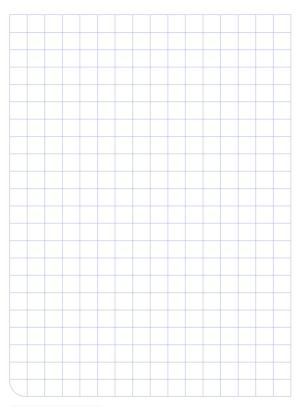


Notes







DownloadTechnical brochures

Dear visitor,

we hope you enjoyed your visit to the BYK booth at the CHINACOAT 2025.

We would like to invite you to take part in a short survey about your visit. Please tell us what we did well, but also how we can improve. Your feedback is very valuable to us as it will help us to better meet your needs next time you visit our booth.

Thank you for your help!

Welcome to BYK!

Discover how we can make your product development even more efficient and sustainable by means of differentiating solutions.

In practice, what this means for you is:

- PFAS-free solutions: Develop PFAS-free systems
 without compromising on performance with our
 innovative, even more sustainable additives. Our
 additives meet the highest quality standards and help
 you to reduce the impact on the environment while
 delivering outstanding performance.
- Shortened development cycles: With our unique digital lab, the HTS facility, we can efficiently test up to 220 samples in just 24 hours. This speeds up your product development enormously and launches your customized solutions faster on the market.

Sustainability in all areas: Our more sustainable
wax additives or our environmentally friendlier
powder defoamers help you to achieve your
ecological goals. Are you looking for something
else? Then talk to us, we're sure to find a solution!

Since our foundation in 1873, we at BYK have been striving for innovation and customer benefit. Let us show you how we can also drive your development forward in the future with first-class additive solutions and in-depth industry expertise.

Simply change with us – to a more efficient and sustainable future!

Content

4 Editorial

ADDITIVES

8

Wetting	and	dispersing	additives

RYK markets

- **18** DISPERBYK-2152
- **20 ♦** DISPERBYK-2290
- 22 DISPERBYK-2291

Defoamers

- **24** BYK-1680
- 26 BYK-1692 SD
- 28 BYK-1693 SD
- **30** BYK-1748
- **32** BYK-1754/BYK-1755
- **34** BYK-1765
- **36** BYK-1810/BYK-1811/BYK-1815/BYK-1816/BYK-1818
- **38** BYK-1851/BYK-1852
- **40** BYK-1856
- **42** BYK-1880

Surface additives

- **44** BYK-314/BYK-3772/BYK-3765/BYK-UV 3511
- **46 O** BYK-379
- **48** BYK-3483
- **50** BYK-SILCLEAN 3725
- **52** BYK-UV 3590/BYK-UV 3595

Wax additives

- **54** AQUACER 1541
- **56** ♦ CERAFLOUR 1050/CERAFLOUR 1051/CERAFLOUR 1052
- Additives for aqueous systems
- **O** Additives for aqueous and non-aqueous systems

ADDITIVES

60 62

64

66

88 70

72

INSTRUMENTS

Rheology additives GARAMITE-7305

♦ OPTIBENT-7920/OPTIBENT-7925

♦ RHEOBYK-D 420/RHEOBYK-7420 CA

▲ LAPONITE-7007

▲ RHEOBYK-7601

♦ RHEOBYK-7691

BYK Instruments QC solutions for transparent products Sample holders for ease of handling Color quality control solutions for plastic raw material Color quality control solutions for final products BYKs solution task force for color quality control Overall color and grain harmony Standardized viewing conditions for color judgement Multi-layer film thickness measurement for any substrate				
BYK LIVE Talks and product presentations				
Technical presentations				
BYK INSIDE Discover more about the BYK Brand				
What do we mean by innovation, expertise and closeness?				
The world of multimedia additives BYK: world's largest and most versatile flexshuttle facility BYK by numbers Do you know BYK's solutions and products for sustainability?				

RHEOBYK-7460 CA/RHEOBYK-7470 CA \(A \)/RHEOBYK-D 7460

BYK markets

Architectural coatings

The range of decorative coatings covers interior wall paints, decorative wood and metal coatings as well as external coatings for facades and road marking paints. In addition, pigment concentrates for tinting systems (both point-of-sales and in-plant tinting) are an essential part of the range of applications and related binder systems. From clear coats to highly filled paints, BYK offers special additives that comply with legal requirements for both aqueous and solvent-borne systems. There is an extensive additive portfolio for decorative and architectural coatings. Wetting and dispersing agents are just as important as defoamers, rheological and surface additives.

Floor coatings

Once reserved for warehouses, multi-storey car parks and production sites, the use of liquid polymer coatings is gaining popularity in many commercial spaces, shopping centers and hospitals. Regulatory oversight has increased significantly at the same time. For this reason, the use of water-based and solvent-free systems is even more important. BYK additives for floor coatings simplify system handling and make it possible to obtain more reproducible results.

Construction chemicals

BYK offers environmentally friendly solutions for construction applications incl. cement-based systems. concrete formulations and admixtures. The innovative product portfolio contains different types of high-performance additives, particularly for cement-based applications such as dry mix mortars, concrete formulations and admixtures. Our rheology modifiers improve application and workability properties while our defoamers enhance de-aeration and prevent foam formation. The range of wetting and dispersing and surface additives finally provide pigment stabilization and leveling properties.



