

# RILSAN® BESNO P40 TL

PA11-P, EHL, 22-003

**Rilsan® BESNO P40 TL resin** is a polyamide 11 produced from a renewable source. This natural grade is plasticized and designed for extrusion.

The percentage of renewable carbon according to ASTM D 6866 is **89%**.

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
<b>MECHANICAL PROPERTIES</b>			
Tensile Modulus	- / 345	MPa	ISO 527-1/-2
	- / 50000	psi	
Yield Stress	- / 26	MPa	ISO 527-1/-2
	- / 3770	psi	
Yield Strain	- / 50	%	ISO 527-1/-2
Nominal Strain at Break	- / >50	%	ISO 527-1/-2
Shore D Hardness, after 15 s	60 / *	-	ISO 868
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	- / No Break	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Notched Impact Strength, -30°C	- / 7	kJ/m <sup>2</sup>	ISO 179/1eA
	- / 3.33	ftlb/in <sup>2</sup>	
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	181 / *	°C	ISO 11357-1/-3
Temp. of Deflection Under Load, 1.80 MPa	45 / *	°C	ISO 75-1/-2
	113 / *	°F	
Temp. of Deflection Under Load, 0.45 MPa	130 / *	°C	ISO 75-1/-2
	266 / *	°F	
Vicat Softening Temperature, 50°C/h 50N	140 / *	°C	ISO 306
	284 / *	°F	
Coeff. of Linear Thermal Expansion, parallel	110 / *	E-6/K	ISO 11359-1/-2
<b>ELECTRICAL PROPERTIES</b>			
Relative Permittivity, 100Hz	9 / -	-	IEC 60250
Relative Permittivity, 1MHz	4 / -	-	IEC 60250
Dissipation Factor, 100Hz	2440 / -	E-4	IEC 60250
Dissipation Factor, 1MHz	1040 / -	E-4	IEC 60250
Volume Resistivity	- / 1E9	Ohm* m	IEC 62631-3-1

Arkema France - A French "société anonyme", registered in the Nanterre (France) Trade and Companies Register under the number 319 632 790 SDC/11-2018  
 Source: automatically generated TDS from Material Database on 12-08-2024

# RILSAN<sup>®</sup>

## BESNO P40 TL

Surface Resistivity	* / 5E11	Ohm	IEC 62631-3-2
Dielectric (Electric) Strength	- / 23	kV/mm	IEC 60243-1
	- / 584	kV/in	
<b>OTHER PROPERTIES</b>			
%Bio-Based	89	-	ASTM D6866
Water Absorption, 23°C, immersion, equilibrium	1.6 / *	%	ISO 62
Density	1040 / 1040	kg/m <sup>3</sup>	ISO 1183
	1.04 / 1.04	g/cm <sup>3</sup>	

### MAIN APPLICATIONS:

- Fluid transportation
- Fuel line
- Tubing for use in motor vehicle
- Air brake line

### PACKAGING:

This grade is delivered dried in sealed packaging (25 kg bags, 44 lb bags, 550 kg rigid containers, 1000 lb rigid containers) ready to be processed.

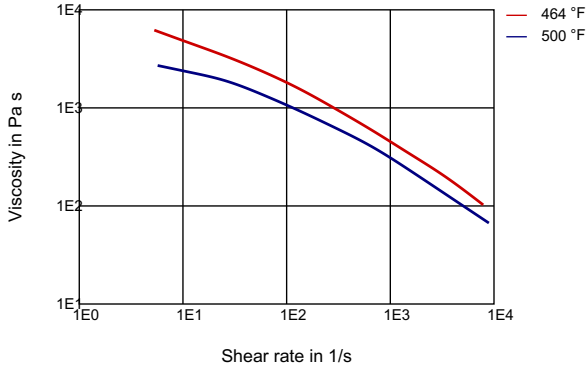
### SHELF LIFE:

