

Technical Data Sheet Chopped Fibers

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General Description

Cordenka[®] rayon chopped fibers are made of man-made cellulose multifilament yarn for technical applications. The fiber diameter is in the range of 12-15 µm, with a linear density of 1.85 dtex. Besides chopped fibers we also offer Cordenka[®] rayon in form of multifilament yarn and woven fabrics.

Features

- Biobased and biodegradable
- Specified constant properties
- Low abrasiveness
- Improvement of composite material's
 - ◆ Impact resistance, also at low temperatures
 - ◆ Fatigue behaviour
 - ◆ Dampening

Applications

- Reinforcement and light weight construction for:
 - ◆ Thermoplastics and thermosets
 - ◆ Completely biobased and biodegradable composites
- Vehicle parts, shields, housing for machinery
- Acoustic devices, sports equipment

Sustainability

- Cordenka[®] rayon is composed of cellulose. It is both bio-based and biodegradable.
- Cordenka[®] yarn is certified as follows:



8C032

ASTM
D6866:2016-01



9S0014

DIN EN 13432:200-12
DIN EN 14955:2007-03
NF T 51-800:2015-11



7H0111

- Superior recycling suitability: During processing, Cordenka[®] rayon maintains an excellent level of fiber lengths, resulting in a consistently high level of mechanical properties in recycled thermoplastics.

Storage, Handling and Processing

- **Storage:** Protect CORDENKA[®] products against heat, cold, moisture, direct solar radiation and extreme climatic fluctuations.
- **Dosing:** For dosing of Cordenka[®] Rayon we recommend the use of special equipment. If you need assistance for selecting appropriate machinery, please contact us.
- **Processing:** If your process is sensitive to moisture, we recommend drying of Cordenka[®] rayon for two hours at 105 °C. Alternatively, inline drying at higher temperatures (less than a minute) can be applied. During processing, the temperature should be kept below 200 °C and the exposure time at this temperature should not exceed 20 minutes.
- For the **compounding** of thermoplastic composites it might be useful to add coupling agents. Excellent results in polypropylene can be achieved with MAHPP.

Functional Properties

Density	1.5 g cm ⁻³
Strength	830 MPa
Modulus	20 GPa
Elongation at break	13 %
Moisture content (20 °C, 65 % r.h.)	approx. 13 %
Flammability	approx. 290 °C
Self-ignition	approx. 400 °C
Decomposition	from 175 °C (time dependent)
Chemical reactivity	resistant to most organic solvents, not resistant in alkaline or acidic environment
Smell	odourless
Colour	raw white
Cold water shrinkage	4 – 8 %
Hot air shrinkage	1 – 2 %

Products

Fiber length	2 mm (others on demand)
Fiber diameter	12-15 µm
Fiber linear density	1.85 dtex
Bulk density	200 – 400 g dm ⁻³

Indicative Composite Properties

		PP-CORDENKA® 25	PLA-CORDENKA® 20	Test Method
Density	g cm ⁻³	1.0	1.3	ISO 1183
Fiber Content / Initial Fiber Length	wt.-% / mm	25 / 2	20 / 2	-
Melt Flow Rate, 200 °C, 2.16 kg	g 10 min ⁻¹	6		ISO 1133
Tensile Strength	MPa	60	78	ISO 527
Tensile Modulus	MPa	3000	5200	ISO 527
Elongation at Break	%	7	3	ISO 527
Flexural Strength	MPa	83	120	ISO 178
Flexural Modulus	MPa	3000	5100	ISO 178
Impact Strength, Charpy unnotched, +23 °C	kJ m ⁻²	62	40	ISO 179
Impact Strength, Charpy unnotched, -30 °C	kJ m ⁻²	41	35	ISO 179
Impact Strength, Charpy notched, +23 °C	kJ m ⁻²	8	9	ISO 179
Impact Strength, Charpy notched, -30 °C	kJ m ⁻²	5.5	7	ISO 179
Heat Deflection Temperature HDT/A	°C	99	56	ISO 75
Heat Deflection Temperature HDT/B	°C	152	60	ISO 75
Water Absorption, 192 h, H ₂ O	%	1.0	3.0	ISO 62 V 1
Water Absorption, 192 h, Air, Std. Climate	%	0.2	0.9	ISO 62 V 1
Flammability / Burn Rate	mm min ⁻¹	46	47	FMVSS 302
Dielectric Strength	V	> 7000	> 7000	DIN EN 60243-1

Packaging

Package Type: oktabin

Pallet Dimension: 120/100/110 cm

Cutting Length	Package Weight	Oktabins per Pallet	Pallet Weight
	kg		kg
2 mm	200	1	200

Further information

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