

# Sustainable barrier coating solutions

Substances such as oil, fat or water have a strong influence on the quality of packaging. They attack the substrate, can damage the printing ink or impair the filling good. A barrier is therefore essential in most cases. Until now, PE layers have generally been used as a barrier for packaging. With regard to sustainability, environmental and climate protection, however, it is important to avoid such PE composites. **This is where alternative barrier solutions come into consideration.**

## BARRIER COATINGS AND SUSTAINABILITY

Barrier coatings seal the substrate surface and protect the packaging from external and internal influences. The packaging remains attractive and can fulfil its functionality without restrictions. Depending on the product, barrier coatings offer protection against fat, water, water vapor, dairy products, alcohol, oil or alkali for the packaging's lifetime. Due to their versatility, they are used for a wide range of applications. These include fast food packaging and menu trays, but also ice cream cups, chocolate wrappers or drinking cups for hot and cold drinks.

The poor recyclability of PE layers – and thus the high use of plastic – is a major drawback in terms of sustainability. PE layers are increasingly falling into disrepute and are subject to ever more comprehensive regulation.

At the same time, legal requirements for the recycling or disposal of such production materials represent a major challenge for many processing companies. Brand owners may pass on the corresponding pressure to the packaging manufacturers. This is understandable insofar as the success of a brand today also depends on a demonstrably sustainable production chain. In addition, within the product life cycle, packaging has a very short lifetime and therefore reaches the disposal process quickly.

Solutions are increasingly being sought at all levels to avoid additional plastic waste. **Water-based barrier coatings can be used as a very good alternative in many cases.**

## CUSTOMER BENEFITS

Water-based barrier coating solutions provide a broad variety of customer benefits – in particular, but not only with regard to sustainability:

**Demonstrably sustainable:** By avoiding PE layers and a better recycling

**Recycling:** Simple and sustainable recycling of end products

**Simplified production process:** No PE-coated material is required

**Shortened delivery and production process:** Faster delivery due to standard material

**Cost optimization:** From paper production to recycling – more cost effective as the recycling process is simplified

**Supply chain optimization:** No storage necessary and just-in-time production



# ACTGreen® Barrier Coatings

ACTGreen® is our portfolio of products that make a decisive contribution to sustainability. This does not only include products that have themselves been sustainably formulated, but also those that enable the production of more sustainable end products. ACTGreen® Barrier Coatings include both water-based barrier coatings and aqueous TPE dispersions as coating or binder systems.

## WATER-BASED BARRIER COATINGS

Depending on the product, our barrier coatings build up an adequate effect against water, water vapor, oil or fat (vegetable fat, synthetic fat, animal fat). Moreover, there are barrier properties against alcohol, alkaline and acidic liquids as well as dairy products. Coatings are available both for the interior and exterior use. A significant number of end uses are covered by the product portfolio. These include – among others – fast food packaging and menu trays, drinking cups and ice cream cones, detergents, chocolate wrappers as well as frozen food, oven or microwave packaging.

Apart from their barrier effects, our solutions show valuable further characteristics, depending on the particular product:

[Recyclability](#)

[Heat sealability](#)

[Food law compliance](#)

[Release properties](#)

[High wet block resistance](#)

[High scuff resistance](#)

[Heat resistance](#)

[Visual appearance \(gloss, neutral, satin, matt\)](#)

Barrier coatings can be processed by sheet-fed offset, flexo and gravure printing or by means of various coaters. They are used by packaging converters and printers or by the paper industry, based on the respective product.

## Disclaimer

All information provided in this publication are made to the best of our knowledge and are advisory. No legal claims can be made out of these statements. Changes due to technical progress, applicable law or production-related needs may be necessary. The content does not claim to be complete.

## WATER-BASED TPE DISPERSIONS

Aqueous thermoplastic elastomer dispersions of the YUNICO® technology offer a wide range of coating solutions for packaging materials and different substrates. Moreover, they are used as binding systems in the paper production. YUNICO® makes it possible to combine different specific characteristics in one single dispersion:

[Barrier properties](#)

[\(e.g. against water, water vapor, oil and fat\)](#)

[Heat sealability](#)

[\(in high and low temperature ranges\)](#)

[Tactile effects](#)

[\(e.g. smooth, soft, silky, rough\)](#)

[Recyclability](#)

[\(PTS recyclability certified by an official institute\)](#)

As they are exclusively water-based, dispersions are free of emulsifiers, dispersants and solvents. Furthermore, they meet all requirements for the direct food contact and have the corresponding FDA/EU approvals. In terms of their barrier properties, they are suitable for food packaging, such as dry food (flour, sugar), but also for frozen food packaging, pet food, cookie and meat packaging or pizza cartons.

By the compounding of TPE components, properties can be variably adjusted.



**ACTGreen**  
Barrier Coatings

Your contact:  
[www.actega.com](http://www.actega.com)