

# RILSAN®

## BMNO TLD

PA11, MHLR, 12-010

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

The percentage of renewable carbon according to ASTM D 6866 (calculated) is >97%.

### MAIN CHARACTERISTICS

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
<b>RHEOLOGICAL PROPERTIES</b>			
<b>Melt Volume-Flow Rate</b>	30 / *	cm <sup>3</sup> /10min	ISO 1133
<b>Temperature</b>	235 / *	°C	-
<b>Load</b>	2.16 / *	kg	-
<b>Molding Shrinkage, parallel</b>	0.9 / *	%	ISO 294-4, 2577
<b>Molding Shrinkage, normal</b>	0.9 / *	%	ISO 294-4, 2577
<b>MECHANICAL PROPERTIES</b>			
<b>Tensile Modulus</b>	- / 1320	MPa	ISO 527-1/-2
<b>Yield stress</b>	- / 41	MPa	ISO 527-1/-2
<b>Yield strain</b>	- / 5	%	ISO 527-1/-2
<b>Nominal Strain at Break</b>	- / >50	%	ISO 527-1/-2
<b>Shore D Hardness</b>	68 / *	-	ISO 868
<b>Charpy Impact Strength, +23°C</b>	- / No Break	kJ/m <sup>2</sup>	ISO 179/1eU
<b>Charpy Impact Strength, -30°C</b>	- / No Break	kJ/m <sup>2</sup>	ISO 179/1eU
<b>Charpy Notched Impact Strength, +23°C</b>	- / 9	kJ/m <sup>2</sup>	ISO 179/1eA
<b>Charpy Notched Impact Strength, -30°C</b>	- / 4	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL PROPERTIES</b>			
<b>Melting Temperature, 10°C/min</b>	189 / *	°C	ISO 11357-1/-3
<b>Temp. of Deflection Under Load, 1.80 MPa</b>	50 / *	°C	ISO 75-1/-2
<b>Temp. of Deflection Under Load, 0.45 MPa</b>	145 / *	°C	ISO 75-1/-2
<b>Vicat Softening Temperature, 50°C/h 50N</b>	160 / *	°C	ISO 306
<b>Coeff. of Linear Thermal Expansion, parallel</b>	85 / *	E-6/K	ISO 11359-1/-2
<b>ELECTRICAL PROPERTIES</b>			
<b>Relative Permittivity, 100Hz</b>	4 / -	-	IEC 60250
<b>Relative Permittivity, 1MHz</b>	3 / -	-	IEC 60250
<b>Dissipation Factor, 100Hz</b>	598 / -	E-4	IEC 60250
<b>Dissipation Factor, 1MHz</b>	262 / -	E-4	IEC 60250

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<b>Volume Resistivity</b>	- / 1E12	Ohm*m	IEC 60093
<b>Surface Resistivity</b>	* / 1E14	Ohm	IEC 60093
<b>Dielectric (Electric) Strength</b>	- / 30	kV/mm	IEC 60243-1
<b>Comparative Tracking Index</b>	* / 600	-	IEC 60112
<b>OTHER PROPERTIES</b>			
<b>Water Absorption</b>	1.9 / *	%	Sim. to ISO 62
<b>Humidity Absorption</b>	0.8 / *	%	Sim. to ISO 62
<b>Density</b>	1030 / 1030	kg/m <sup>3</sup>	ISO 1183
<b>%Bio-Based</b>	97	-	ASTM D6866

### MAIN APPLICATIONS:

- Quick connectors parts

### PACKAGING:

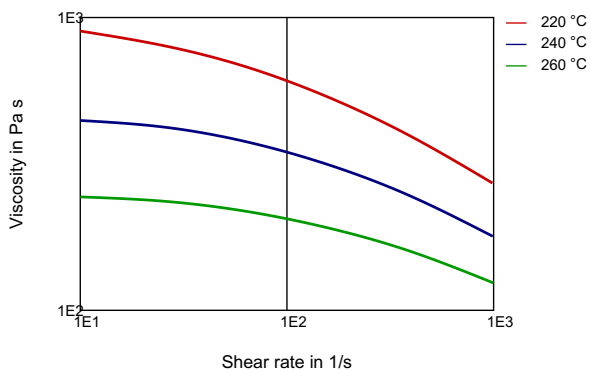
This grade is delivered dried in sealed packaging (25 kg bags) ready to be processed.

### SHELF LIFE:

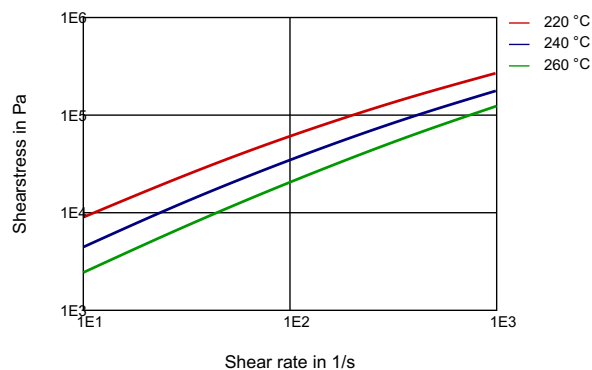
Two years from the delivery. For any use above this limit, please refer to our technical services.

