Biopolymers for film applications

The future of protective solutions

Solutions for the zero waste transition

The impact of humanity on our planet is now top of the environmental agenda. Waste, greenhouse gas effects and threats to biodiversity all require urgent actions to ensure that life remains sustainable. Even though significant efforts have already been made, still more efficient solutions are needed in order to further protect our environment. Food packaging is a key area for improvement, thanks mainly to the huge market for single-use applications.

BENVIC material innovation is showing a way forward.

Solutions such as product recycling require complex infrastructures for collecting, sorting and regeneration, and also a high level of consumer cooperation. This makes for inefficient and high-cost systems.

But when packaging is simply treated as food waste then a significant change of paradigm is enabled and compost ability becomes the answer. The composting process gets things done and also dramatically reduces the waste production per capita. Bio-based materials are now urgently needed for new packaging.

BENVIC is therefore path-finding the way to successful compostable manufacturing, and is introducing the bio economy to the circular economy with a dedicated biopolymer range called PLANTURA®. Changing over from existing materials to biopolymers requires extensive compounding knowledge in order to set up the right properties for materials processing and to keep the processing costs under control.

As ever, the primary purpose is to make packaging that preserves and protects goods. Film is widely used for packaging for food and durable goods as where compostable bio based polymers is a valid proposition for the environmental transition.

Offering a biobased proposition will improve final product value by focusing consumer choice but without compromise on the technical features:

- Ability to be converted in various thickness.
- Different level of transparency for product identification or perceived quality.
- High mechanical strength and abrasion resistance.
- Meet various markets requirements, such as food, home& personal care, medical and agriculture.

PLANTURA proposition

BENVC's extensive biopolymer compounding has succeeded in meeting all these requirements; providing a dedicated range of PLANTURA® based on various bio polymers such as PLA, PBS and PBAT.

Our compounds allow films from 8µm to 120µm with aspects levels from transparent to opaque and wide mechanical performances span to meet various applications. PLANTURA® film compounds offers the following key features:

- **OK compost** for a low environmental footprint.
- **Biobased** solution.
- Wide range of **mechanical properties** to meet various applications.
- **Food contact** compatible.
- Compatible with **low temperatures** for frozen food packaging.
- **Starch blend free** to avoid inconvenient smell.
- **Excellent process ability** in extrusion and blow and rolling properties

Our business vision is based on full customer satisfaction which makes that product fit to converting process is key. Our formulations are developed to ensure efficient and stable concerting process. If improvement are foreseen, our technical teams ensure a fine tuning to make sure that material allow optimum manufacturing parameters.

Bacteriostatic for an improved protection

BENVIC, by offering bespoke compounds, is developing technology edge solutions to improve material features. The PLASTISAFE by BENVIC technology allows PLANTURA® biopolymers compounds self sanitizing features: bacteria's are removed from the film surface based on a physical mechanism without any biocide agent.

Our patented technology opens new horizons based on combination of protection against bacteria's and allow a full food compatibility. Used on films, our biopolymers compounds offers an efficient protection with a full respect of the environment and health: a unique feature.

Film grades range

	Tensile modulus (MPa)	*Elongation at break (%)*	*OK Compost (EN13432)*	*Vicat (°C)*	*Food contact*	*Transparency*
F195CC	100	500		90	O	transparent
F195C	100	500		90	O	translucent
F295C	250	400		85	O	opaque
F395C	550	230		75		opaque
F396C	650	190		72		opaque
F397C	1100	150		70		opaque

Film grade range with bacteriostatic

	Tensile modulus (MPa)	*Elongation at break (%)*	*OK Compost (EN13432)*	*Vicat (°C)*	*Food contact*	*Transparency*
F195CC AX	100	500		90	O	transparent

Application chart

	General purpose	*Food packaging*	*Frozen food*	*Vegetable*	*Industrial packaging*
F195CC	○	○	○	○	
F195C	○	○	○	○	
F195CC AX	○	○	○		
F295C	○	○	○		
F395C					○
F396C					○
F397C					○

Support

Benvic as specialist of PVC compounding supports customers in the product design and associated manufacturing process. For any support, please contact you closest BENVIC sales representative or at benvic.com.

www.benvic.com