

## TECHNICAL DATA SHEET

# RILSAN® BMNO P20 TLD

## POLYAMIDE 11 PELLET

RILSAN® BMNO P20 TLD is a polyamide 11 compound. It is produced from a renewable & sustainable source (castor oil). This natural plasticized grade is designed for injection molding

Designation : ISO 16396 - PA11-P, M1G1HLR, C12-005

### DESIGNATION

PA11-P

### DELIVERY FORM

- Pellets

### TRANSFORMATION PROCESSES

- Injection Molding

### ADDITIVES

- Heat Stabilized
- Light Stabilized
- Plasticizer
- Release agent

## RHEOLOGICAL PROPERTIES

속성	값	테스트 표준
Shrinkage, Parallel (t+24h)	1.3 %	ISO 294-4
Shrinkage, Normal (t+24h)	1.4 %	ISO 294-4
Melt volume flow rate (MVR), 235°C / 2.16 kg (455°F / 4.4 lb)	32 cm <sup>3</sup> /10min	ISO 1133

## MECHANICAL PROPERTIES

속성	DRY / COND VALUE*	테스트 표준
Hardness, Shore D, 15 s	- / 61	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	- / 30 %	ISO 527-1/-2
Yield stress, 23°C (73°F), 50 mm/min	- / 32 MPa	ISO 527-1/-2
Tensile modulus, 23°C (73°F), 1 mm/min	545 / - 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/m <sup>2</sup>	ISO 179 1eA
Flexural modulus, 23°C (73°F)	- / 420 MPa	ISO 178

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

속성	값	테스트 표준
Vicat softening temperature, 50N at 50°C/h	145 °C	ISO 306
Heat deflection temperature, 0.45 MPa	135 °C	ISO 75-1/-2
Heat deflection temperature, 1.8 MPa	47 °C	ISO 75-1/-2
Melting temperature, 10°C/min	186 °C	ISO 11357-1/-3

## THERMAL PROPERTIES ELECTRICAL PROPERTIES

속성	DRY / COND VALUE*	테스트 표준
Surface resistivity, 23°C (73,4°F)	- / 2.0E+12 ohm/sq	IEC 62631-3-2
Volumic (transversal) resistivity, 23°C (73,4°F)	- / 1.0E+10 ohm/m	IEC 62631-3-1
Comparative tracking index, 23°C (73,4°F)	- / 600	IEC 60112
Dielectric stress, 23°C (73,4°F)	- / 26	IEC 60243-1
Relative permittivity, 100Hz	- / 7	IEC 60250
Relative permittivity, 1Mhz	- / 3	IEC 60250
Dissipation factor, 100Hz	- / 1900	IEC 60250
Dissipation factor, 1Mhz	- / 1900	IEC 60250

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## OTHER PROPERTIES

속성	값	테스트 표준
Water absorption, 23°C (73°F), immersion, equilibrium	1.8 %	ISO 62
Specific gravity, 23°C (73°F)	1.05 g/cm <sup>3</sup>	ISO 1183-1

## PACKAGING

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

- 26 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: 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

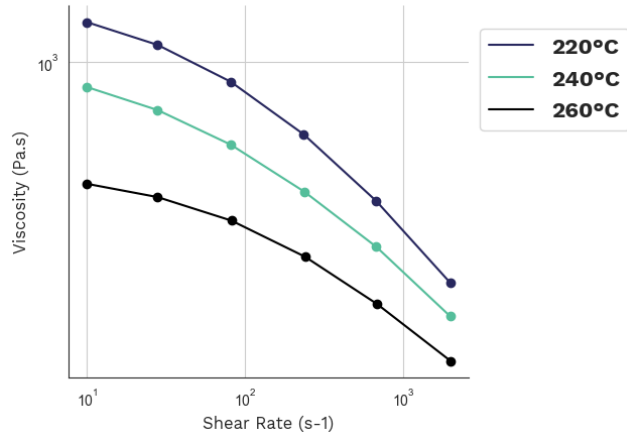
## SPECIAL CHARACTERISTICS

- Bio-based
- Low oligomers

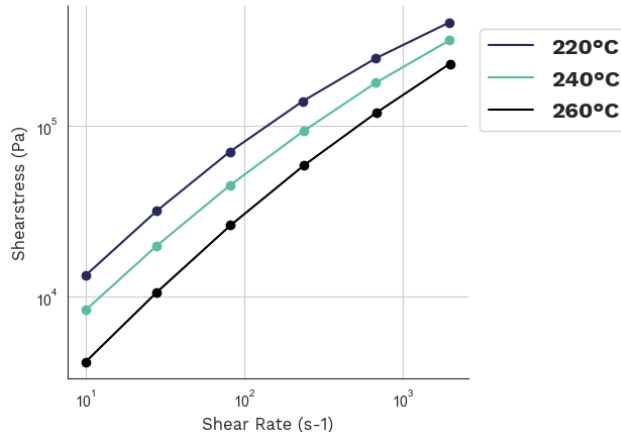
# RILSAN® BMNO P20 TLD

## DIAGRAMS

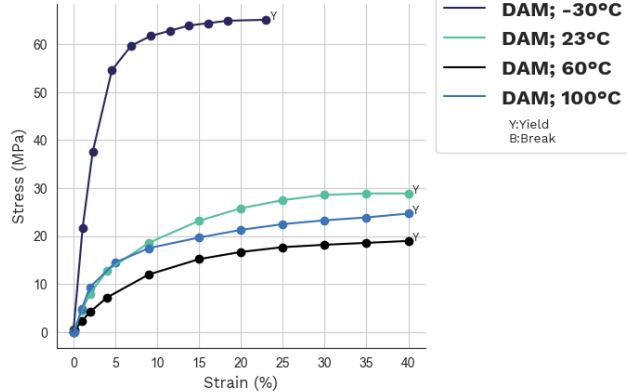
**Viscosity-shear rate**  
Rilsan® BMNO P20 TLD



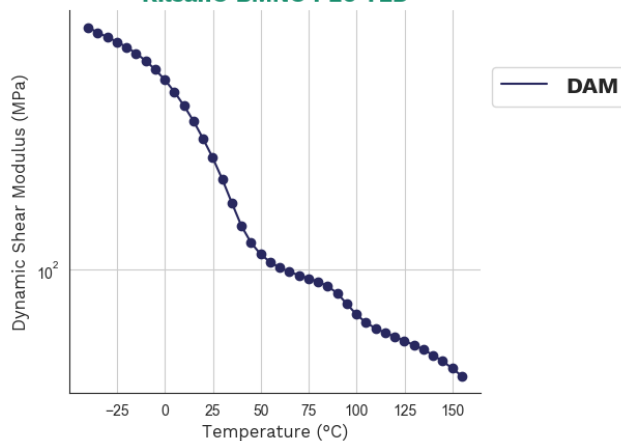
**Shearstress-shear rate**  
Rilsan® BMNO P20 TLD



**Stress-strain**  
Rilsan® BMNO P20 TLD



**Dynamic Shear modulus-temperature**  
Rilsan® BMNO P20 TLD



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