

RILSAN®

MB 3000 NAT

PA11, MHLF, 12-020, MD

Rilsan® MB 3000 NAT resin is a polyamide 11 produced from a renewable source. This natural grade is designed for injection molding and is classified as Halogen Free Flame Retardant (HFFR).

The percentage of renewable carbon according to ASTM D 6866 (calculated) is >90%.

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Melt Volume-Flow Rate	95 / *	cm³/10min	ISO 1133
Temperature	235 / *	°C	-
	455 / *	°F	-
Load	2.16 / *	kg	-
	4.76 / *	lb	-
Melt Flow Rate	≤103	g/10min	ASTM D1238
Molding Shrinkage, parallel	0.9 / *	%	ISO 294-4, 2577
Molding Shrinkage, normal	0.9 / *	%	ISO 294-4, 2577
MECHANICAL PROPERTIES			
Tensile Modulus	- / 1830	MPa	ISO 527-1/-2
	- /	psi	
Yield stress	265000 / 45745	MPa	ISO 527-1/-2
	6530 / 6530	psi	
Yield strain	5 / 5	%	ISO 527-1/-2
Nominal Strain at Break	>50 / >50	%	ISO 527-1/-2
Shore D Hardness	69 / *	-	ISO 868
Flexural Modulus, 23°C	- / 1140	MPa	ISO 178
	- /	psi	
Charpy Impact Strength, +23°C	165000 / 783	kJ/m²	ISO 179/1eU
	- / 39.5	ftlb/in²	
Charpy Impact Strength, -30°C	- / 38	kJ/m²	ISO 179/1eU
	- / 18.1	ftlb/in²	
Charpy Notched Impact Strength, +23°C	- / 4	kJ/m²	ISO 179/1eA
	- / 1.9	ftlb/in²	
Charpy Notched Impact Strength, -30°C	- / 3	kJ/m²	ISO 179/1eA
	- / 1.43	ftlb/in²	
THERMAL PROPERTIES			

RILSAN®

MB 3000 NAT

Melting Temperature, 10°C/min	189 / *	°C	ISO 11357-1/-3
Coeff. of Linear Thermal Expansion, parallel	102 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nominal Thickness	V-0 / *	class	IEC 60695-11-10
Thickness Tested	1.6 / *	mm	-
	0.0630 / *	in	
Yellow Card available	yes / *	-	-
Burning Behav. at Thickness h	V-0 / *	class	IEC 60695-11-10
Thickness Tested	0.8 / *	mm	-
	0.0315 / *	in	
Yellow Card available	yes / *	-	-
Oxygen Index	33 / *	%	ISO 4589-1/-2
ELECTRICAL PROPERTIES			
Relative Permittivity, 100Hz	3 / -	-	IEC 60250
Relative Permittivity, 1MHz	3 / -	-	IEC 60250
Dissipation Factor, 100Hz	221 / -	E-4	IEC 60250
Dissipation Factor, 1MHz	180 / -	E-4	IEC 60250
Volume Resistivity	>1E13 / >1E13	Ohm*m	IEC 60093
Surface Resistivity	* / >1E15	Ohm	IEC 60093
Dielectric (Electric) Strength	28 / 28	kV/mm	IEC 60243-1
	711 / 711	kV/in	
Comparative Tracking Index	* / 600	-	IEC 60112
OTHER PROPERTIES			
Water Absorption	2 / *	%	Sim. to ISO 62
Humidity Absorption	0.6 / *	%	Sim. to ISO 62
Density	1090 / 1090	kg/m³	ISO 1183
	1.09 / 1.09	g/cm³	
%Bio-Based	90	-	ASTM D6866

MAIN APPLICATIONS:

- Wire and cable sheathing
- Elevator doors rollers

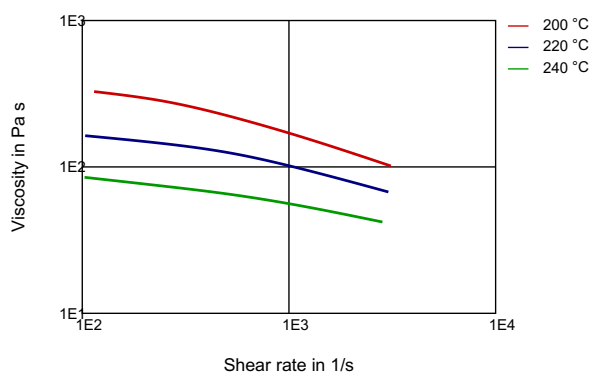
PACKAGING:

