

# RILSAN® BESNO TL

PA11,EHL,22-010

Rilsan® BESNO TL resin is a polyamide 11 produced from a renewable source. This natural grade is designed for extrusion.

The percentage of **renewable carbon is 96%** (calculated value, based on ASTM D6866).

## MAIN CHARACTERISTICS

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
<b>RHEOLOGICAL PROPERTIES</b>			
Melt Volume-Flow Rate	1 / *	cm <sup>3</sup> /10min	ISO 1133
Temperature	235 / *	°C	-
Load	2.16 / *	kg	-
<b>MECHANICAL PROPERTIES</b>			
Tensile Modulus	- / 1280	MPa	ISO 527-1/-2
Yield stress	- / 38	MPa	ISO 527-1/-2
Yield strain	- / 5	%	ISO 527-1/-2
Nominal Strain at Break	- / >50	%	ISO 527-1/-2
Shore D Hardness, 15s	72 / *	-	ISO 7619-1
Charpy Impact Strength, +23°C	- / No Break	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy Impact Strength, -30°C	- / No Break	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy Notched Impact Strength, +23°C	- / 11	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Notched Impact Strength, -30°C	- / 12	kJ/m <sup>2</sup>	ISO 179/1eA
Puncture - Maximum Force, -30°C	- / 6000	N	ISO 6603-2
Puncture Energy, -30°C	- / 70	J	ISO 6603-2
<b>THERMAL PROPERTIES</b>			
Melting Temperature, 10°C/min	186 / *	°C	ISO 11357-1/-3
Temp. of Deflection Under Load, 1.80 MPa	50 / *	°C	ISO 75-1/-2
Temp. of Deflection Under Load, 0.45 MPa	145 / *	°C	ISO 75-1/-2
Vicat Softening Temperature, 50°C/h 50N	160 / *	°C	ISO 306
Coeff. of Linear Thermal Expansion, parallel	85 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nominal Thickness	HB / *	class	IEC 60695-11-10
Thickness Tested	1.6 / *	mm	-
Yellow Card available	yes / *	-	-
<b>ELECTRICAL PROPERTIES</b>			
Relative Permittivity, 100Hz	3 / -	-	IEC 60250
Relative Permittivity, 1MHz	3 / -	-	IEC 60250
Dissipation Factor, 100Hz	308 / -	E-4	IEC 60250
Dissipation Factor, 1MHz	183 / -	E-4	IEC 60250
Volume Resistivity	- / 1E12	Ohm*m	IEC 60093

Arkema France - A French "société anonyme", registered in the Nanterre (France) Trade and Companies Register under the number 319 632 790 SDC/11-2018

<b>Surface Resistivity</b>	* / 1E14	Ohm	IEC 60093
<b>Dielectric (Electric) Strength</b>	- / 30	kV/mm	IEC 60243-1
<b>OTHER PROPERTIES</b>			
<b>Water Absorption</b>	1.9 / *	%	Sim. to ISO 62
<b>Density</b>	1020 / 1020	kg/m <sup>3</sup>	ISO 1183
<b>%Bio-Based</b>	96	-	ASTM D6866

## MAIN APPLICATIONS:

- Fluid transportation

## PACKAGING:

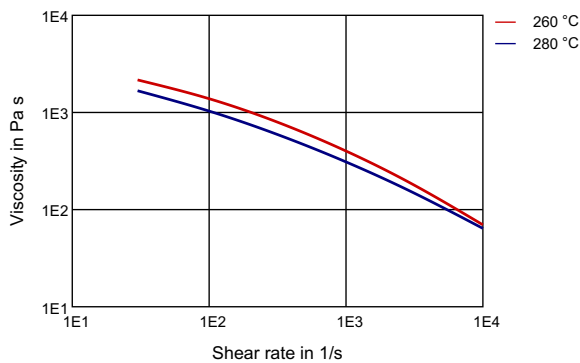
This grade is delivered dried in sealed packaging (25 kg bags, 44 lb bags, 1000 lb rigid containers) ready to be processed.

