



BIOREL

BIODEGRADABLE PRODUCTS





BIOREL

BIOREL's **toe-puffs and counters** have been certified as totally biodegradable materials accordingly to the international regulations EN 13432 and ASTM D6400.

BIOREL materials' features are flexibility, elasticity and warm moldability.

These products are workable even at low temperatures, ensuring the shoe durability, comfort and retaining shape.

TOE-PUFFS:

BIOREL P04	thickness: 0.45 - 0.55 (mm)
BIOREL P06	thickness: 0.60 - 0.70 (mm)
BIOREL P08	thickness: 0.75 - 0.85 (mm)
BIOREL P10	thickness: 0.95 - 1.05 (mm)

COUNTERS:

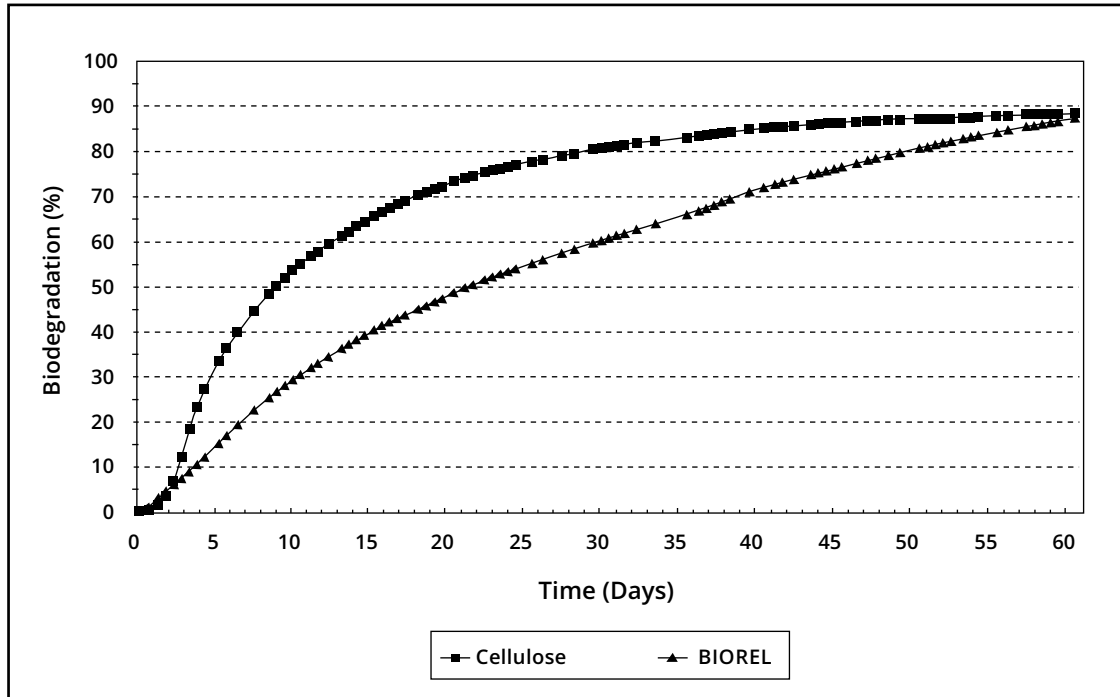
BIOREL V08	thickness: 0.75 - 0.85 (mm)
BIOREL V10	thickness: 0.95 - 1.05 (mm)
BIOREL V12	thickness: 1.10 - 1.20 (mm)





Organic Waste Systems

AEROBIC BIODEGRADATION UNDER CONTROLLED COMPOSTING CONDITIONS



Evolution of the average biodegradation percentage of cellulose and test item.

The inoculum showed a background activity of 146 mg CO₂/g VS after 10 days, which is between the optimal range of 50 mg and 150 mg CO₂/g VS as prescribed by the international standard ISO 14855 and indicates a good quality of the inoculum.

After 60 days (at the end of the test) cellulose reached a biodegradation of 88.3%, while a biodegradation percentage of 87.2% was observed for test item BIOREL.

From the results it can be concluded that test material BIOREL does fulfill the biodegradation requirement of CEN norm EN 13432 (2002) '*Requirements for packaging recoverable through composting and biodegradation - Test scheme and evaluation criteria for the final acceptance of packaging*' and ASTM D6400-04 '*Standard Specification for Compostable Plastics*' within 60 days. The maximum allowed test duration is 180 days.



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Guper reinforcements in BIOREL's family are made by 100% pure cotton textiles, washed and desized to remove any chemical residual of the production.

The adhesive is biodegradable, as well as the cotton, therefore non-polluting.

The washing treatment contributes to confer a noticeable softness and the dots adhesive grants a complete breathability.

Working conditions

Application temperature: 90 °C - 150 °C

Contact time: from 5 to 12 seconds

Pressure: 3 to 5 atm

Range:

WOVEN for reinforcements

720/W/61	Cotton woven 30/30	100 g/m ² ±10%
721/W/61	Cotton woven 20/20	150 g/m ² ±10%
722/W/61*	Cotton woven 20/1	180 g/m ² ±10%
725/W/61	Cotton woven 20/4	230 g/m ² ±10%
732/W/61	Cotton woven 20/10	160 g/m ² ±10%
735/W/61	Cotton woven 20/10	140 g/m ² ±10%
72G/61*	Cotton woven 20/20	170 g/m ² ±10%
74G/61	Cotton woven drill 20/12	265 g/m ² ±10%

JERSEYS

749/61	Cotton Jersey	200 g/m ² ±10%
749/46R/61	Cotton Jersey (interlock)	330 g/m ² ±10%
785/61	Cotton Jersey (punto Milano)	235 g/m ² ±10%
785/46i/61	Cotton Jersey (punto Milano)	365 g/m ² ±10%

* Available also in GRS version





BIOREL BIO

The BIOREL BIO line's articles are innovative biodegradable thermoadhesive products. Made of a cotton fabric base in which the glue is added internally into the fabric structure.

This feature gives it the ability to adhere to leather even in the skived parts without the addition of any kind of adhesive.

For applications that require a stiffer product, the article can also be coated with biodegradable adhesive film.

All BIOREL BIO products are also available in GRS version.

BIOREL BIO 70	thickness: 0.65 - 0.75 (mm)
BIOREL BIO 100	thickness: 0.95 - 1.05 (mm)
BIOREL BIO 150	thickness: 1.45 - 1.55 (mm)





Toe-puffs and counters for shoes.

Reinforcements and materials for shoes and leather goods.

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