RANGES OF CELLULOSE TRAYS

SUITABLE FOR "COOK-CHILL" PROCESS

100% & BIODEGRADABLE COMPOSTABLE*

Made from bagasse, dry pulpy fibrous residue of sugarcane, according to EN13432

HEAT SEALABLE

Vision Verte
Emballez l'avenir !
www.vision-verte.com

OK compost TÜV AUSTRIA INDUSTRIAL

*Certifié «OK Compost» conforme à la norme EN13432

Des idées ...
FIRPLAST
pour vous « emballer »
www.firplast.com

FIRPLAST Vision Verte has been innovating for more than 20 years by developing eco-friendly and sustainable solutions. Today we offer a 100% biodegradable and compostable packaging range.

In order to improve the development of renewable resources, our GN trays are made from biomaterials derived from nature.

Vision Verte
Emballez l'avenir !

THE PROCESS OF BIODEGRADATION

After using these trays, two biodegradation processes are possible : composting or methanization. This makes it possible to recovery the packaging waste in reusing it to produce compost or energy in the form of biogas.

1 HE MAIN STEPS OF THE MANUFACTURING PROCESS

The manufacturing process of our «Liaison Verte» trays is carried out in 4 successive stages described here below. It is identical for all our fiber trays.

PREPARATION OF THE MATERIAL

After collecting the raw material, the cellulose fiber is mixed with water. This forms a moldable paste.

MOLDING

The paste is distributed evenly in the molds that define the different shapes of the trays.

DRYING

The wet fibrous paste is pressed between two heated parts and dried to become solid.

ROLLING

The interior of the trays is covered with a compostable film of vegetable origin which makes the trays watertight and sealable.

2

THE METHANIZATION

The methanization is based on the principle of anaerobic digestion in the microbial ecosystem: the process of decomposition of organic matter is governed by microorganisms in the absence of oxygen. Previously milled, all the organic waste ferments in the digester, safe from air. After decomposition, organic waste generates agricultural fertilizer and biogas to produce electricity or heat.

INDUSTRIAL COMPOSTING

In an industrial composting facility, the biodegradable trays are crushed and mixed with biowaste. The mixture is then divided into different piles, turned and watered to facilitate the fermentation. In the industrial composting process, the temperature is regulated. This causes the destruction of bacteria and also reduces the time of transformation compared to domestic composting. After only 3 months, the compost obtained can be spread in fields and gardens.

3 SPECIFICITIES

Here below, a comparative table of all the specificities of the different ranges of trays that Firplast offers you.

Bio-based materials of vegetable origin:

PLA (Polylactic Acid) is a bioplastic material derived from plant starch such as corn, wheat or potato. All trays in this range are covered with a thin film of PLA on the inside and on the sealing edges. This layer makes the trays waterproof and sealable with plastic OR bioplastic films.

CELLULOSE is a major biopolymer and an important structural component of the primary cell wall of plants, including wood.
All our trays are composed mainly of an agglomerate of plant fibers of different origins depending on the range:

- **Sugar cane fibers** are derived from «waste» residues after sugar extraction. The peculiarity of this material (also called «Pulp») allows the manufacturing of high-quality white trays.

	Cellulose trays made from sugar cane waste	Polypropylene (pp) plastic trays
Reheating	✓	✓
Steam cooking	✗	✓
Microwave	✓ 750 W for 5 minutes	✓ 750 W for 5 minutes
Cooking bain-marie	✗	✓
Freezing	✓ To – 20° C	✓ To – 20° C
Reheating	✓ From - 20 ° C to **+ 180 ° C**	✓ From - 20 ° C to + 150 ° C
Temperature sealing (2)	✓ Between +110°C and + 130°C	✓ Between +150°C and + 170°C
Compatible sealing films	✓ (See page 8)	✓ PET/PE; mono material and others
Biodegradable	✓	✗
Compostable	✓ In accordance with EN 13432	✗
Certifications	✓ "OK Compost" certified	✗

(2) The sealing temperature varies depending on the types of film and the setting of heat sealers.

