

A close-up photograph of a man's face and hand holding a brown paper coffee cup with a black lid. The background is a soft-focus outdoor scene with green foliage. A large, semi-transparent green circle is overlaid on the left side of the image, containing the main text. A smaller, semi-transparent teal circle is overlaid on the bottom right corner of the green circle.

# ACTGreen<sup>®</sup> BARRIER COATINGS

SUSTAINABLE  
BARRIER COATING  
SOLUTIONS  
FOR PACKAGING

# SUSTAINABLE BARRIER COATING SOLUTIONS

Substances such as oil, fat or water have a strong influence on the quality of packaging. They attack the substrate, may damage the printing inks or impair the filling good. A barrier is therefore essential in many cases. Until now, PE layers have often 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.**

## ENVIRONMENTALLY FRIENDLY PE-REPLACEMENT

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 most cases.

The use of water-based barrier coatings to replace PE layers has other advantages that should not be neglected. For example, production times demanded by customers are becoming shorter. But: PE-coated cardboard usually has longer delivery times or material storage facilities must be set up, which ties up operating resources. With the use of barrier coatings, it is possible to produce independently of the supplier and – above all – just-in-time.



## CUSTOMER BENEFITS OF WATER-BASED BARRIER COATING SOLUTIONS

- ✓ **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 required
- ✓ **Shortened processes:**  
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

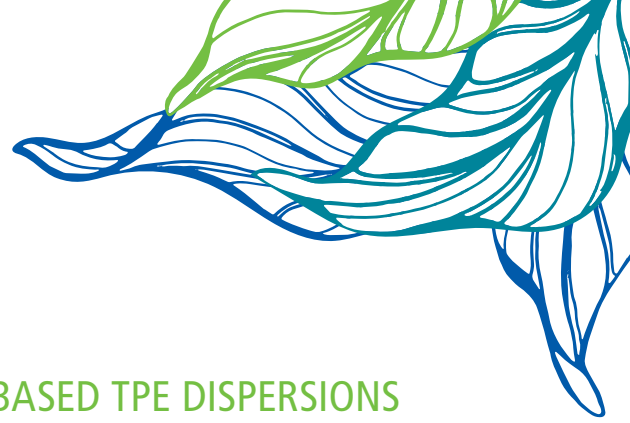
## ACTGreen® BARRIER COATINGS

ACTGreen® Barrier Coatings include both water-based barrier coatings and aqueous TPE dispersions by YUNICO® technology as coating or binder systems for various applications and end uses.

### WATER-BASED BARRIER COATINGS

Water-based 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, our barrier coatings offer adequate protection against fat, water, water vapor, dairy products, alcohol, oil or alkali for the lifetime of the packaging. Due to their versatility, they are used for a wide range of applications. Water-based barrier coatings are available for packaging converters and printers or the paper industry.





## 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 (paper, cardboard, aluminum, plastic). They are also used as binding systems in paper production. Exclusively water-based, these dispersions are free of emulsifiers and solvents. Furthermore, they meet all requirements associated with the direct contact to foodstuffs and have the corresponding FDA/EU approval.

YUNICO® makes it possible to combine different specific properties in one single dispersion. By the compounding of TPE components, properties can be variably adjusted.

**Barrier properties** (e.g. against water, water vapor, oil, 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)

In terms of their barrier properties, products are suitable for food packaging, such as dry food (flour, sugar), and also for frozen food packaging, dairy products, pet food, cookie and meat packaging or pizza cartons.

### A SELECTION OF END USES

- ✓ Fast food packaging
- ✓ Packaging for frozen food
- ✓ Microwave and oven packaging
- ✓ Menu trays
- ✓ Fruit and vegetable trays
- ✓ Ice cream cups & cones
- ✓ Drinking cups for hot and cold drinks
- ✓ Chocolate wrappers
- ✓ Bakery products
- ✓ Prepared meals / salads / sandwiches
- ✓ Pet food
- ✓ Detergents
- ✓ Paper plates

### COATING PROPERTIES

Depending on the product, our water-based barrier coatings show further valuable characteristics:

- ✓ Recyclability
- ✓ Heat sealability
- ✓ Food law compliance (per region)
- ✓ Release properties
- ✓ High wet block resistance
- ✓ High scuff resistance
- ✓ Heat resistance
- ✓ Visual appearance (glossy, neutral, satin, matt)

There are water-based barrier coatings both for the interior and exterior use. They can be processed by sheet-fed offset, flexo and gravure printing or by means of various coaters (roller, spray, curtain, slot die, rod, blade, air knife, knife over roll coater).

## CLOSE COOPERATIONS WITH CUSTOMERS

Barrier coatings are highly specialized systems. Their effect depends on various factors. Since the entire production process is decisive, ACTEGA does not only carry out standardized test methods in advance, but also those tests that are tailored to the individual customer. Overall, ACTEGA relies on a close cooperation with customers and partners. The aim is to jointly and continuously optimize and further develop the technology of barrier coating solutions for packaging.

Contact us:  
[www.actega.com](http://www.actega.com)



**ACTGreen®**  
Sustainable Coatings



**ACTGreen**  
Barrier Coatings



**ACTGreen®**  
Sustainable Compounds

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.

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

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