

TECHNICAL DATA SHEET

RILSAN® BMN BLACK TLD

POLYAMIDE 11 PELLET

RILSAN® BMN BLACK TLD is a polyamide 11 compound. It is produced from a renewable & sustainable source (castor oil). This grade is designed for injection molding and is used to produce of automotive fittings & quick connectors.

Designation : ISO 16396 - PA11, M1G1HLR, C12-010

DESIGNATION

PA11

MAIN APPLICATIONS

- Cable Ties
- Industry - Others
- Industry - Distribution
- Auto - Fluid Connectors
- Auto - Others Injection
- Heavy Truck - Air Brake Connectors

DELIVERY FORM

- Pellets

TRANSFORMATION PROCESSES

- Injection Molding

ADDITIVES

- Heat Stabilized
- Light Stabilized
- Release agent

RHEOLOGICAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Shrinkage, Parallel (t+24h)	1.5 %	ISO 294-4
Shrinkage, Normal (t+24h)	1.5 %	ISO 294-4
Melt volume flow rate (MVR), 235°C / 2.16 kg (455°F / 4.4 lb)	36.5 cm ³ /10min	ISO 1133

MECHANICAL PROPERTIES

PROPERTIES	DRY / COND VALUE*	TEST STANDARD
Hardness, Shore D, 15 s	- / 72	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
Yield strain, 23°C (73°F), 50 mm/min	- / 6 %	ISO 527-1/-2
Yield stress, 23°C (73°F), 50 mm/min	- / 45 MPa	ISO 527-1/-2
Tensile modulus, 23°C (73°F), 1 mm/min	- / 1500 MPa	ISO 527-1/-2
Charpy notched impact strength, 23°C (73°F)	- / 6 kJ/m ²	ISO 179 1eA
Charpy notched impact strength, -30°C (-22°F)	- / 7 kJ/m ²	ISO 179 1eA
Flexural modulus, 23°C (73°F)	- / 1280 MPa	ISO 178

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

RILSAN® BMN BLACK TLD

THERMAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Vicat softening temperature, 50N at 50°C/h	160 °C	ISO 306
Yellow card available	yes	
Heat deflection temperature, 0.45 MPa	145 °C	ISO 75-1/-2
Heat deflection temperature, 1.8 MPa	50 °C	ISO 75-1/-2
Melting temperature, 10°C/min	188 °C	ISO 11357-1/-3

ELECTRICAL PROPERTIES

PROPERTIES	DRY / COND VALUE*	TEST STANDARD
Surface resistivity, 23°C (73,4°F)	- / 1.0E+14 ohm/sq	IEC 62631-3-2
Volumic (transversal) resistivity, 23°C (73,4°F)	- / 1.0E+12 ohm/m	IEC 62631-3-1
Comparative tracking index, 23°C (73,4°F)	- / 600	IEC 60112
Dielectric stress, 23°C (73,4°F)	- / 30	IEC 60243-1
Relative permittivity, 100Hz	- / 4	IEC 60250
Relative permittivity, 1Mhz	- / 3	IEC 60250
Dissipation factor, 100Hz	- / 598	IEC 60250
Dissipation factor, 1Mhz	- / 598	IEC 60250

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

OTHER PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Moisture absorption, At equilibrium at 23°C (73°F) / 50%HR	0.8 %	ISO 62
Water absorption, 23°C (73°F), immersion, equilibrium	1.9 %	ISO 62
Specific gravity, 23°C (73°F)	1.03 g/cm ³	ISO 1183-1

PACKAGING

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

- 25 kg / 55 lb bags

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: 210°C / 230°C / 260°C (410°F / 445°F / 500°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