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OUR RANGE OF GASTRONORM TRAYS IN CELLULOSE

FROM BAGASSE: WASTE RESIDUE OF SUGAR CANE COMPLYING WITH EN13432

+ TRACEABILITY + CIRCULAR ECONOMY

+ WASTE RECOVERY

+ COST-EFFECTIVE AND ECO-FRIENDLY PRODUCTS

A COV8T
Couvercle plat PP translucides
pour barquette GN 1/8
164 x 134 x h 25 mm

1 BIO3230250
GN 1/8 - h 25
160 x 130 x h 25 mm
300 ml

2 BIO3230360/C
GN 1/8 - h 36
160 x 130 x h 36 mm
400 ml

3 BIO3230450/C
GN 1/8 - h 45
160 x 130 x h 45 mm
500 ml

4 BIO3230460
GN 1/8 - 2 compartiments - h 46
160 x 130 x h 46 mm
554 ml

5 BIO3220450/C1
GN 1/6 - h 45
176 x 162 x h 45 mm
800 ml

6 BIO3220460
GN 1/6 - h 46
2 compartiments
176 x 162 x h 46 mm
810 ml

B COV4
Couvercle plat PP translucides
pour barquette GN 1/4
268 x 165 x h 24 mm

7 BIO3210450
GN 1/4 - h 45
265 x 162 x h 45 mm
1100 ml

8 BIO3210550/C1
GN 1/4 - h 55
265 x 162 x h 55 mm
1400 ml

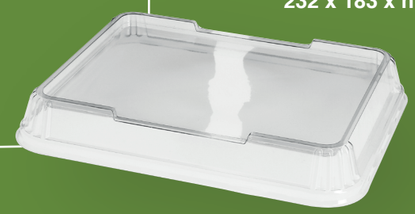
C COV2
Couvercle plat PP translucides
pour barquette GN 1/2
330 x 272 x h 32 mm

9 BIO3190480/C
GN 1/3 - h 48
323 x 172 x h 48 mm
1700 ml

10 BIO3180520/C
GN 1/2 - h 52
325 x 265 x h 52 mm
3200 ml

If you want suitable lids, please contact our sales department for more information.

D 314045COVD
Couvercle dôme APET
pour barquette 1 compartiment
232 x 183 x h 416 mm



E 314045COVP
Couvercle plat APET
pour barquettes 1, 2 et 3 compartiments
232 x 183 x h 113 mm

11 BIO3140451/C
MENU 1 compartiment
227 x 178 x h 45 mm
1200 ml

12 BIO3140452/C
MENU 2 compartiments
227 x 178 x h 45 mm
1105 ml

13 BIO3140453/C
MENU 3 compartiments
227 x 178 x h 45 mm
970 ml

5 OUR ENVIRONMENTAL POLICY, QUALITY & HEALTH

FIRPLAST is certified ISO 9001 to guarantee the satisfaction of its customers in a process of continuous improvement and ISO 14001, as well, in line with its commitment to environmental protection.

We carry out several daily actions in order to reduce our energy consumption and conserve natural resources, prevent pollution, improve waste sorting and recycling.

As part of a sustainable development approach, we comply with regulatory and legal requirements.

We guarantee endocrine disruptors (present in some plastics) free packaging.

All our products comply with food contact regulations. The tests on our "Liason Verte" trays were carried out by SGS and Pourquery laboratories.

Our «Liason Verte» trays are OK COMPOST certified by TÜV Austria. This label indicates that these trays are compostable in an industrial facility without residues of heavy metals. To obtain the OK COMPOST label, several tests are required.
These are the next four:

- Biodegradation test, that examines the chemical decomposition of the polymer.
- Disintegration test, that checks if the products physically disintegrate into very small fragments.
- Ecotoxicity test, that checks if the composted product has a negative impact on plants.
- Analysis test of the amount of heavy metals and fluorine contained in the product.

These tests were performed by the OWS laboratory. They comply with the European standard EN13432 for the requirements for packaging that can be recycled by composting and biodegradation.

Approved by industrial composting facilities, the «Liaison Verte» trays decompose in just 3 months to become compost.

FIRPLAST has been awarded the HOPITECH 2016 Sustainable Development Trophy for its range of 100% biodegradable trays.

HOPITECH is a major event in the hospital sector and a place of knowledge and experience sharing to invent the hospital of tomorrow where sustainable development will play a key role.

This trophy also rewards FIRPLAST for its involvement in the search for biodegradable materials for many years.

Like the National Institute for Agronomic Research (INRA), FIRPLAST is one of the European partners that contribute to the international research project named: «GLOPACK - Granting society with low environmental impact innovative packaging» within the framework of the European HORIZON program -2020.

