

TECHNICAL DATA SHEET

RILSAN<sup>®</sup> BMNO MED

POLYAMIDE 11 PELLET

RILSAN<sup>®</sup> BMNO MED is a polyamide 11 resin. It is produced from a renewable & sustainable source (castor oil). This natural grade is designed for injection molding and is approved in medical applications. Upon request, letters regarding USP Class VI compliance can be provided.

**Designation :** ISO 16396 - PA11, M1G1HL, C12-010

TYPE

PA11

MAIN APPLICATIONS

- Health - Consumable - Others
  - Health - Consumable - Catheters

DELIVERY FORM

- Pellets

TRANSFORMATION PROCESSES

- Injection Molding

RHEOLOGICAL PROPERTIES

| PROPERTIES                                                    | VALUE | UNIT      | TEST STANDARD |
|---------------------------------------------------------------|-------|-----------|---------------|
| Shrinkage, Parallel (t+24h)                                   | 1.1   | %         | ISO 294-4     |
| Shrinkage, Normal (t+24h)                                     | 0.9   | %         | ISO 294-4     |
| Melt volume flow rate (MVR), 235°C / 2.16 kg (455°F / 4.4 lb) | 30    | cm³/10min | ISO 1133      |

MECHANICAL PROPERTIES

| PROPERTIES                                      | DRY / COND VALUE* | UNIT  | TEST STANDARD |
|-------------------------------------------------|-------------------|-------|---------------|
| Hardness, Shore D, 15 s                         | - / 68            |       | 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            | - / 5             | %     | ISO 527-1/-2  |
| Yield stress, 23°C (73°F), 50 mm/min            | - / 41            | MPa   | ISO 527-1/-2  |
| Tensile modulus, 23°C (73°F), 1 mm/min          | - / 1280          | MPa   | ISO 527-1/-2  |
| Charpy notched impact strength, 23°C (73°F)     | - / 8.3           | kJ/m2 | ISO 179 1eA   |
| Charpy notched impact strength, -30°C (-22°F)   | - / 10.5          | kJ/m2 | ISO 179 1eA   |
| Flexural modulus, 23°C (73°F)                   | - / 1140          | MPa   | ISO 178       |

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

# RILSAN® BMNO MED

## THERMAL PROPERTIES

| PROPERTIES                            | VALUE | UNIT | TEST STANDARD  |
|---------------------------------------|-------|------|----------------|
| 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         | 189   | °C   | ISO 11357-1/-3 |

## OTHER PROPERTIES

| PROPERTIES                         | VALUE | UNIT              | TEST STANDARD |
|------------------------------------|-------|-------------------|---------------|
| Bio-based carbon content, Measured | 98    | %                 | ASTM D6866    |
| Specific gravity, 23°C (73°F)      | 1.03  | g/cm <sup>3</sup> | ISO 1183-1    |

## PACKAGING

Available packaging:

- 20 kg / 44 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