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

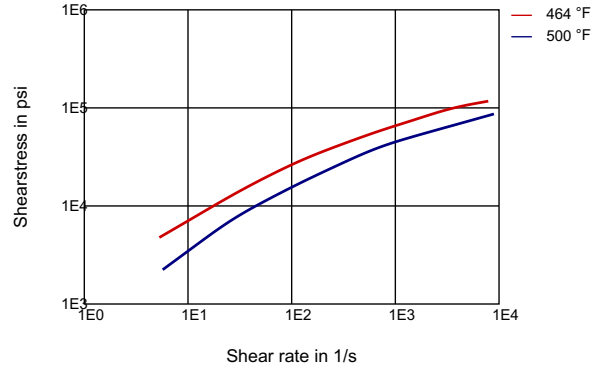
# RILSAN<sup>®</sup> BESNO P40 TL

## DIAGRAMS

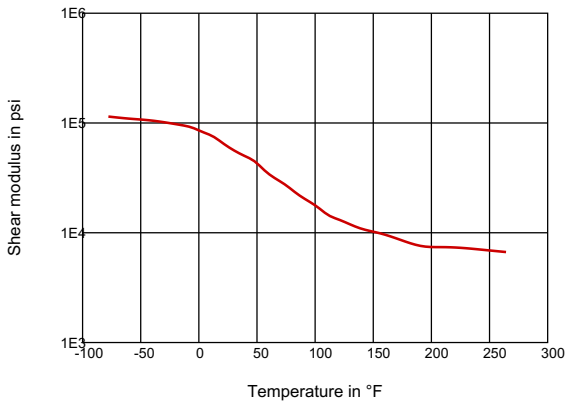
### VISCOSITY-SHEAR RATE



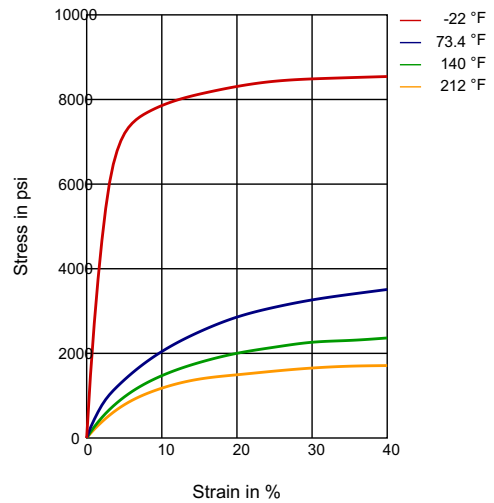
### SHEARSTRESS-SHEAR RATE



### DYN. SHEAR MODULUS-TEMPERATURE



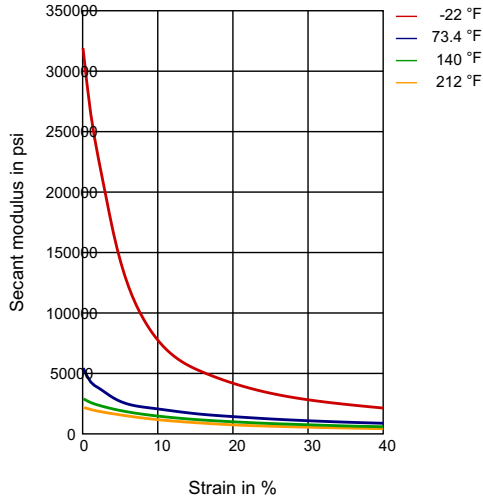
### STRESS-STRAIN



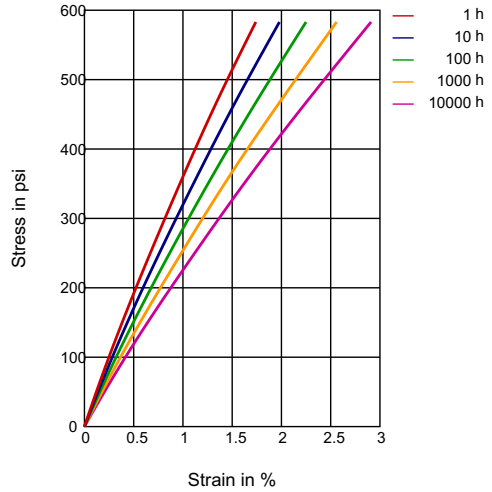
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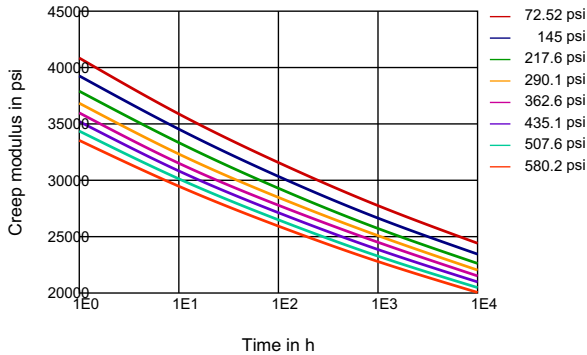
## SECANT MODULUS-STRAIN