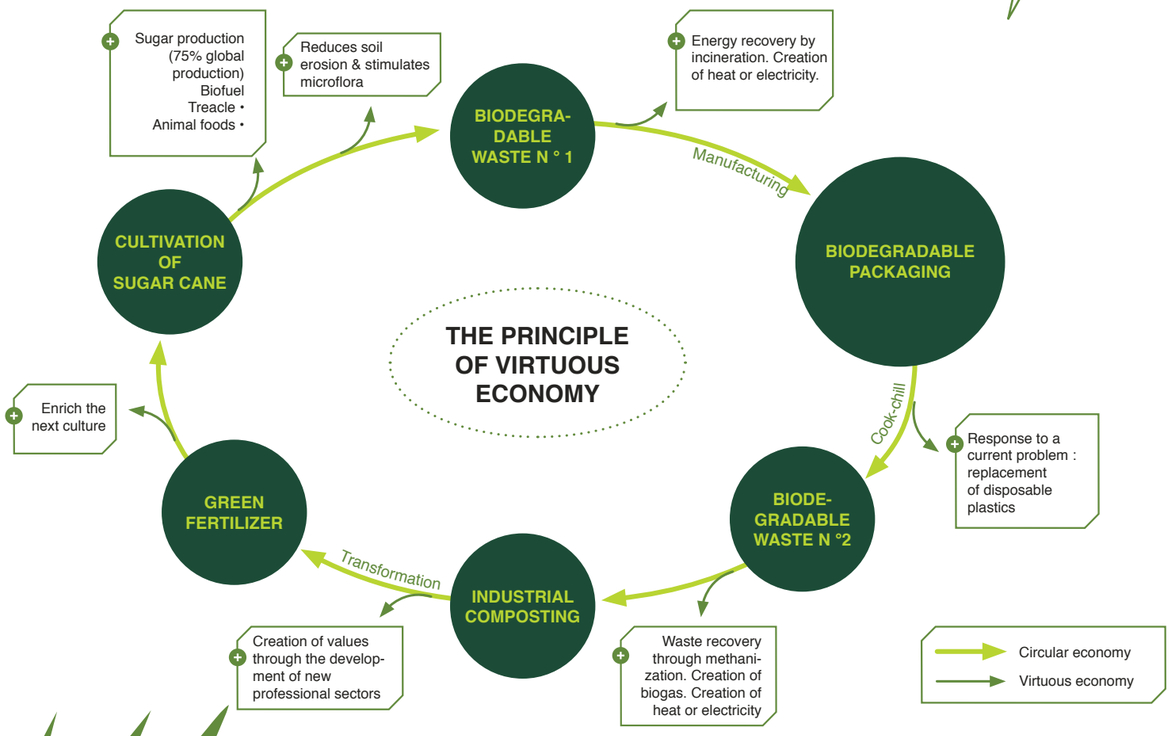
6 OUR VALUES AND SUSTAINABLE COMMITMENTS

The aim of this project is to facilitate consumers and businesses' access to innovative and eco-designed packaging. Based on the concept of the circular economy, this project aims to reduce both packaging waste and food waste. Thus, during the three years of research, several prototypes of packaging will be developed and tested to then evaluate their potential on the market.

INRA
GLOPACK

7 THE PRINCIPLE OF VIRTUOUS ECONOMY

Here below the outline of the circular economy that enhances waste.



www.vision-verte.com

8 THE RANGE OF SEALING FILMS
FOR CELLULOSE TRAYS

FIRPLAST offers several films suitable for sealing on manual, semi-automatic and automatic heat sealers. For each reel of film, we offer a wide choice of sizes, widths and lengths, according to your needs.

Our cellulose trays meet all the requirements and are eco-friendly:

- ✓ SAFE FOR FOOD CONTACT
- ✓ GREASEPROOF AND WATERPROOF
- ✓ SEALABLE
- ✓ FOR COLD STORAGE
- ✓ TRANSPORTABLE
- ✓ SUITABLE FOR REHEATING
- ✓ IN COMPLIANCE WITH EN 13432
- ✓ «OK COMPOST» CERTIFIED

FABRICATION FRANCAISE

FIRPLAST also offers a wide choice of dies and manual, semi-automatic and automatic sealing machines made in France !

DESIGNATION	REFERENCE	COMPOSITION	THICKNESS
100% Biodegradable Film (1)	FBIO350	Cellulose film	55µ
All-purpose film	FROUNIV	PET12/PEPU50	62µ
Mono-material film (117S)	FREX	Polyester	28µ

OK compost INDUSTRIAL — TÜV AUSTRIA

(1) Sealing film «OK Compost» certified according to EN13432

Des idées ... FIRPLAST pour vous « emballer »

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Find all our products on www.firplast.com and www.vision-verte.com