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

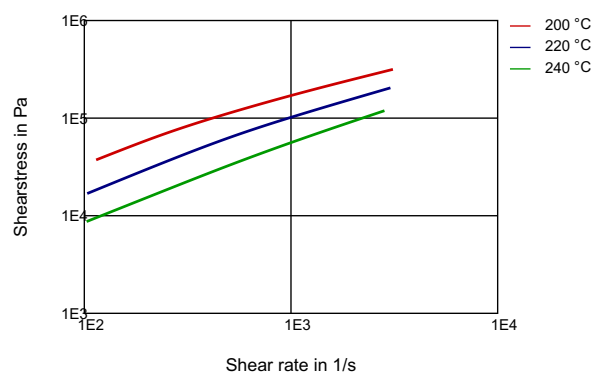
RILSAN® MB 3000 NAT

DIAGRAMS

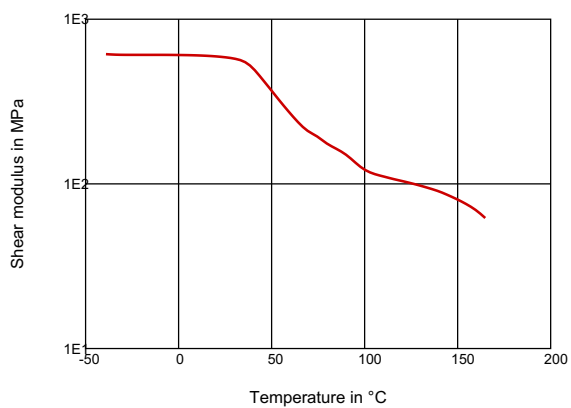
VISCOSITY-SHEAR RATE



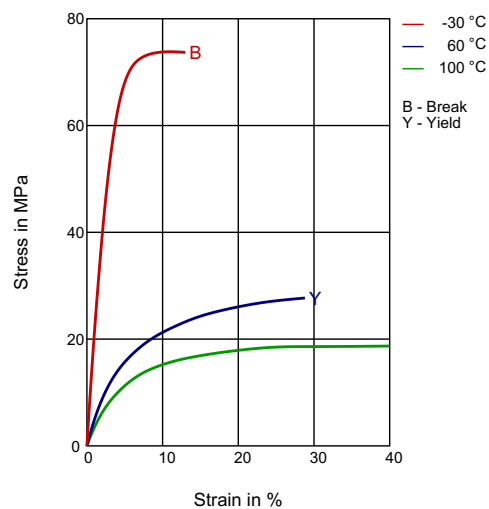
SHEARSTRESS-SHEAR RATE



DYNAMIC SHEAR MODULUS-TEMPERATURE

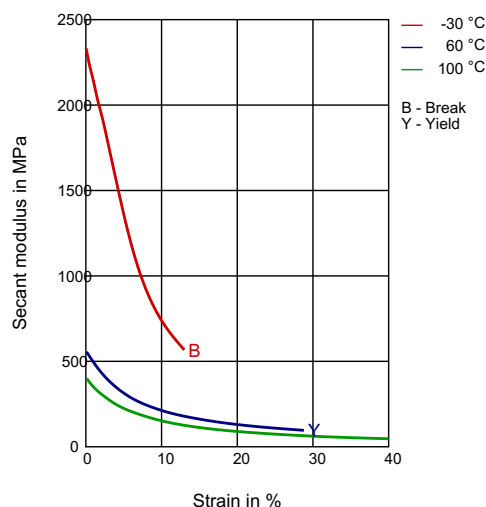


STRESS-STRAIN



RILSAN® MB 3000 NAT

SECANT MODULUS-STRAIN



Processing conditions:

- Typical melt temperature (Min / Recommended / Max) : 210°C / 220°C / 230°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

Lubricants

SPECIAL CHARACTERISTICS

Bio-Based, Heat Stabilized, Light Stabilized

REGIONAL AVAILABILITY

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