RILSAN®
RECYCLED

TECHNICAL DATA SHEET

RILSAN® BSR 20 BLACK R20 TLD

POLYAMIDE 11 PELLET

RILSAN® BSR 20 BLACK R20 TLD is a carbon fibers reinforced polyamide 11 produced from a renewable and sustainable source (castor oil). This black grade is designed for injection molding . This grade contains 20% of recycled material and is part of the Virtucycle® program.

Designation : ISO 16396 - PA11, CF20(R20), MHLR, C16-120

TYPE

PA11-CF20(R20)

MAIN APPLICATIONS

- Equipment
- Footwear
- Winter Sports

DELIVERY FORM

- Pellets

TRANSFORMATION PROCESSES

- Injection Molding

ADDITIVES

- Heat Stabilized
- Light Stabilized
- Release agent

RHEOLOGICAL PROPERTIES

PROPERTIES	VALUE	UNIT	TEST STANDARD
Melt volume flow rate (MVR), 235°C / 5 kg (455°F / 11 lb)	27	cm^3/10min	ISO 1133
Shrinkage, Parallel (t+24h)	0.07	%	ISO 294-4
Shrinkage, Normal (t+24h)	0.47	%	ISO 294-4

MECHANICAL PROPERTIES

PROPERTIES	DRY / COND VALUE*	UNIT	TEST STANDARD
Flexural modulus, 23°C (73°F)	- / 9850	MPa	ISO 178
Tensile modulus, 23°C (73°F), 1 mm/min	- / 12700	MPa	ISO 527-1/-2
Stress at break, 23°C (73°F), 50 mm/min	174 / 169	MPa	ISO 527-1/-2
Strain at break, 23°C (73°F), 50 mm/min	6 / 6	%	ISO 527-1/-2
Charpy notched impact strength, 23°C (73°F)	- / 17	kJ/m2	ISO 179 1eA
Charpy notched impact strength, -30°C (-22°F)	- / 10	kJ/m2	ISO 179 1eA
Charpy unnotched impact strength, 23°C (73°F)	103 / 125	kJ/m2	ISO 179 1eU
Charpy unnotched impact strength, -30°C (-22°F)	96 / 106	kJ/m2	ISO 179 1eU
Taber abrasion (H18/1000g/1000cycles)	18 / -	mg	ISO 23794
Hardness, Shore D, Instantaneous	/ 82		ISO 868
Hardness, Shore D, 15 s	/ 80		ISO 868

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

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THERMAL PROPERTIES

PROPERTIES	VALUE	UNIT	TEST STANDARD
Melting temperature, 10°C/min	184	°C	ISO 11357-1/-3
Heat deflection temperature, 0.45 MPa	187	°C	ISO 75-1/-2
Heat deflection temperature, 1.8 MPa	178	°C	ISO 75-1/-2

OTHER PROPERTIES

PROPERTIES	VALUE	UNIT	TEST STANDARD
Specific gravity, 23°C (73°F)	1.12	g/cm³	ISO 1183-1
Water absorption, 23°C (73°F), immersion, equilibrium	0.39	%	ISO 62
Moisture absorption, At equilibrium at 23°C (73°F) / 50%HR	0.15	%	ISO 62
Bio-based carbon content, Measured	74	%	ASTM D6866

PACKAGING

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: 240°C / 260°C / 280°C (465°F / 500°F / 535°F)
- Typical mold temperature - Injection molding: 30-80°C (85-175°F)
- Drying time and temperature: 80-90°C (175-195°F) / 4-6 hours

SPECIAL CHARACTERISTICS

- Bio-based

REGIONAL AVAILABILITY

Asia Pacific, Europe, Northern America

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