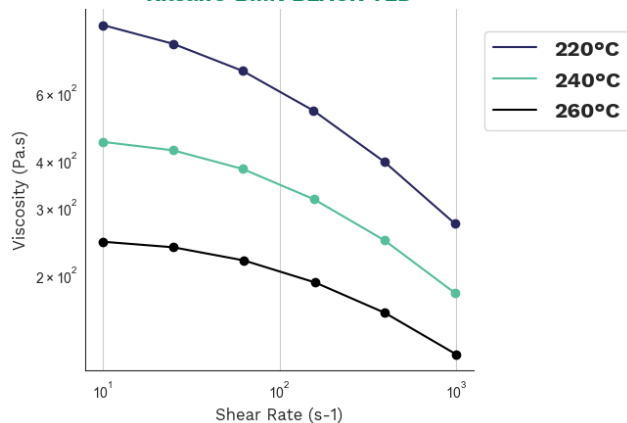
SPECIAL CHARACTERISTICS

- Bio-based
- Low oligomers

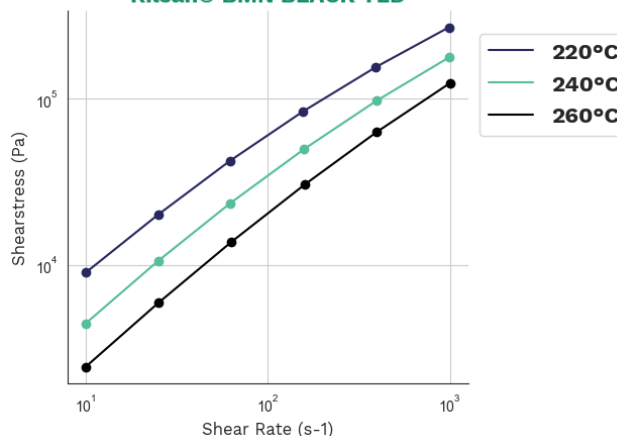
RILSAN® BMN BLACK TLD

DIAGRAMS

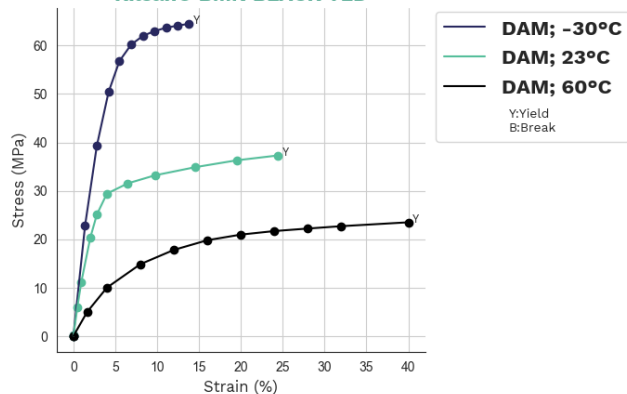
Viscosity-shear rate
Rilsan® BMN BLACK TLD



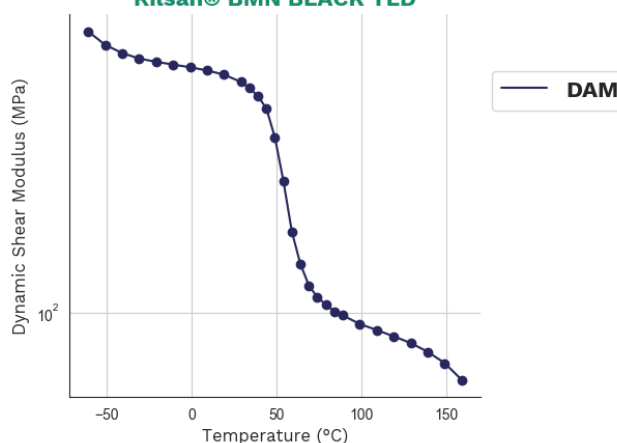
Shearstress-shear rate
Rilsan® BMN BLACK TLD



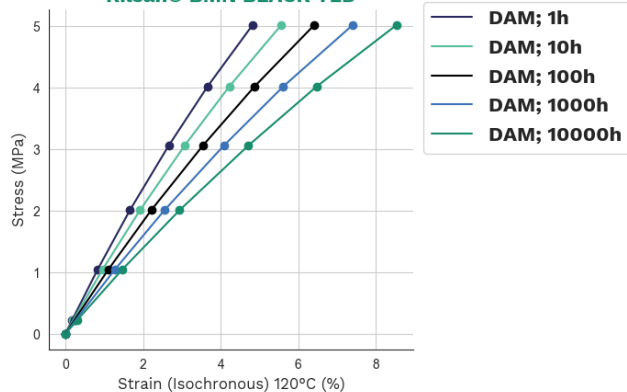
Stress-strain
Rilsan® BMN BLACK TLD



Dynamic Shear modulus-temperature
Rilsan® BMN BLACK TLD



Stress-strain (Isochronous) 120°C
Rilsan® BMN BLACK TLD



RILSAN® BMN BLACK TLD

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