



ErcrosBio® LL 705

3D printing and transparent extrusion grade

DESCRIPTION

ErcrosBio® LL 705 is a PLA (polylactic acid)-based thermoplastic obtained from renewable natural materials. The content of material of biological origin is over 99%.

It is suitable for the production of food packaging in accordance with the criteria of Regulation (EU) No. 10/2011¹.

It is compostable in accordance with the criteria of standard EN 13432¹.

CHARACTERISTICS

ErcrosBio® LL 705 is an ideal material for producing films and filaments for 3D printing. 3D printing results have excellent characteristics: good layer-to-layer cohesion, no distortions or warping, precise details and with very little smell. Given its low flow index, it can also be used to obtain films in a wide range of thicknesses.

RECOMMENDED APPLICATIONS

ErcrosBio® LL 705 is recommended for producing films of medium to low thicknesses (under 150 micra). It can also be used for producing filament for 3D printers (1,75-2,85 mm).

PROCESSING CONDITIONS

Prior to processing, the material must be dried in a dehumidifier (see Drying).

It can be processed in conventional equipment such as those used with polyolefins.

It is recommended to use a temperature profile that increases from 180°C to 220°C, keeping the hopper inlet between 40°C and 45°C.

It is recommended that the temperature of the molten mass does not exceed 220°C, as this could promote thermal degradation, which will lead to defects in the moulded parts.

The recommended spindle speed is between 20-100 rpm.

PROPERTIES

Property	Value	Units	Method
Melt flow index (MFI)	6 ²	g/10 min	ISO 1133-2 (210°C and 2,16 kg)
Density	1,24	g/cm ³	ISO 1183-1
Fusion temperature	155	°C	ISO 11357
Vitreous transition temperature	60	°C	ISO 11357
Young's modulus	3,7	GPa	EN ISO 527
Elongation at break	6	%	EN ISO 527
Maximum tractive effort	83	N/mm ²	EN ISO 527

¹ In accordance with Regulations (EU) 10/2011 and EN 13432, overall migration and/or compostability tests must be performed in the final packaging.

² The MFI is 4 g/10 mins according to ISO 1133-2 for a temperature of 195°C and 2.16 kg. In both cases, the values are without additives; the addition of these can significantly modify the flow.

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DRYING

ErcrosBio® LL, LD and LM grades should be dried prior to use, for 5 to 6 hours at a temperature of 85°C using dehumidified air with a dew point of -40°C and with sufficient air flow (over 1,5 m³/h per kg of resin). It is recommended to use the product with a water content under 0,02% (200 ppm).

The original packaging should remain sealed until the time of use, given the product's hydrophilic nature. After use, reseal the packaging of the material that has not been used.

Drying times should be increased by 4 hours (up to a total of 9 to 10 hours) when the packaging has been opened for several hours prior to use and the material has been exposed to moisture.

RECYCLABILITY

Products obtained with **ErcrosBio® LL, LD and LM** should be identified for recycling with code 7, corresponding to "Others", according to the SPI (Society of the Plastics Industry).

The main outlets at the end of the product's useful life are:

- Mechanical recycling: recovery as PLA, similar to PET.
- Chemical recycling: recovery as lactic acid or its derivatives.
- Incineration: allows for energy recovery.
- Industrial composting: decomposition to CO₂ and/or biogas, water and compost.



PACKAGING, CONTAINERS

ErcrosBio® LL, LD and LM grades are supplied as pellets in 700 kg octabins and in 25 kg sacks, both with an antihumidity inner bag.

Waste from packaging (pallets, sacks, octabins, straps, etc.) are considered as Non-Dangerous according to current legislation, and should be managed by an Authorised Waste Manager. The client is responsible for waste management and compliance with the regulations applicable in the country of use.

STORAGE AND HANDLING

During storage, **ErcrosBio® LL, LD and LM** grades may become moist if they are exposed to air. The quantity of water that can be absorbed will depend on the temperature, atmospheric humidity and exposure time. The product should therefore be stored hermetically sealed in the inner bag in a cool, dry place.

In general, two pallets/octabins can be stacked on firm ground, unless specified otherwise on the upper part of the packaging, indicated by the symbol shown.



EXPIRY – USEFUL LIFE

If stored properly with the packaging remaining sealed, the product can be processed for up to 12 months after it is supplied.

Product stored in packages that have lost their seal and have been exposed to humidity for extended periods of time (more than two months, as a guideline) could have become degraded and lost their mechanical properties, even after being dried again.

SAFETY

ErcrosBio® LL, LD and LM grades are not classified as dangerous products according to Regulation (EC) no. 1272/2008 and are therefore not subject to special regulations regarding transportation. These products do not decompose at ambient temperature.

REACH

Being a polymer, and in accordance with Article 2.9 of the Regulation, it is exempt from the registry obligations.

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