

CASE STUDY

# Baby diaper packaging based on Post Consumer Recyclate (PCR)

BOREALIS, ECOPLAST AND NEEMANN COLLABORATE ON NEW INITIATIVE



In partnership with

NEEMANN 

 BOREALIS

بروج  
Borouge 

## Breakthrough hygiene packaging containing PCR produced from household and commercial packaging waste

In a ground-breaking partnership, Borealis, Ecoplast (a member of the Borealis group), and NEEMANN, have launched new hygiene packaging containing PCR LDPE, produced exclusively from post-consumer waste including household municipal ones.

By using Ecoplast PCR LDPE (NAV101) in combination with Borealis virgin PE enablers, NEEMANN successfully managed to introduce more than 40% of PCR LDPE in the manufacture of baby diaper packaging. Thanks to its performance characteristics, it is now being developed for use across NEEMANN's hygiene packaging portfolio.

The Borealis virgin PE boosters, Anteo™ and BorShape™, enable the introduction of high PCR LDPE content.

### Why use Ecoplast PCR LDPE NAV101?

Using recycled plastic, derived partially from municipal/household waste, marks the start of a new chapter in high-end flexible packaging, helping accelerate the transition towards a more circular economy. It brings a sustainable solution to flexible packaging end-of-life (an alternative to landfill or energy recovery), and reduces fossil-based resource utilisation and CO<sub>2</sub> emissions.

## Overcoming industry challenges through collaboration

Thanks to exceptional collaboration and expertise throughout the value chain, the stakeholders were able to bring together their solutions to overcome the challenges of introducing PCR material in high demanding hygiene applications.

### Ecoplast's PCR LDPE NAV101

This 100% post-consumer, transparent recyclate made from household/municipal and commercial waste, typically provides low odour, low coloration, and reduced gel content. It comes with REACH compliance statement, statement on chemicals and EuCertPlast certificate.

### Virgin resins enablers from Borealis

Anteo and BorShape are best-in-class materials for improving extrusion processability and mechanical performance. This allows the introduction of more than 40% PCR, with finished packaging material still fulfilling converter and end-user needs without increasing film thickness.

### NEEMANN's expertise in flexible packaging for hygiene products

Drawing on its unique experience and technical capabilities in flexible packaging for hygiene products, NEEMANN managed to develop the right film design, and combination of virgin and PCR material, to deliver new packaging solutions fulfilling all end-user requirements: appearance including print quality, performance on packaging line, and stewardship compliance.





“Together with Ecoplast and NEEMANN, we have started using our PCR resin for baby diaper packaging, a highly demanding application. This significantly increases the sustainability of flexible applications, without making the typical performance sacrifices you would expect with PCR. Made using large part of municipal waste, it marks the start of a new chapter in PCR material, helping accelerate the transition towards a more circular economy by reducing the amount of virgin PE being incinerated or sent to landfill.”

Peter Voortmans, Global Commercial Director Consumer Products  
Borealis

“Using PCR is not a simple Drop-in solution. Not in terms of processability and certainly not with respect to stewardship. In contrast to virgin PE you can’t draw conclusions from well-known monomers. We initiated a joint risk assessment with FMCG-customers and built up a game-changing database with thousands of lab-results covering hundreds of substances, with profound support from Ecoplast and Borealis. Thus enabling PCR even for sensitive applications, using a hair thin circular packaging with reduced carbon footprint.”

Cord Neemann, Joint Managing Director  
NEEMANN

## Borealis and Borouge packaging solutions are making everyday life easier

date of issue: October 2022

Borealis is one of the world's leading providers of advanced and circular polyolefin solutions and a European market leader in base chemicals, fertilizers and the mechanical recycling of plastics. We leverage our polymers expertise and decades of experience to offer value adding, innovative and circular material solutions for key industries. In re-inventing for more sustainable living, we build on our commitment to safety, our people and excellence as we accelerate the transformation to a circular economy and expand our geographical footprint.

With head offices in Vienna, Austria, Borealis employs 6,900 employees and operates in over 120 countries. In 2021, Borealis generated total sales and other income of EUR 10,153 million and a net profit of EUR 1,396 million. OMV, the Austria-based international oil and gas company, owns 75% of Borealis, while the remaining 25% is owned by a holding company of the Abu-Dhabi based Mubadala. We supply services and products to customers around the globe through Borealis and two important joint ventures: Borouge (with the Abu Dhabi National Oil Company, or ADNOC, based in UAE); and Baystar™ (with TotalEnergies, based in the US).

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**Borealis AG**  
Trabrennstr. 6–8, 1020 Vienna, Austria  
Tel +43 1 22 400 000 - Fax +43 1 22 400 333  
[borealisgroup.com](http://borealisgroup.com)

**Borouge Pte Ltd** Sales and Marketing Head Office  
1 George Street 18–01, Singapore 049145  
[borouge.com](http://borouge.com)

