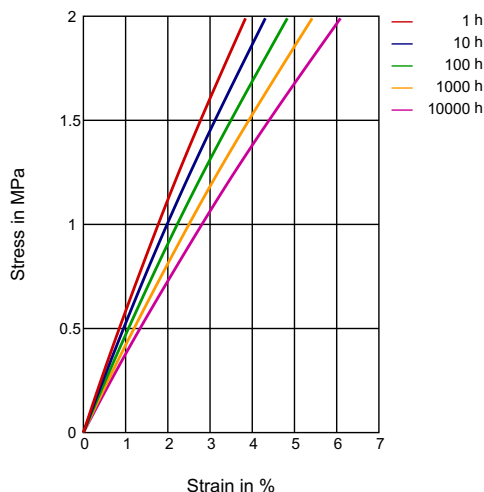


SECANT MODULUS-STRAIN

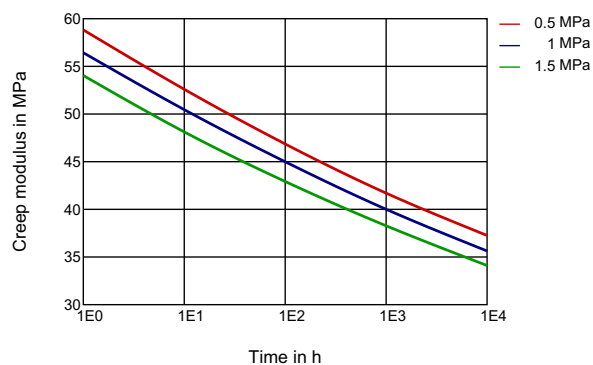


PEBAX® 4033 SP 01

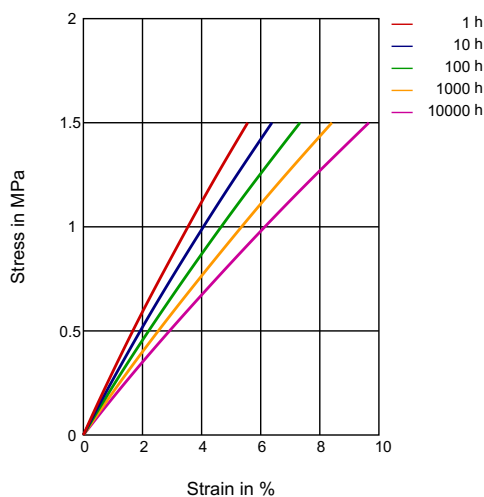
STRESS-STRAIN (ISOCHRONOUS) 73°F



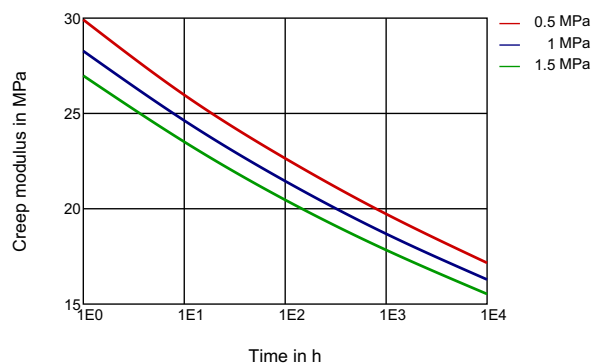
CREEP MODULUS-TIME 73°F



STRESS-STRAIN (ISOCHRONOUS) 140°F

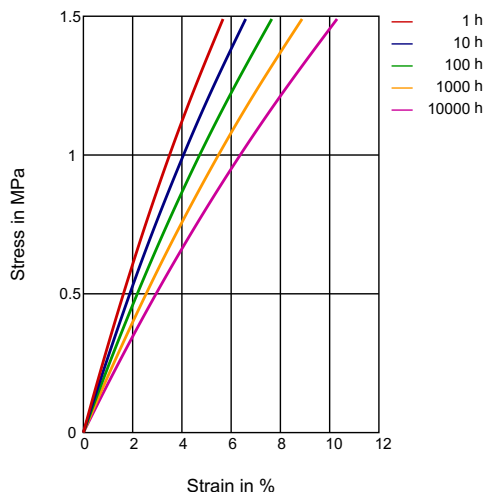


CREEP MODULUS-TIME 140°F

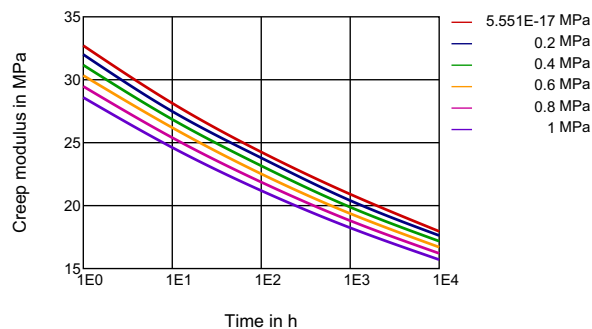


PEBAX® 4033 SP 01

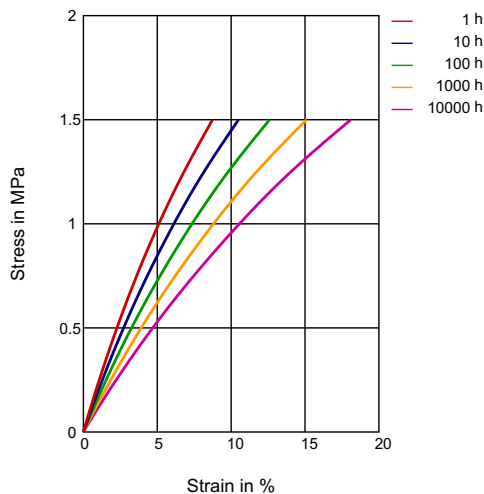
STRESS-STRAIN (ISOCHRONOUS) 176°F



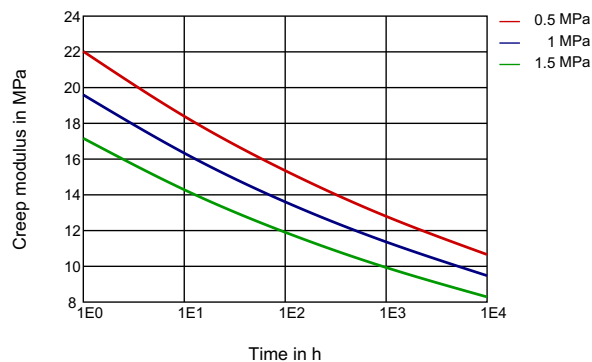
CREEP MODULUS-TIME 176°F



STRESS-STRAIN (ISOCHRONOUS) 212°F

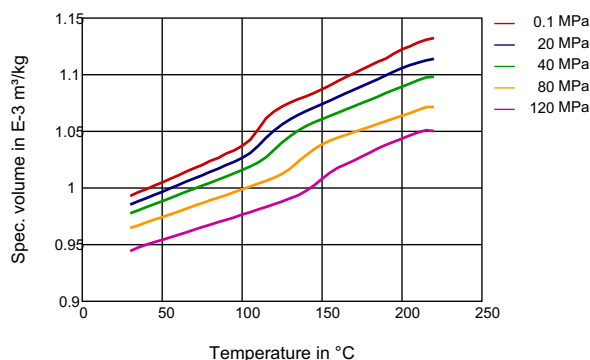


CREEP MODULUS-TIME 212°F



PEBAX® 4033 SP 01

SPECIFIC VOLUME-TEMPERATURE (PVT)



Processing conditions:

- Typical melt temperature (Min / Recommended / Max) : 200°C / 240°C / 270°C.
- Typical mold temperature : 10 – 30°C.
- Drying time and temperature (only necessary for bags/containers opened for more than two hours) : 4-6 hours at 60-70°C.

Processing conditions:

- Typical melt temperature (Min / Recommended / Max) : 210°C / 220°C / 230°C.
- Drying time and temperature (only necessary for bags/containers opened for more than two hours) : 4-6 hours at 60-70°C.

PROCESSING

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

DELIVERY FORM

Pellets

SPECIAL CHARACTERISTICS

Heat Stabilized, Light Stabilized

REGIONAL AVAILABILITY

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