

TECHNICAL DATA SHEET

PEBAX® 5533 SP 01

POLYETHER BLOCK AMIDE PELLET

PEBAX® 5533 SP 01 is a polyether block amide, a thermoplastic elastomer made of flexible polyether and rigid polyamide. This SP grade is heat & UV stabilized. It is used in sport and consumer applications.

DESIGNATION

PEBA

MAIN APPLICATIONS

- Winter Sports - Ski Boots
- Footwear - Outsole/Components

DELIVERY FORM

- Pellets

TRANSFORMATION PROCESSES

- Extrusion - General
- Film Extrusion
- Injection Molding
- Tube Extrusion

ADDITIVES

- Heat Stabilized
- Light Stabilized

RHEOLOGICAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Shrinkage, Parallel (t+24h)	0.8 %	ISO 294-4
Shrinkage, Normal (t+24h)	1.0 %	ISO 294-4

MECHANICAL PROPERTIES

PROPERTIES	DRY / COND VALUE*	TEST STANDARD
Flexural modulus, 23°C (73°F)	- / 170 MPa	ISO 178
Tensile modulus, 23°C (73°F), 1 mm/min	170 / 161 MPa	ISO 527-1/-2
Yield stress, 23°C (73°F), 50 mm/min	12 / 12 MPa	ISO 527-1/-2
Nominal strain at break, 23°C (73°F), 50 mm/min	> 450 / > 450 %	ISO 527-1/-2
Stress at break, 23°C (73°F), 50 mm/min	- / 52 MPa	ISO 527-1/-2
Hardness, Shore D, 15 s	- / 50	ISO 868
Charpy unnotched impact strength, 23°C (73°F)	No Break / No Break	ISO 179 1eU
Charpy unnotched impact strength, -30°C (-22°F)	No Break / No Break	ISO 179 1eU
Charpy notched impact strength, -30°C (-22°F)	No Break / No Break	ISO 179 1eA
Charpy notched impact strength, 23°C (73°F)	No Break / No Break	ISO 179 1eA
Compression set	43 / - %	ISO 815
Yield strain, 23°C (73°F), 50 mm/min	25 / 25 %	ISO 527-1/-2
Abrasion resistance	47 / - mm ³	ISO 4649

*DRY: Dry As Molded (DAM) if pellet / Dry if powder.
COND: Conditionned.

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THERMAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Vicat softening temperature, 50N at 50°C/h	66 °C	ISO 306
Coefficient of linear thermal expansion	170 10E-6 / °K	ISO 11359-1/-2
Heat deflection temperature, 0.45 MPa	66 °C	ISO 75-1/-2
Melting temperature, 10°C/min	159 °C	ISO 11357-1/-3

ELECTRICAL PROPERTIES

PROPERTIES	DRY / COND VALUE*	TEST STANDARD
Volumic (transversal) resistivity, 23°C (73,4°F)	- / 3.2E+11 ohm/m	IEC 62631-3-1
Surface resistivity, 23°C (73,4°F)	- / 3.0E+12 ohm/sq	IEC 62631-3-2
Comparative tracking index, 23°C (73,4°F)	- / 600	IEC 60112
Dielectric stress, 23°C (73,4°F)	- / 38.5	IEC 60243-1
Relative permittivity, 100Hz	- / 9	IEC 60250
Relative permittivity, 1Mhz	- / 5	IEC 60250
Dissipation factor, 100Hz	- / 1110	IEC 60250
Dissipation factor, 1Mhz	- / 1110	IEC 60250

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COND: Conditionned.

OTHER PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Water absorption, 23°C (73°F), immersion, equilibrium	1.2 %	ISO 62
Moisture absorption, At equilibrium at 23°C (73°F) / 50%HR	0.6 %	ISO 62
Specific gravity, 23°C (73°F)	1.01 g/cm ³	ISO 1183-1

PACKAGING

This grade is delivered dried in sealed packaging ready to be processed. Available packaging:

- 20 kg / 44 lb bags
- 25 kg / 55 lb bags

SHELF LIFE

Two years from the date of delivery, when stored properly (sealed bags, appropriate moisture, UV protection and temperature). For any use above this limit, please refer to our technical services.

PROCESSING CONDITIONS:

- Typical melt temperature (Min / Recommended / Max) - Injection Molding: 210°C / 240°C / 270°C (410°F / 430°F / 520°F)
- Typical mold temperature - Injection molding: 20-60°C (70-140°F)
- Drying time and temperature: 65-75°C (150-165°F) / 4-6 hours

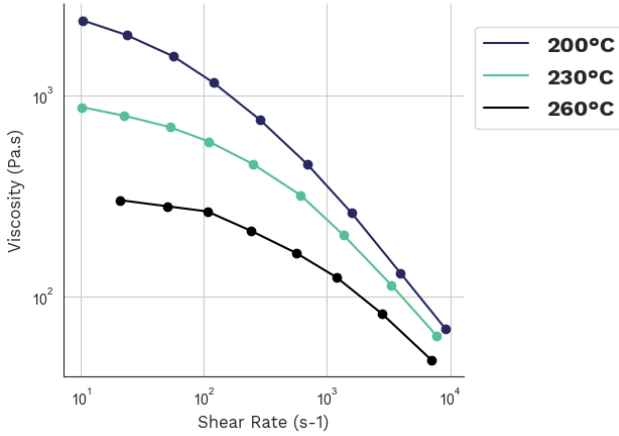
REGIONAL AVAILABILITY

Asia Pacific, Europe, Latin America and the Caribbean, Middle East, Northern America