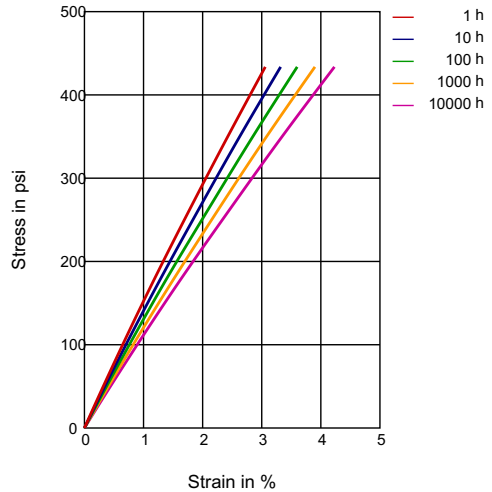
## STRESS-STRAIN (ISOCHRONOUS) 73°F



## CREEP MODULUS-TIME 73°F



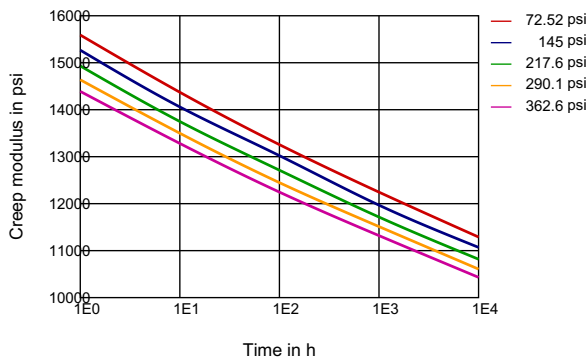
## STRESS-STRAIN (ISOCHRONOUS) 212°F



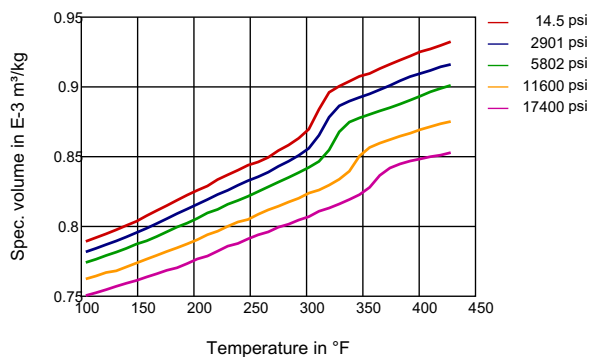
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## CREEP MODULUS-TIME 212°F



## SPECIFIC VOLUME-TEMPERATURE (PVT)



### 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.

<p><b>PROCESSING</b></p> <p>Profile Extrusion, Other Extrusion</p>	<p>Headquarters:</p> <p>Arkema France 420 rue d'Estienne d'Orves 92705 Colombes Cedex France T +33 (0)1 49 00 80 80 hpp.arkema.com</p>
<p><b>DELIVERY FORM</b></p> <p>Pellets</p>	
<p><b>ADDITIVES</b></p> <p>Lubricants, Plasticizer</p>	<p>Arkema Inc. – High Performance Polymers</p>
<p><b>SPECIAL CHARACTERISTICS</b></p> <p>Bio-Based, Heat Stabilized, Light Stabilized</p>	<p>900 First Avenue King of Prussia, PA 19406 Tel.: +1 610 205 7000 hpp.arkema.com</p>
<p><b>REGIONAL AVAILABILITY</b></p> <p>North America, Europe, Asia Pacific, South and Central America, Near East/Africa</p>	

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