

RILSAN® BMNO P20 TLD

PA11-P, MHLR, 12-005

Rilsan® BMNO P20 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 >92%.

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Melt Volume-Flow Rate	32 / *	cm ³ /10min	ISO 1133
Temperature	235 / *	°C	-
	455 / *	°F	-
Load	2.16 / *	kg	-
	4.76 / *	lb	-
Molding Shrinkage, parallel	1.1 / *	%	ISO 294-4, 2577
Molding Shrinkage, normal	1.1 / *	%	ISO 294-4, 2577
MECHANICAL PROPERTIES			
Tensile Modulus	- / 545	MPa	ISO 527-1/-2
	- /	psi	
Yield stress	79000 - / 32	MPa	ISO 527-1/-2
	- / 4640	psi	
Yield strain	- / 30	%	ISO 527-1/-2
Nominal Strain at Break	- / >50	%	ISO 527-1/-2
Shore D Hardness	61 / *	-	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	- / 7	kJ/m ²	ISO 179/1eA
	- / 3.33	ftlb/in ²	
THERMAL PROPERTIES			
Melting Temperature, 10°C/min	186 / *	°C	ISO 11357-1/-3
Temp. of Deflection Under Load, 1.80 MPa	47 / *	°C	ISO 75-1/-2
	117 / *	°F	
Temp. of Deflection Under Load, 0.45 MPa	135 / *	°C	ISO 75-1/-2
	275 / *	°F	

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Vicat Softening Temperature, 50°C/h 50N	145 / *	°C	ISO 306
	293 / *	°F	
Coeff. of Linear Thermal Expansion, parallel	100 / *	E-6/K	ISO 11359-1/-2
ELECTRICAL PROPERTIES			
Relative Permittivity, 100Hz	7 / -	-	IEC 60250
Relative Permittivity, 1MHz	3 / -	-	IEC 60250
Dissipation Factor, 100Hz	1900 / -	E-4	IEC 60250
Dissipation Factor, 1MHz	614 / -	E-4	IEC 60250
Volume Resistivity	- / 1E10	Ohm*m	IEC 60093
Surface Resistivity	* / 2E12	Ohm	IEC 60093
Dielectric (Electric) Strength	- / 26	kV/mm	IEC 60243-1
	- / 660	kV/in	
Comparative Tracking Index	* / 600	-	IEC 60112
OTHER PROPERTIES			
Water Absorption	1.8 / *	%	Sim. to ISO 62
Density	1050 / 1050	kg/m ³	ISO 1183
	1.05 / 1.05	g/cm ³	
%Bio-Based	92	-	ASTM D6866

MAIN APPLICATIONS:

- Tennis racquet bumpers

PACKAGING:

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

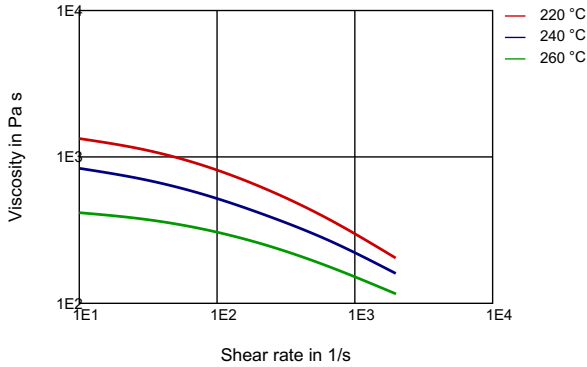
SHELF LIFE:

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

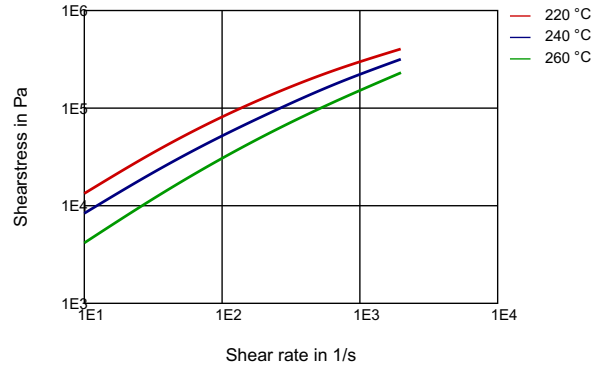
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DIAGRAMS

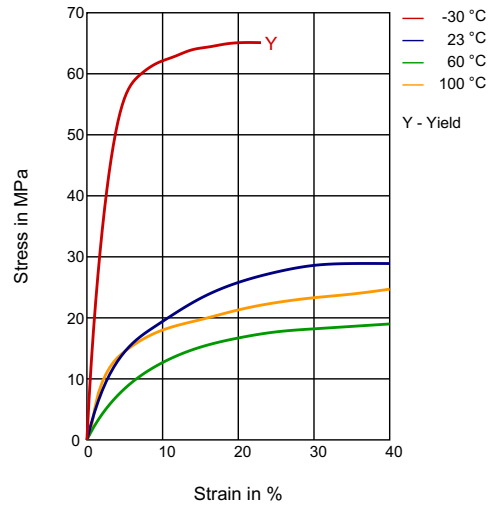
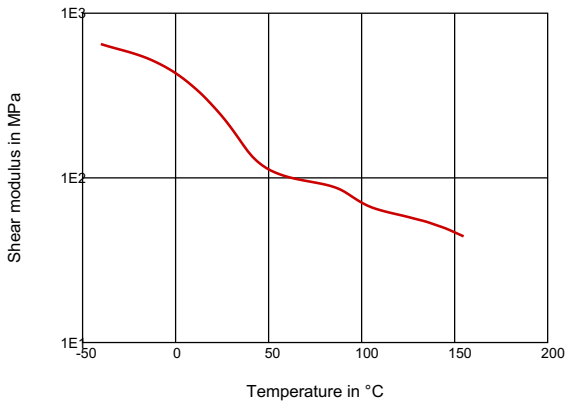
VISCOSITY-SHEAR RATE



SHEARSTRESS-SHEAR RATE

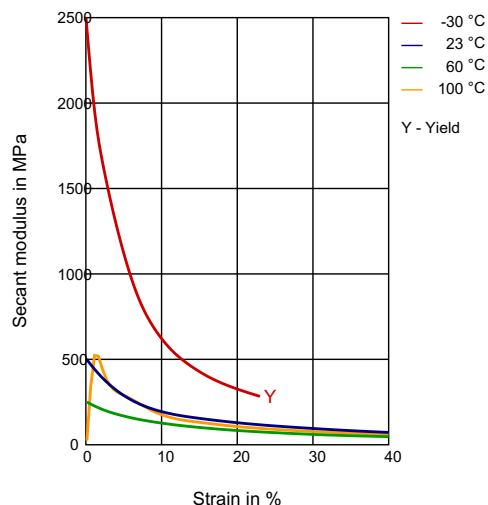


DYNAMIC SHEAR MODULUS-TEMPERATURE & STRESS-STRAIN



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SECANT MODULUS-STRAIN



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	