+135-3858-6433 (GuangDong)
+188-1699-6168 (ShangHai)
+852-6957-5415 (HongKong)

RILSAN®

TECHNICAL DATA SHEET

RILSAN® PA11 INVENT NAT

POLYAMIDE 11 POWDER

Rilsan® Invent Nat is a natural Polyamide 11 powder made from 100% renewable source (castor oil).Polyamide 11 is a thermoplastic polymer that demonstrates excellent chemical resistance, high UV resistance, low water re-uptake and low density.
The Invent range of powders has been especially designed for use with all Laser Sintering (LS) systems (adjustments to construction parameters required depending on the equipment).
Rilsan® Invent Nat can be used in rapid prototyping of small, complex parts, showing excellent detail resolution. The optimized wide processing window of Rilsan® Invent Natural enables consistent performance while maintaining excellent mechanical properties (ductility, impact resistance). The superior mechanical performance of this material, compared to other polymers such as Polyamide 12, combined with its low refreshing factor (typically 50%), makes Rilsan® Invent Natural the best choice for rapid manufacturing.

TYPE

PA11

MAIN APPLICATIONS

- Polymer Additives
- 3D Printing

DELIVERY FORM

- Powder

TRANSFORMATION PROCESSES

- Additive manufacturing

ADDITIVES

- Heat Stabilized

MECHANICAL PROPERTIES

PROPERTIES	DRY / COND VALUE*	UNIT	TEST STANDARD
Flexural modulus, 23°C (73°F)	/ 1200	MPa	ISO 178
Hardness, Shore D	/ 77		ISO 868
Strain at break	/ 45	%	ISO 527-1/-2
Stress at break	/ 45	MPa	ISO 527-1/-2
Tensile modulus	/ 1500	MPa	ISO 527-1/-2

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

THERMAL PROPERTIES

PROPERTIES	VALUE	UNIT	TEST STANDARD
Heat deflection temperature, 1.8 MPa	44	°C	ISO 75-1/-2
Melting temperature, 20°C/min	201	°C	ISO 1218

ARKEMA

RILSAN® PA11 INVENT NAT

OTHER PROPERTIES

PROPERTIES	VALUE	UNIT	TEST STANDARD
Bio-based carbon content	100	%	ASTM D6866
Particle Size Distribution (PSD)	15	%	ISO 13320
Particle Size Distribution (PSD)	10	%	ISO 13320
Particle Size Distribution (PSD)	46	µm	ISO 13320
Apparent density, Compacted	0.62	g/cm³	ISO 1068

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.

SPECIAL CHARACTERISTICS

- Bio-based