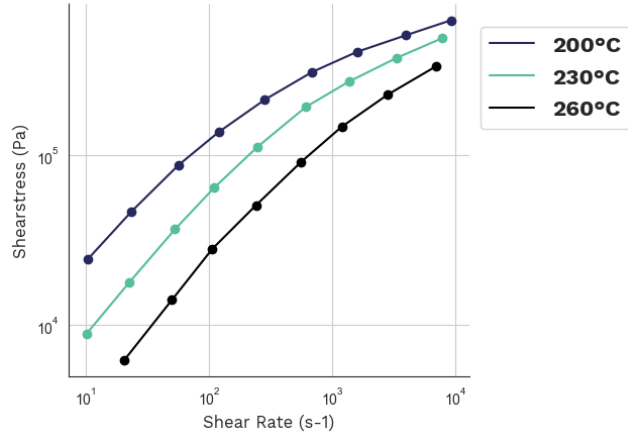
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DIAGRAMS

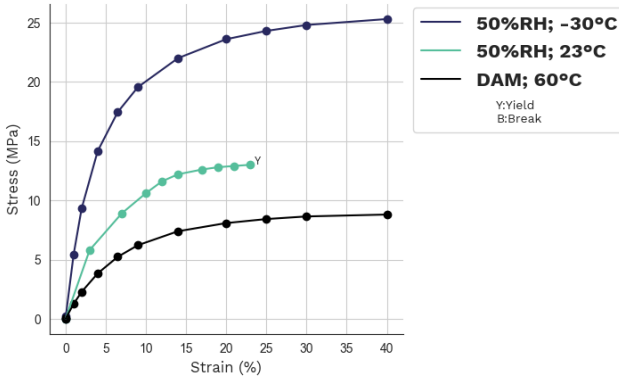
Viscosity-shear rate
Pebax® 5533 SP 01



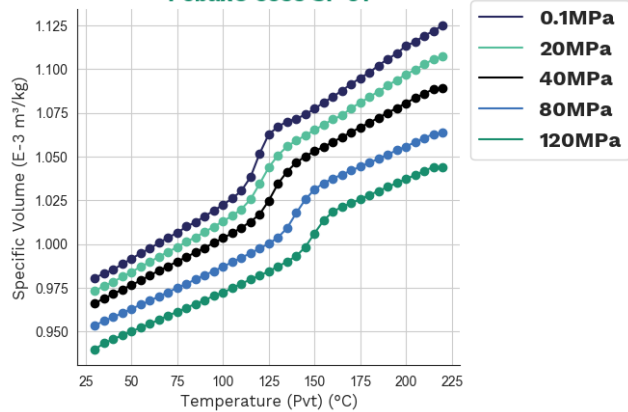
Shearstress-shear rate
Pebax® 5533 SP 01



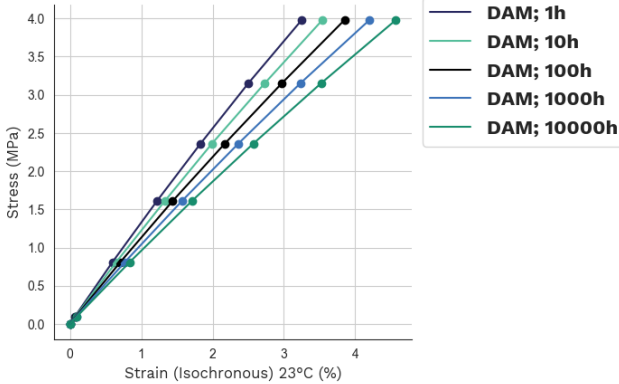
Stress-strain
Pebax® 5533 SP 01



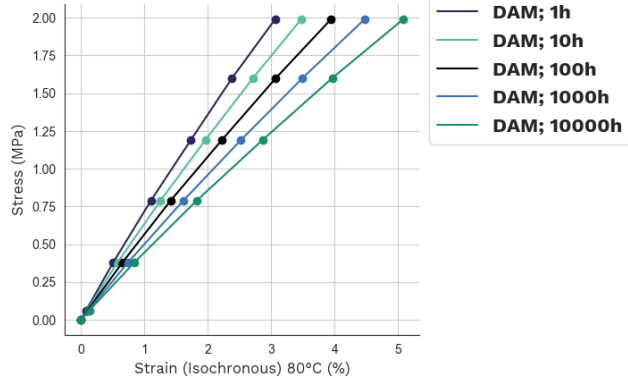
Specific volume-temperature (pvT)
Pebax® 5533 SP 01



Stress-strain (Isochronous) 23°C
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Stress-strain (Isochronous) 80°C
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