

## TECHNICAL DATA SHEET

# RILSAN® BESNO P40 TL

## POLYAMIDE 11 PELLET

RILSAN® BESNO P40 TL is a polyamide 11 compound. It is produced from a renewable & sustainable source (castor oil). This natural grade is designed for tube extrusion. It's a market reference in the air brake (PHL) & automotive fluid transfer line applications.

Designation : ISO 16396 - PA11-P, EG1HL, C22-003

### DESIGNATION

PA11-P

### DELIVERY FORM

- Pellets

### TRANSFORMATION PROCESSES

- Extrusion - General
- Tube Extrusion

### ADDITIVES

- Heat Stabilized
- Light Stabilized
- Plasticizer

## MECHANICAL PROPERTIES

속성	DRY / COND VALUE*	테스트 표준
Hardness, Shore D, 15 s	- / 60	ISO 868
Charpy unnotched impact strength, 23°C (73°F)	- / No Break	ISO 179 1eU
Charpy unnotched impact strength, -30°C (-22°F)	- / No Break	ISO 179 1eU
Nominal strain at break, 23°C (73°F), 50 mm/min	- / > 50 %	ISO 527-1/-2
Tensile modulus, 23°C (73°F), 1 mm/min	- / 345 MPa	ISO 527-1/-2
Charpy notched impact strength, 23°C (73°F)	No Break / No Break	ISO 179 1eA
Charpy notched impact strength, -30°C (-22°F)	- / 7 kJ/m2	ISO 179 1eA
Flexural modulus, 23°C (73°F)	- / 350 MPa	ISO 178

\*DRY: Dry As Molded (DAM) if pellet / Dry if powder.  
COND: Conditionned.

속성	값	테스트 표준
Vicat softening temperature, 50N at 50°C/h	140 °C	ISO 306
Heat deflection temperature, 0.45 MPa	130 °C	ISO 75-1/-2
Heat deflection temperature, 1.8 MPa	45 °C	ISO 75-1/-2
Melting temperature, 10°C/min	181 °C	ISO 11357-1/-3

# RILSAN® BESNO P40 TL

## THERMAL PROPERTIES ELECTRICAL PROPERTIES

속성	DRY / COND VALUE*	테스트 표준
Surface resistivity, 23°C (73,4°F)	- / 5.0E+11 ohm/sq	IEC 62631-3-2
Volumic (transversal) resistivity, 23°C (73,4°F)	- / 1.0E+9 ohm/m	IEC 62631-3-1
Dielectric stress, 23°C (73,4°F)	- / 23	IEC 60243-1
Relative permittivity, 100Hz	- / 9	IEC 60250
Relative permittivity, 1Mhz	- / 4	IEC 60250
Dissipation factor, 100Hz	- / 2440	IEC 60250
Dissipation factor, 1Mhz	- / 2440	IEC 60250
Comparative tracking index, 23°C (73,4°F)	- / 600	IEC 60112

\*DRY: Dry As Molded (DAM) if pellet / Dry if powder.  
COND: Conditionned.

## OTHER PROPERTIES

속성	값	테스트 표준
Bio-based carbon content, Measured	89 %	ASTM D6866
Water absorption, 23°C (73°F), immersion, equilibrium	1.6 %	ISO 62
Specific gravity, 23°C (73°F)	1.04 g/cm <sup>3</sup>	ISO 1183-1

## PACKAGING

This grade is delivered dried in sealed packaging ready to be processed. Available packaging:

- 21 kg / 44 lb bags
- 26 kg / 55 lb bags
- 455 kg / 1000 lb rigid containers
- 551 kg rigid containers

## SHELF LIFE

Two years from the date of delivery, when stored properly (sealed bags, appropriate moisture, UV protection and temperature). For any use above this limit, please refer to our technical services.

## PROCESSING CONDITIONS:

- Typical melt temperature (Min / Recommended / Max) - Injection Molding: 230°C / 250°C / 270°C (445°F / 480°F / 520°F)
- Typical mold temperature - Injection molding: 20-60°C (70-140°F)
- Drying time and temperature: 80-90°C (175-195°F) / 4-6 hours

