TECHNICAL DATA SHEET

Centaur PP
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Centaur PP – High-Performance Polypropylene Pellets for LFAM

Centaur PP is a high-performance polypropylene (PP) granulate specifically engineered for Large-Format Additive Manufacturing (LFAM). This advanced material delivers exceptional layer adhesion, resulting in Z-strength values that rival injection-molded polypropylene. With an elongation at break of nearly 650%, Centaur PP offers a unique combination of flexibility, toughness, and long-term durability.

As a slightly soft and flexible polypropylene, Centaur PP delivers superior impact resistance and reliable performance. Its heat resistance above 100 °C makes it a highly versatile material for demanding industrial and consumer applications.

With its unique combination of printability, toughness, chemical resistance, and thermal stability, Centaur PP stands out as a premium polypropylene material for LFAM 3D printing. It is the ideal choice for manufacturers seeking lightweight, impact-resistant, and highly durable components across a wide range of industries.

Key Features of Centaur PP Pellets for LFAM

- **Optimized for LFAM** – Easy-to-print polypropylene granulate designed for reliable performance in large-format 3D printing.
- **Food-Contact Compliant** – Safe for direct use in food-related applications and regulated environments.
- **Dishwasher & Microwave Safe** – Maintains integrity under heat and moisture exposure.
- **Lightweight Density (0.9 g/cc)** – Ideal for weight-sensitive designs and portable components.
- **Excellent Chemical Resistance** – Withstands exposure to a wide range of industrial substances.
- **Watertight Printing** – Delivers leak-proof results, even with single-wall prints.
- **Enhanced Wear & Fatigue Resistance** – Durable under mechanical stress and repetitive use.
- **Long-Term Reliability** – Proven performance across diverse environmental conditions.

Suitable Applications for Centaur PP Pellets for LFAM

- **Prosthetics and orthotics** – Lightweight, strong, and skin-contact safe.
- **Orthopedics** – durable and impact-resistant for medical applications.
- **Household appliances** – Heat- and wear-resistant components for daily use.
- **Food contact applications** – Compliant, dishwasher safe, and microwave resistant.
- **Lightweight & durable parts** – Ideal for industries where strength-to-weight ratio matters.

Material properties	**Typical value**	**Test Method**
MFR (230°C, 2.16kg)	7.8 g/10min	ISO 1183
Density	0,9 g/cm^3	DSC
Mechanical properties		
Tensile strength at yield	15,8 MPa	ASTM D638
Tensile strength at break	26,2 MPa	ASTM D638
Flexural modulus	402 MPa	ASTM D790
Elongation at yield	27%	DSC
Elongation at break	642%	ASTM D638
Impact strength (Izod Notched 23°C)	30 KJ/m^2	ISO 179-1eA
Shore Hardness	50D	DSC
Thermal properties		
Vicat Softening Temperature	103 °C	DSC
Melting Point	170 °C	-

Processing Recommendations for Centaur PP Pellets for LFAM

Pre-Drying: Not required

Centaur PP is a non-hygroscopic polymer and does not absorb moisture into its internal structure.

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Zone 1: 200°C ±20 °C	**Zone 2:** 210°C ±20 °C	**Zone 3:** 220°C ±20 °C
Max temp: 240 °C	**Die temp:** 240°C ±10 °C	

Typical extrusion settings may require optimization based on hardware used.

Storage and Handling Guidelines for Centaur PP Pellets for LFAM

Centaur PP is considered an inert and safe material under standard storage conditions, presenting no significant hazards. To ensure maximum quality, stability, and long-term performance, proper storage practices are recommended.

For best results:

- Store in a tightly sealed container to protect against moisture absorption.
- Keep in a dry, cool, and well-ventilated environment.
- Avoid direct exposure to sunlight or intense artificial light to preserve material integrity.

By following these guidelines, Centaur PP will maintain its reliability and print performance over time.

Product export information

HS code:	39021000
Description:	Polypropylene (PP) resin in primary form
Origin:	European Union

Disclaimer

The product and technical data provided in this datasheet are, to the best of FormFutura B.V.'s knowledge, accurate at the time of publication and are intended solely for reference and comparative purposes. Actual results may vary depending on printing conditions, model design, environmental factors, and other variables. The values presented are typical, non-binding, and should not be interpreted as guaranteed specifications.

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