BYK

All products in this brochure are PFAS-free.

OUR ADDITIVES FOR PVC APPLICATIONS
THE PLUS FOR PRODUCTS AND PRODUCTION

PVC-O 1

A member of ALTANA

Contents

Welcome to our **additives portfolio for PVC applications**

With this brochure we present our innovative products and services with which we support PVC applications based on plastisols and compounds. We are also happy to share insights into our business philosophy with you.

For us, as a globally leading producer of additives, it is an overriding concern to be close to our customers, which means far more than just geographical proximity. Our aim is to provide you with solutions that perfectly suit your production processes and product demands. To that end, we bundle our comprehensive expertise and our longstanding experience gathered in diverse plastics markets.

With consumer markets changing ever more rapidly worldwide, the challenges for PVC applications grow continually. The focus is on quality and functionality, but esthetics and sustainability play an increasing role, too. With BYK at your side, you are perfectly equipped to meet these varied demands.

On the following pages, we invite you to discover what added value you can expect from our additives. We are happy to support your business with our know-how in the future!

Note

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Our brands for **PVC applications**

Our portfolio for PVC applications comprises five brands and includes solvent- and water-based additives. Suited to individual applications, we also offer low emission, eco-friendly products.

GARAMITE

These powdered rheology additives are based on organophilic phyllosilicates. They generate a pseudoplastic flow behavior in PVC plastisols.

RHEOBYK

These organic rheology additives generate different types of flow behavior depending on the individual product, therefore optimizing the rheological properties of PVC plastisols.

VISCOBYK

This product family facilitates the processability of PVC plastisols. It reduces the plastisol's viscosity and is suited for applications with medium to high shear rates.

DISPERBYK/DISPERPLAST

We developed these additives to optimize the incorporation of solid particles into liquid and solid media. In particular, they support extremely sophisticated PVC applications.

BYK

This brand combines a broad portfolio of wetting and dispersing additives, defoamers, air release agents, and processing additives. They optimize the product properties of PVC plastisols and support their processability.

Our additives:
added value for a unique material

Characterized by excellent durability, diversity, and longevity, PVC is one of the most popular materials worldwide. To achieve an excellent end product quality, it is crucial to include additives during production. They constitute the product's functionality as well as its mechanical and esthetic properties. Moreover, additives facilitate production processes.

As a globally leading producer, we provide a broad additive portfolio for a wide variety of PVC applications. Formulators and compounders, system providers as well as end users rely on our additives, well aware of the fact that they can also reckon with our services and our unique know-how, too. This is true for producers of floorings, wall coverings, technical textiles and many more PVC applications.

Thanks to our close collaborations with direct and indirect customers along the value chain, we broaden our application know-how continually. Our comprehensive understanding of the markets we serve puts us in a position to anticipate new trends and develop innovative applications for future challenges, creating added value for customers, end users, and consumers alike.

Ideal for floorings, leather, wall coverings, and printing inks

Our additives provide different functions. They optimize the rheology and flow behavior of PVC plastisols and control air release. Others help incorporate fillers and pigments. In printing inks and coatings, they can be employed to create product-specific properties.

Selecting the suitable additive depends on many factors. The interaction of materials and production conditions plays a major a role in this context. If desired, we support our customers with extensive tests to analyze the behavior of our additives under their production conditions. In doing so, we not only help to produce an optimal product, we support efficient and reliable production processes, too.

Our additives optimize the production of the following applications.

Floorings

With our wetting and dispersing additives, viscosity reducers, and foam stabilizers, we meet a number of challenges arising during the production of roll materials as well as carpet and luxury vinyl tiles (LVT). The wetting and dispersing additive BYK-1165, for example, is designed to incorporate fillers into highly filled plastisols with low to medium shear rates. DISPERPLAST, on the other hand, facilitates the incorporation of fillers into thermoplastic PVC compounds. Both products also optimize the flow behavior of the materials. For anti-static applications, we recommend BYK-5128.

By reducing viscosity, our VISCOBYK additives support the plastisol's processability. In particular, this applies to materials with few or no fillers. For indoor applications, VISCOBYK-5120 und VISCOBYK-5125 have proven extremely successful, as they show few emissions thanks to their low volatility. BYK-8020 and BYK-8070 help to stabilize mechanical foams, one is based on silicone, the other on soap.

Natural leather and coated fabrics

Natural leather and coated fabrics are used in many consumer products. These range from car seats to furniture and include shoes, bags, clothing, and accessories. Our additives support the production and finishing of natural leather and coated fabrics based on PVC or polyurethane (PU).

Depending on the applications, our customers can choose between solvent- and water-based additives. Our surface additives help optimize the quality and feel of the materials. Our wax additives create shine, smoothness, grip, and comfort. Our wetting and dispersing additives serve to incorporate pigments and fillers into the finishing.

To optimize different processing parameters during the production of the finishing, our defoamers, rheology and processing additives are first choice. Defoamers destroy unwanted foam bubbles, generating flawless surfaces. Rheology products better the flow behavior, and processing additives improve the release properties as well as the cell structures of the PVC plastisols.

