

NP[®] SioPack[®]

The Plastic-Free, Ultra-Thin Barrier Layer
for Sustainable Packaging Solutions



**Green
Product
Award**

Best of
2022



 **NANOPOOL**



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Nanopool received the Green Product Award 2022

Nanopool received the Green Product Award 2022 for its innovative and sustainable surface technology, which functionalises paper and natural fibre products in an eco-friendly way. The „Best of New Materials“ award highlights Nanopool’s commitment to setting new standards in nanotechnology and making a positive contribution to environmental protection through sustainable solutions.



Nanopool won the Gold Green World Award 2020

Nanopool won the Gold Green World Award 2020 for its innovative packaging protection technology, which enables 100% plastic-free and fully compostable packaging through an ultra-thin barrier layer. This recognition highlights Nanopool’s commitment to developing sustainable solutions and their role as a leader in eco-friendly practices, further solidified by being named a Green World Ambassador.

Introduction

NP® SioPack® offers a revolutionary, ultra-thin, 100% plastic-free barrier layer that can be applied to a variety of materials such as paper, cardboard, and film. This innovative technology allows companies to develop packaging without the use of conventional plastics while maintaining the necessary barrier properties such as moisture and grease resistance.

Benefits of the NP® SioPack® Technology

Ultra-Thin and Plastic-Free – A Sustainable Barrier

NP® SioPack® is an extremely thin barrier layer that contains no plastic. Unlike conventional plastic or PLA coatings, NP® SioPack® leaves no environmentally harmful plastic residues and still provides the required moisture and grease resistance.

Compostable – Sustainable Disposal

NP® SioPack® is fully compostable, both in industrial composting facilities and in home composting. This barrier layer contributes to a closed-loop material cycle and leaves no harmful residues.

High-Quality Barrier Properties – Without Compromising Functionality

Despite being plastic-free, NP® SioPack® offers excellent barrier properties against moisture and grease. It can be used in a wide variety of applications where conventional plastic coatings are typically required.

Why NP® SioPack®?

NP® SioPack® differs from conventional plastic coatings and PLA due to its completely plastic-free structure. NP® SioPack® can be applied to existing packaging solutions made from paper, cardboard, and film, providing a sustainable, future-proof barrier without plastics. This makes NP® SioPack® an ideal solution for companies looking to make their packaging more environmentally friendly.

Versatile – Compatible with Paper, Cardboard, and Film

NP® SioPack® is extremely versatile and can be applied to a wide range of base materials such as paper, cardboard, and films. This makes it suitable for many packaging applications, from food packaging to industrial packaging.

Future-Proof – Meets Plastic-Free Legislation Requirements

NP® SioPack® complies with growing legislative requirements for plastic-free packaging and offers a long-term solution for companies preparing for upcoming changes in the packaging industry.

Ensures Food Safety

NP® SioPack® meets food safety requirements according to EN 1186, EN 13130, and CEN/TS 14234 for materials in contact with food and feed. It has also been tested according to DIN EN 14338:2004-03, providing a safe, plastic-free solution without PE lamination.

PFAS-Free

NP® SioPack® is free of PFAS (Per- and polyfluorinated chemicals), which are known for their potentially harmful effects on the environment and human health.

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Easy to Process

NP® SioPack® is easy to integrate into any packaging application without requiring significant changes to production processes. The ultra-thin coating ensures smooth processing on existing packaging materials.

Ultra-Thin Coating

NP® SioPack®'s coating is ultra-thin, ensuring that the quality and feel of the packaging material are not compromised

Recyclability

NP® SioPack® has been tested by PTS, Heidenau, and meets the criteria of the PTS method „PTS-RH 021:2012“, Category II for recycled paper used in the production of packaging papers. The tested folding boxes achieved a recyclability rate of 98.5% (with only 1.5% residuals), confirming its excellent recyclability.

NP® SioPack®: Benefits at a Glance

Benefit	NP® SioPack®	PLA-Coated Packaging	Plastic-Coated Packaging
Plastic-Free	Yes	No (Bioplastic is still plastic)	No
Compostable (Home and Industrial)	Yes	Industrially compostable only	No
Future-Proof (Plastic-Free Laws)	Yes	Potentially regulated, but still plastic	Not compliant with future regulations
Versatile	Yes (Paper, Cardboard, Film)	Only on certain materials	Yes, but with environmental impact
Moisture and Grease Resistance	Yes	Yes	Yes

Industrial Packaging

Protects products from environmental influences without relying on plastics. Paper and Cardboard Packaging: NP® SioPack® can be easily integrated into existing paper and cardboard packaging, providing an additional barrier without burdening the materials.

Flexible Films

NP® SioPack® offers a plastic-free alternative for flexible films used in various packaging types.

Applications for NP® SioPack®

Food Packaging: Ideal for grease and moisture-resistant packaging such as cups, trays, and cartons.

Drinking Cups and Straws with NP® SioPack®

NP® SioPack® makes drinking cups sustainable and functional by providing a plastic-free, ultra-thin barrier layer that protects cups from moisture and grease. These cups are compostable and suitable for hot and cold beverages. NP® SioPack® also drives the development of durable paper straws, which remain structurally intact even in sugary or carbonated drinks. The innovative coating makes them the perfect eco-friendly alternative to plastic straws.

Conclusion

NP® SioPack® offers a plastic-free, ultra-thin barrier layer that enables companies to make their packaging more sustainable without compromising functionality. This versatile technology is suitable for paper, cardboard, and film and is characterized by excellent moisture and grease resistance. With NP® SioPack®, companies are optimally prepared for future plastic-free packaging legislation worldwide.

Contact us to learn how NP® SioPack® can improve and enhance the sustainability of your packaging solutions.

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