

# High-Quality Monofilaments



## Biologically degradable monofilament PLA monofilament



### Perlon® – The Filament Company

Perlon® - The Filament Company - is an innovative and global group of companies specialising in the production of synthetic filaments. We produce at sites in Germany, Poland and China. We offer an extremely diverse product portfolio for almost every technical application. We are constantly creating new solutions for unique products - Our Engineering. Your success.

### PLA: This biopolymer can do more

Poly lactide belongs to the biopolymer group and is manufactured entirely from renewable raw materials such as starch or sugar. The starch or the sugar is extracted from plant material and converted by means of enzymatic hydrolysis into a fermentable sugar. In the course of the next manufacturing step the carbon and other elements are converted by fermentation into lactic acid.

The polymer is formed through the polymerisation of lactic acid. In the production process any DNA is completely destroyed. PLA can be rotted down in standard composting facilities. Under the right conditions (temperature 60 °C and 98 % air humidity) the monofilaments decompose into natural sugar. The duration of this degradation is dependent on the molecular structure of the polymer.

The PLA used by us fulfils all standards for biodegradability in North America, Japan and Europe. Our polymer manufacturer is certified to ASTM, ISO, DIN and CEN. PLA also reduces the consumption of fossil fuels over its life cycle by up to 50 %. In comparison with conventional PET, 15 – 60 % less greenhouse gases are produced in the manufacture of PLA.

### The advantages at a glance

- Flame retardant compared with PET (LOI of 25) with low smoke development (UL94 – vertical burning: V2 rated)
- Outstanding UV stability
- Monofilaments with high strength and good resistance when stressed
- Excellent moisture management (hydrophobic)
- Dyeable, intense colours
- Low refractive index

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Textile industry	Clothing, home textiles, furniture, carpet
Agriculture	Putrescible geotextiles, vegetation protection
Filtration	Foodstuffs production, tea filters, spacer fabrics
Automobile	Vehicle interiors
Hygiene articles	Disposable products

### Technical specifications

Technical parameters	Unit	Variations
Diameter range	mm	0.220 - 0.500
Titre	dtex	475 - 2454
Tenacity	cN/tex	30 - 45
Shrink 120 °C a t 30 min.	%	2 - 24

### Physical and chemical properties

Physical parameters	Unit	Range
Density	g/cm <sup>3</sup>	1.25
Moisture absorption	%	0.40 - 0.60
Melting temperature	°C	160 - 170
Glass transition temperature	°C	45 - 60
Refractive index		1.35 - 1.45
LOI	%	25

Chemical parameters	Resistance
Lightfastness	Excellent
Acid resistance	Good
Alkali resistance	Limited
Oil and grease resistance	Good
Hydrolysis resistance	Limited
FDA tested*	Yes

\*Subject to raw material type

### Brand related products: 6\*\*1

This product information has been compiled to the best of our knowledge and with the greatest of care. We cannot, however, assume any liability for the correctness, completeness or currentness of the contents. Depending on diameter and production technique the technical parameters and the behaviour of the monofilament can vary.