## SHELF LIFE:

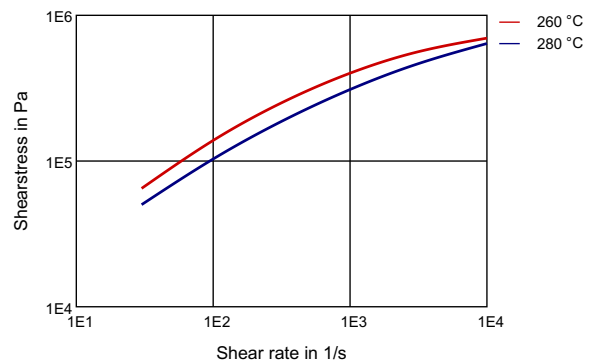
Two years from the delivery. For any use above this limit, please refer to our technical services.

## DIAGRAMS

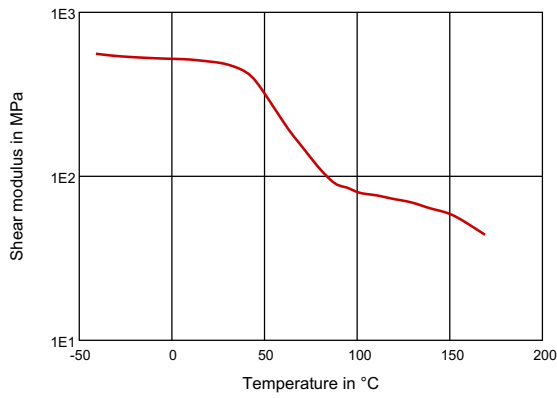
### VISCOSITY-SHEAR RATE



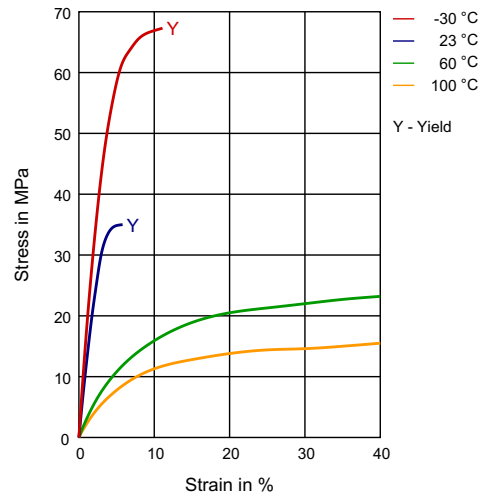
### SHEARSTRESS-SHEAR RATE



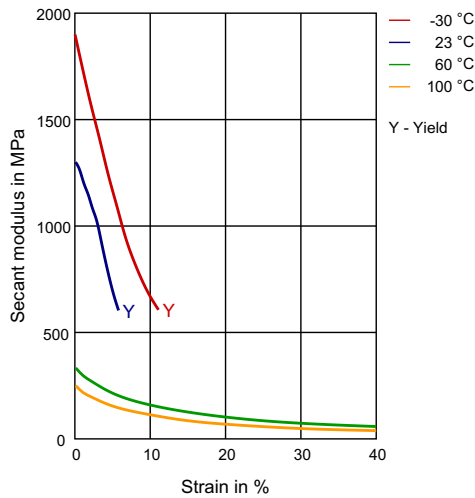
## DYNAMIC SHEAR MODULUS-TEMPERATURE



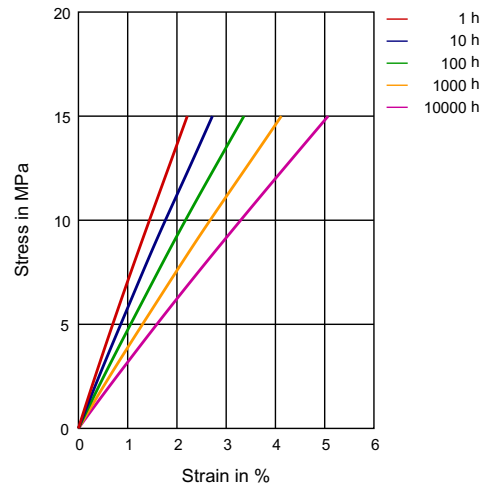
## STRESS-STRAIN



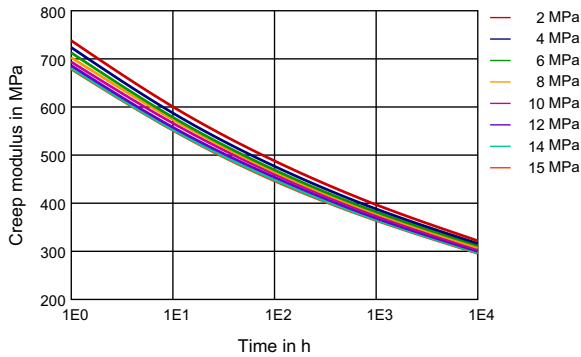
## SECANT MODULUS-STRAIN



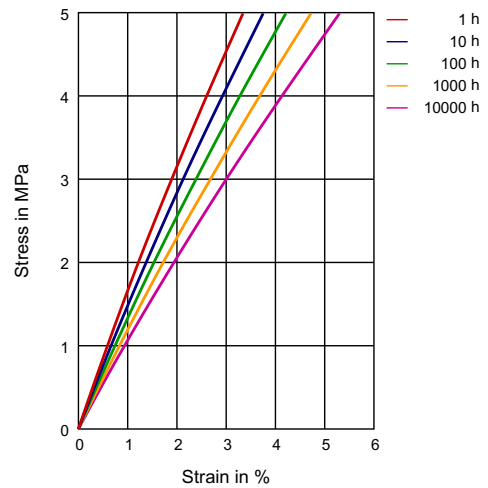
## STRESS-STRAIN (ISOCHRONOUS) 23°C



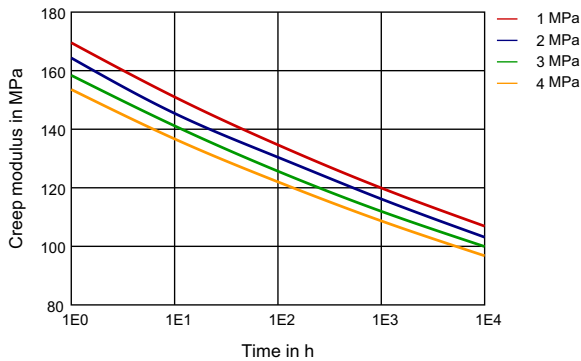
## CREEP MODULUS-TIME 23°C



## STRESS-STRAIN (ISOCRONOUS) 80°C



## CREEP MODULUS-TIME 80°C



### Processing conditions:

- Typical melt temperature (Min / Recommended / Max) : 230°C / 250°C / 280°C.
- Drying time and temperature (only necessary for bags opened for more than two hours) : 4-8 hours at 80-90°C.

### PROCESSING

Film Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion

### SPECIAL CHARACTERISTICS

Bio-Based, Heat Stabilized, Light Stabilized

### REGIONAL AVAILABILITY

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

# RILSAN® BESNO TL

## DELIVERY FORM

Pellets

## ADDITIVES

Lubricants

Please consult Arkema's disclaimer regarding the use of Arkema's products on <https://www.arkema.com/en/products/product-safety/disclaimer/index.html>

Rilsan® is a registered trademark of Arkema  
© 2022 Arkema Inc. All rights reserved.

[rilsan.com](https://www.rilsan.com)

### Arkema Inc. – Technical Polymers

900 First Avenue  
King of Prussia, PA 19406  
Tel.: +1 610 205 7000  
Fax: +1 610 205 7497  
[arkema-america.com](https://www.arkema-america.com)

**RILSAN®**  
**BY ARKEMA**

### Headquarters: Arkema France

420, rue d'Estienne d'Orves  
92705 Colombes Cedex – France  
Tel.: +33 1 49 00 80 80  
Fax: +33 1 49 00 83 96  
[arkema.com](https://www.arkema.com)