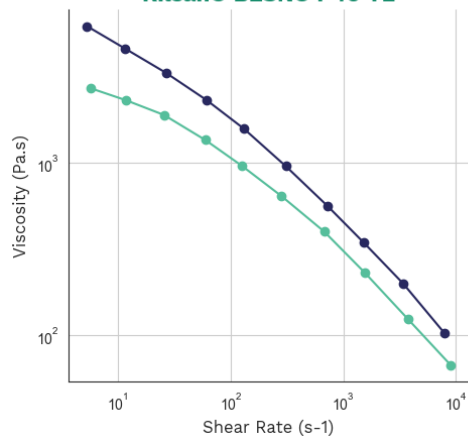
## SPECIAL CHARACTERISTICS

- Bio-based
- Low oligomers

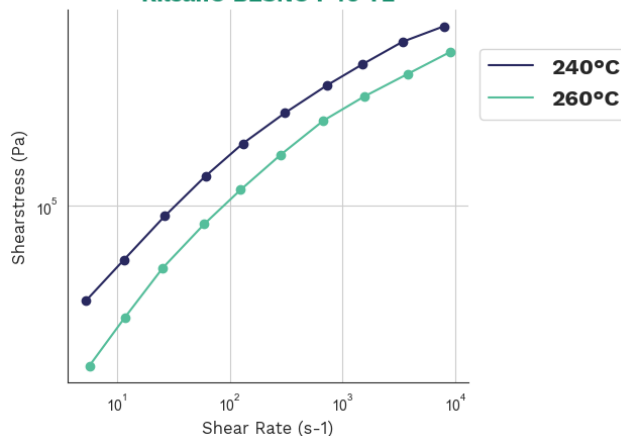
# RILSAN® BESNO P40 TL

## DIAGRAMS

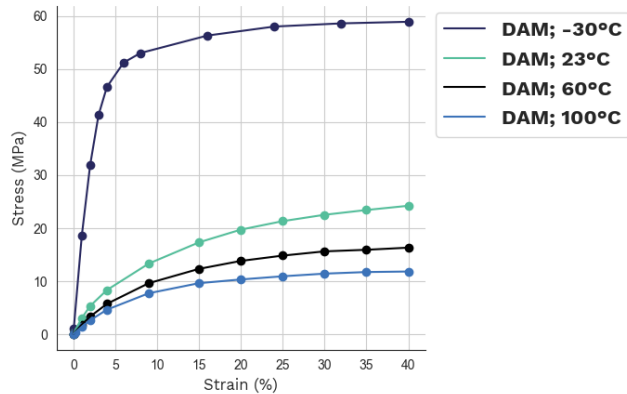
**Viscosity-shear rate**  
Rilsan® BESNO P40 TL



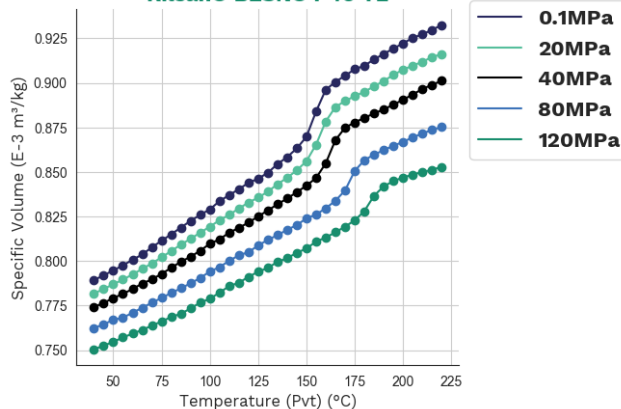
**Shearstress-shear rate**  
Rilsan® BESNO P40 TL



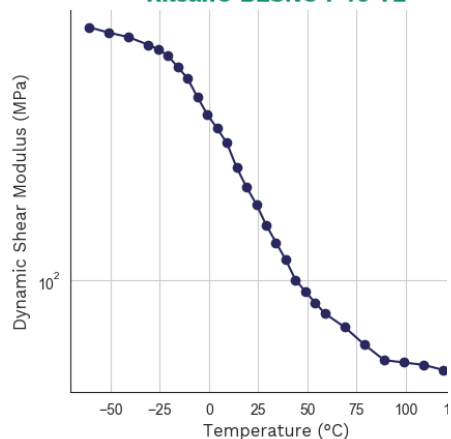
**Stress-strain**  
Rilsan® BESNO P40 TL



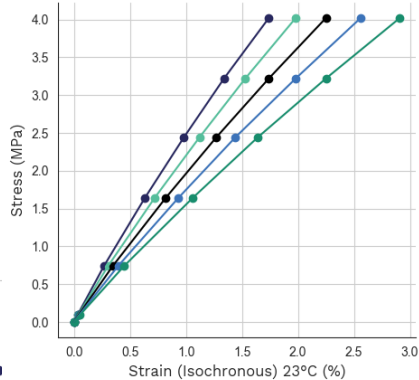
**Specific volume-temperature (pvT)**  
Rilsan® BESNO P40 TL



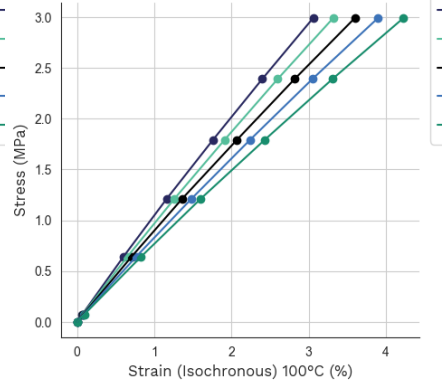
**Dynamic Shear modulus-tempera**  
Rilsan® BESNO P40 TL



**Stress-strain (Isochronous) 23°C**  
Rilsan® BESNO P40 TL



**Stress-strain (Isochronous) 100°C**  
Rilsan® BESNO P40 TL



# RILSAN® BESNO P40 TL

**Headquarter: Arkema France**  
420, rue d'Estienne d'Orves  
92705 Colombes Cedex – France  
T +33 (0)1 49 00 80 80

Disclaimer - Please consult Arkema's disclaimer regarding the use of Arkema's products on <https://www.arkema.com/global/en/products/product-safety/disclaimer/> which is incorporated herein by reference and made a part hereof.  
Arkema France, a French société anonyme registered at the Trade and Companies Register of Nanterre under the number 319 632 790

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

**ARKEMA**