



ErcrosBio[®] LM 73501

Opaque extrusion grade

DESCRIPTION

ErcrosBio[®] LM 73501 is a PLA (polylactic acid)-based thermoplastic obtained from renewable natural materials. The content of material of biological origin is over 90%.

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[®] LM 73501 is a material intended for obtaining sheets by extrusion and subsequent thermoforming when high thermal resistance and low permeability are required. It has an opacity exceeding 90% in the whole visible spectrum. It provides excellent processability in both extrusion and thermoforming.

RECOMMENDED APPLICATIONS

ErcrosBio[®] 73501 is prepared to be processed in flat-head extruders for the production of sheets. The thermoformed pieces can be cut without causing breakages or splintering.

Recommended applications, in which it can substitute PET or PS (even at lower thicknesses), include trays, vessels, containers, CD cases, packaging of products for consumption and electronics, disposable lids for vessels, reusable food trays and grooved sheets for horticultural boxes.

PROCESSING CONDITIONS

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

Extrusion

It is recommended to use a temperature profile that increases from 180°C to 200°C, keeping the throat of the hopper between 40°C and 50°C. Sheet rollers should ideally be tempered between 35°C and 45°C.

The recommended spindle speed is 100-175 rpm.

Thermoforming

It is recommended to keep the rolls of material isolated from humidity and protected from light in a polyethylene packaging or similar before use.

It is recommended to work with moulds tempered between 35°C and 50°C.

For improved thermal resistance, mechanical properties and permeabilities, the use of moulds heated to a minimum temperature of 80°C-100°C is suggested.

PROPERTIES

Property	Value	Units	Method
Melt flow index (MFI)	2	g/10 min	ISO 1133-2 (190°C and 2,16 kg)
Density	1,32	g/cm ³	ISO 1183-1
Melting temperature	171	°C	ISO 11357
Glass transition temperature	58	°C	ISO 11357
Young's modulus	3,5	GPa	EN ISO 527
Elongation at break	110	%	EN ISO 527
Yield stress	57	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.

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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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