Wall coverings

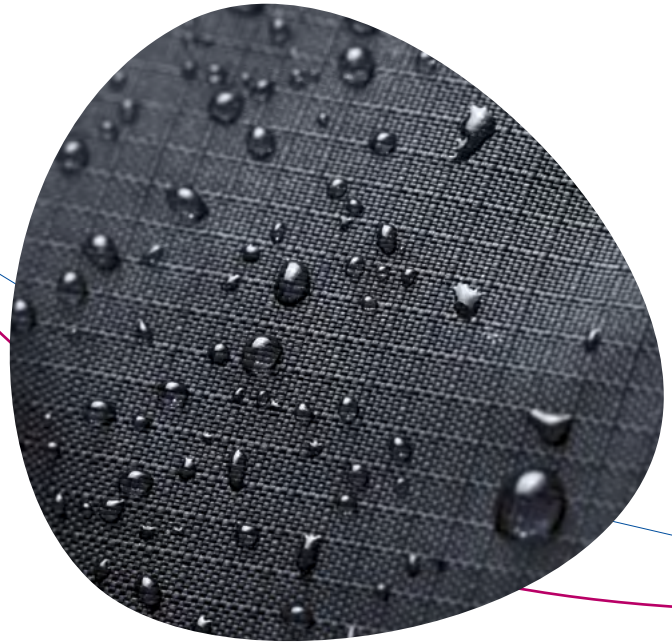
These days, wallpapers have to fulfill the highest esthetic expectations while keeping production as efficient as possible. Given these factors, PVC plastisols used in wallpaper printing need to fulfill one decisive requirement: Their processing should not impair the product's esthetic quality.

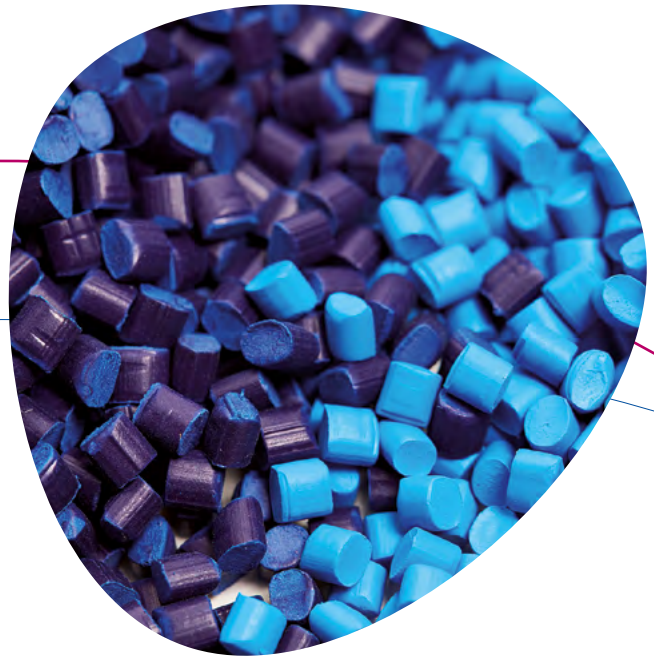
Consequently, the following viscosity reducers are suited for optimal processing: BYK-1166 is suitable for PVC plastisols with high yield value. It is designed for products with low to medium shear rates. Moreover, it is characterised by its positive effects on surfaces and its degree of whiteness. The VISCOBYK-5000 additives are specifically designed for low emission formulations.

To incorporate pigments, we recommend our wetting and dispersing additives, e.g. DISPERPLAST-1150 or DISPERBYK-2157.

Technical textiles

Coated technical textiles need to fulfill a number of requirements regarding safety, comfort, and optical properties. Our wetting and dispersing additives help stabilize the pigments in the relevant PVC plastisols. RHEOBYK and GARAMITE additives serve to precisely control the flow behavior of the pastes during processing. Our defoamers, e.g. BYK-3155, prevent air pockets which could impair surface properties.





Printing inks and color masterbatches for PVC applications

Intense colors plus excellent processability characterize the quality of printing inks and color masterbatches. Both properties can be achieved with our additives. To incorporate pigments, we recommend our solvent-free wetting and dispersing additives, e.g. DISPERPLAST-1150 or BYK-9076. These low emission additives moreover help to optimize the ink's processability.

PVC dry blends and masterbatches

Given their diversity and their economic efficiency, PVC dry blends and compounds are becoming increasingly popular. We designed DISPERPLAST-1180 specifically for those thermoplastic applications, in which standard dispersing additives find their limits.

Allowing a higher filler volume as well as a homogenous distribution of particles, DISPERPLAST-1180 can be employed in the production of luxury vinyl tiles (LVT). It has positive effects on the plastification process and on the material's melting properties. Besides, the processing additive BYK-P 4100 supports release properties, improving production efficiency as a result.

Innovation, expertise, and service – on your doorstep

Being close to our customers is key to our success. With 18 production sites plus more than 30 laboratories over five continents, our global presence is unrivalled in the industry. It allows us to offer our outstanding expertise directly to our customers.

Hands-on support

Customers receive hands-on support in our applications labs, where state-of-the-art equipment is available for testing. It includes rheometers, mathis ovens, vacuumats, melting viscometers, and tensile testing machines. As a result, we are able to identify the additive best suited to our customer's application and define its optimal dosage. In our lab at Wesel, Germany, our spread coating test line serves to imitate production conditions at the customer's plant and to test our additives in these applications. This service often saves R&D efforts on our customers´ part.

We continually expand out expertise regarding national and international regulations. This includes specifications for food contact and other health and safety issues.

Global regulatory service

With our Global Regulatory Service, we help our customers to meet all aspects related to product safety, product stewardship, and the registration of chemical substances. This also applies to rules regarding food contact, toy compatibility as well as other health and safety issues.

Based on our commitment to product stewardship, we provide a BRIEF document (BYK Regulatory Information Extensive Form) for each additive. This data sheet contains all the relevant international regulatory data plus further information on product safety.

Innovation plays a major role at BYK.
A fifth of our employees work in jobs related to R&D. We invest eight percent of our annual sales into R&D and new products respectively, which is more than the average in our industry.

PVC-O 1 07/2025

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