



RETHINKING THE CONE: HOW SAPPI AND HUHTAMAKI ARE TAKING ALUMINUM OUT OF THE ICE CREAM AISLE



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This mono-material paper innovation by Sappi and Huhtamaki is based on Guard Duo, Sappi's barrier paper. Unlike conventional paper, it provides the grease and moisture resistance required to replace aluminum while remaining recyclable.

Creating an all-paper cone sleeve involved overcoming several technical challenges. The packaging needed to be printable, sealable, and durable enough for high-speed production while protecting the product during long-term frozen storage at -18°C . It also had to allow consumers to open the package easily. Early tests showed that a single-sided barrier coating was insufficient because stacked sleeves require grease resistance on both sides. Additional improvements to the base paper ensured dimensional stability, durability, and consistent processing.

Extensive shelf-life tests were carried out under real and accelerated frozen storage conditions in cooperation with brand owners and cone manufacturers. Continuous feedback between Sappi, Huhtamaki, and their customers enabled the material to be refined throughout the development process. Huhtamaki also had to adapt its manufacturing process. One major challenge was replacing aluminum's "dead fold" property, which allows it to stay bent after crimping. Since paper naturally springs back, the company developed a solution that keeps the sleeves securely closed without compromising performance.

First commercial products expected to reach the European market by 2027. The project demonstrates how close collaboration, technical expertise, and customer-focused innovation can help create more sustainable packaging solutions without sacrificing functionality or product quality.