### DIAGRAMS

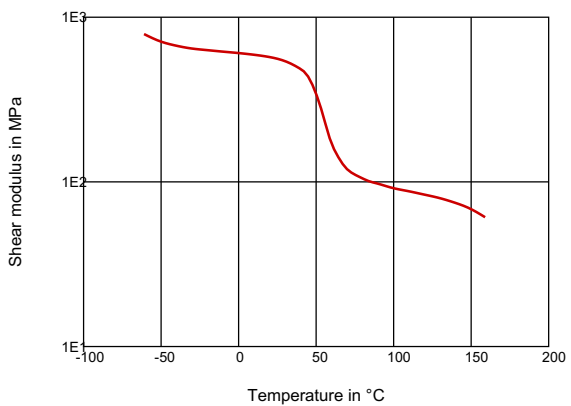
#### VISCOSITY-SHEAR RATE



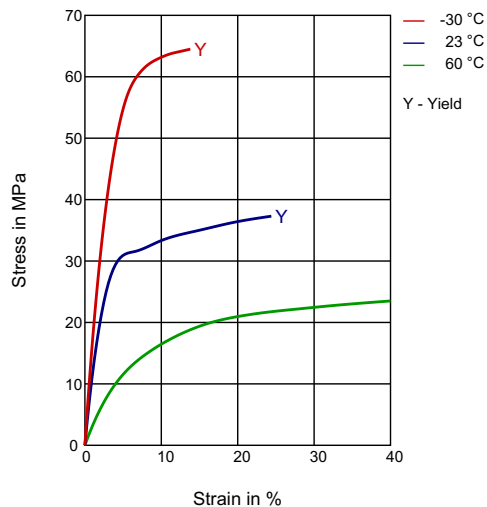
#### SHEARSTRESS-SHEAR RATE



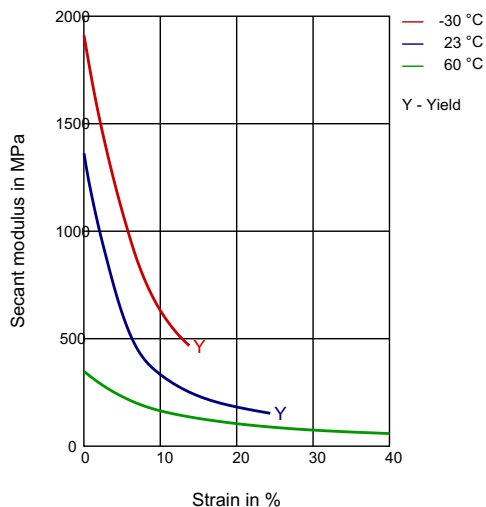
#### DYNAMIC SHEAR MODULUS-TEMPERATURE



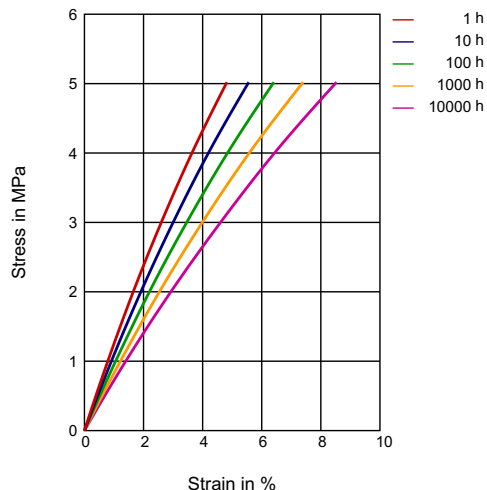
#### STRESS-STRAIN



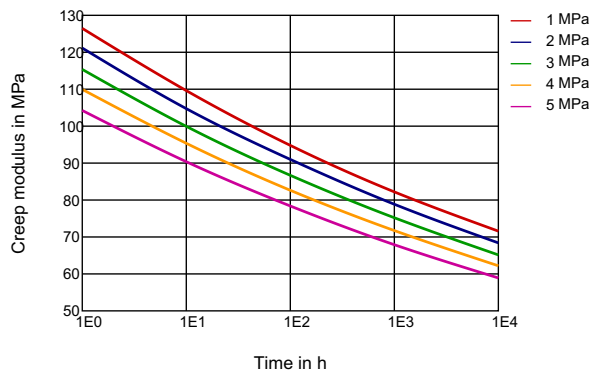
### SECANT MODULUS-STRAIN



### STRESS-STRAIN (ISOCHRONOUS) 120°C



### CREEP MODULUS-TIME 120°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

### SPECIAL CHARACTERISTICS

Bio-Based, Heat Stabilized, Light Stabilized

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### DELIVERY FORM

Pellets

### ADDITIVES

Release agent

### REGIONAL AVAILABILITY

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

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