

RILSAN®

BMNO P40 TLD

PA11-P, MHLR, 12-003

Rilsan® BMNO P40 TLD resin is a polyamide 11 produced from a renewable source. This natural grade is plasticized and designed for injection molding.

The percentage of renewable carbon according to ASTM D 6866 (calculated) is **>88%**.

MAIN CHARACTERISTICS

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Melt Volume-Flow Rate	35 / *	cm ³ /10min	ISO 1133
Temperature	235 / *	°C	-
Load	2.16 / *	kg	-
Molding Shrinkage, parallel	1.2 / *	%	ISO 294-4, 2577
Molding Shrinkage, normal	1.0 / *	%	ISO 294-4, 2577
MECHANICAL PROPERTIES			
Tensile Modulus	- / 345	MPa	ISO 527-1/-2
Yield stress	- / 25	MPa	ISO 527-1/-2
Yield strain	- / 42	%	ISO 527-1/-2
Nominal Strain at Break	- / >50	%	ISO 527-1/-2
Shore D Hardness	58 / *	-	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	- / 6	kJ/m ²	ISO 179/1eA
THERMAL PROPERTIES			
Melting Temperature, 10°C/min	181 / *	°C	ISO 11357-1/-3
Temp. of Deflection Under Load, 1.80 MPa	45 / *	°C	ISO 75-1/-2
Temp. of Deflection Under Load, 0.45 MPa	130 / *	°C	ISO 75-1/-2
Vicat Softening Temperature, 50°C/h 50N	140 / *	°C	ISO 306
Coeff. of Linear Thermal Expansion, parallel	110 / *	E-6/K	ISO 11359-1/-2
ELECTRICAL PROPERTIES			
Relative Permittivity, 100Hz	10 / -	-	IEC 60250
Relative Permittivity, 1MHz	4 / -	-	IEC 60250
Dissipation Factor, 100Hz	1790 / -	E-4	IEC 60250

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Dissipation Factor, 1MHz	964 / -	E-4	IEC 60250
Volume Resistivity	- / 1E9	Ohm*m	IEC 60093
Surface Resistivity	* / 5E11	Ohm	IEC 60093
Dielectric (Electric) Strength	- / 23	kV/mm	IEC 60243-1
Comparative Tracking Index	* / 600	-	IEC 60112
OTHER PROPERTIES			
Water Absorption	1.6 / *	%	Sim. to ISO 62
Density	1050 / 1050	kg/m ³	ISO 1183
%Bio-Based	88	-	ASTM D6866

MAIN APPLICATIONS:

- Tennis racquet bumpers

PACKAGING:

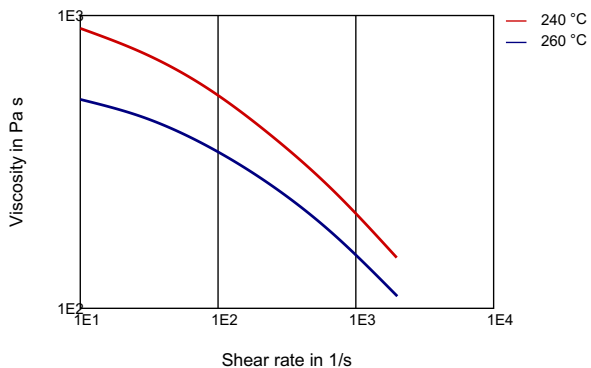
This grade is delivered dried in sealed packaging (25 kg bags) ready to be processed.

SHELF LIFE:

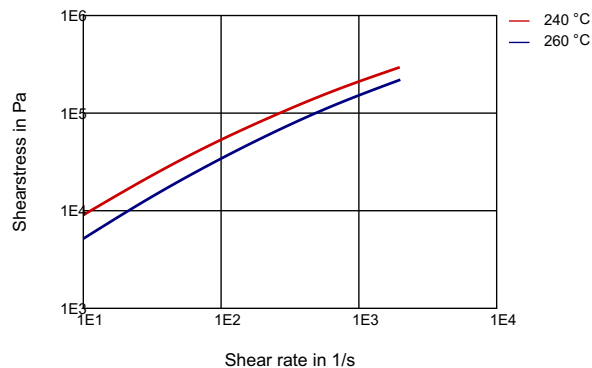
Two years from the delivery. For any use above this limit, please refer to our technical services.

DIAGRAMS

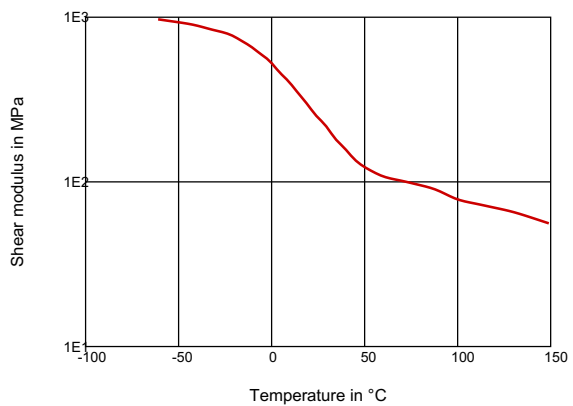
VISCOSITY-SHEAR RATE



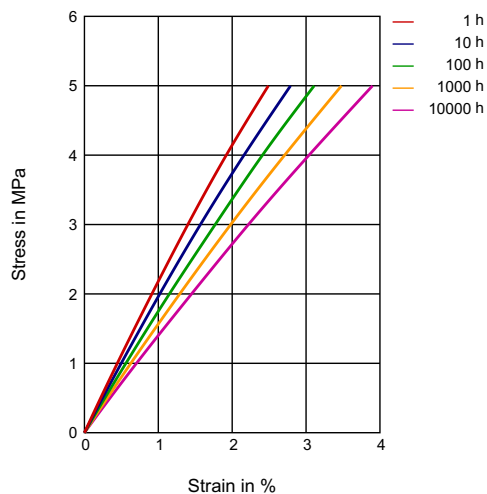
SHEARSTRESS-SHEAR RATE



DYNAMIC SHEAR MODULUS-TEMPERATURE



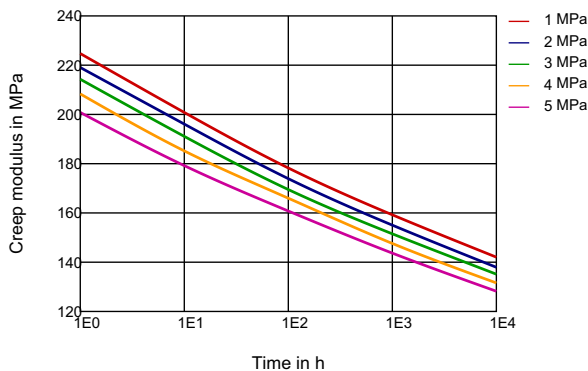
STRESS-STRAIN (ISOCHRONOUS) 23°C



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CREEP MODULUS-TIME 23°C



Processing conditions:

- Typical melt temperature (Min / Recommended / Max) : 210°C / 230°C / 280°C.
- Mold temperature : 20 - 60°C
- Drying time and temperature (only necessary for bags opened for more than two hours) : 4-6 hours at 80-90°C.

PROCESSING

Injection Molding

DELIVERY FORM

Pellets

ADDITIVES

Release agent, Plasticizer

SPECIAL CHARACTERISTICS

Bio-Based, Heat Stabilized, Light Stabilized

REGIONAL AVAILABILITY

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

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