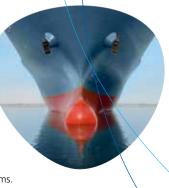
Wood and furniture coatings

BYK formulates premium additives distinctively for wood coating systems, offering high quality performance characteristics like: easy-to-clean, scratch-resistance, UV resistance, excellent surface leveling and provide exceptional pigment stabilization within pigmented systems.



Marine and protective coatings

BYK offers special rheology additives for marine, protective and intumescent coatings. Especially to provide extraordinary film thicknesses against aggressive environments to avoid negative effects on the long term performance, or to improve the fire resistance, is the focus in this end use, besides many other demands. Whether it be the primer, filler, or top coat, BYK offers a wide range of special selected additives to assist formulators in developing high performance marine/ protective and intumescent coating systems.



Automotive coatings

Automotive OEM coatings

BYK offers additive solutions for agueous and solvent-borne automotive OEM coatings, such as cathodic electro deposition, primers. monolayer topcoats, basecoats and clearcoat systems. Our various additive families improve surface properties such as gloss and leveling, support brilliance and color intensity, and help orientation of effect pigments to optimize the flop effect. Furthermore, BYK additives also prevent foam and the associated defects.

Automotive refinish coatings

Our additive solutions show positive effects in both aqueous and solvent-borne automotive refinish coatings, such as putty primers, monolayer topcoats, basecoats and clearcoat systems. Our various additive families offer solutions for improving surface properties

such as gloss and leveling, support brilliance and color intensity, and help orientation of effect pigments to optimize the flop effect. BYK also offers suitable solutions to prevent foam and the associated defects. Sandability and polishability are also challenges which can be positively influenced by our additives.



11

Can coatings

High surface smoothness, very good scratch and abrasion resistance, absence of bubbles, good substrate adhesion and very good leveling are decisive characteristics for can coatings. BYK offers additives which are suitable for food contact applications according to certain regulations and can be used in solvent-borne, aqueous and radiation-cured can coating systems

Coil coatings

The high speeds of industrial band coating lines and the subsequent extreme deformation of the coated sheets demand coatings with very good color stability. They must also be free of foam, provide excellent leveling, adhere well and have surface characteristics such as smoothness, scratch and abrasion resistance, and also enhanced easy to clean properties. With BYK additives, these properties can be achieved in all coil coating application areas.



General industrial coatings

Industrial coatings are used on plastic, metal, and mineral substrates. The application areas are versatile and so are the required additives. BYK additives provide solutions for pigment stabilization, defoaming, improved surface properties and rheology control in aqueous, solvent-borne and solvent-free formulations.



Powder coatings

Powder coatings are one of the most environmentally friendly coating systems. They are 100 % solid and they contain no harmful VOC's. BYK offers a wide range of additives for powder coatings that improve leveling, prevent craters and enhance degassing and pigment wetting. A special range of additives is used to improve processing conditions and other types provide structured or textured surfaces. BYK also provides the right additives for clear powder coatings as well as UV powders.



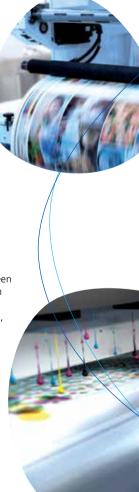
Printing inks

14

Printing speeds in conventional printing are becoming ever faster, with a corresponding increase in the demands on the printing inks used. BYK additives help meet these increased requirements and develop the optimum printing inks. Whether to improve the color strength and transparency of a printing ink, to improve the abrasion resistance of printing inks and overprint varnishes, for efficient defoaming or to improve the wetting behavior – BYK offers the fitting additives for aqueous, solvent-borne and radiation-curing systems. Of course, they are also suitable for food contact applications according to certain regulations.

Inkjet inks

Inkjet printing is becoming increasingly important in many areas in which substrates have traditionally been printed using exclusively conventional means, e.g. in packaging printing on paper, cardboard and foil, on ceramic substrates or on textiles. For all applications, BYK offers the fitting additives to support the formulation of inkjet inks, even in areas in which indirect contact with food is required. BYK additives ensure low-viscosity and long-term stable inkjet inks with optimum color strength, improve the jetting properties and abrasion resistance of aqueous, radiation-curing, solvent-borne and ceramic inkjet inks.



Adhesives and sealants

BYK is your expert technology partner when it comes to purposefully improving the properties of your adhesives and sealants. BYK offers additives for all kinds of adhesive systems, from aqueous dispersion adhesives to solvent-borne systems or solvent-free reactive systems such as polyurethanes, epoxides, acrylates and silane-terminated polymers. In addition, BYK is continuously expanding its range in the field of hot-melt adhesives.



Wetting and dispersing additives

DISPERBYK-2013 A

Solvent-free wetting and dispersing additive for 100 % UV. solvent-borne UV. and aqueous UV systems.

DISPERBYK-2013 with its 100 % active substance is particularly well-suited for UV-curing printing inks and coatings. It provides a consistent, low viscosity development during the manufacture of printing inks and coatings and prevents a thixotropic profile, resulting in excellent storage stability.

As DISPERBYK-2013 has a remarkably narrow molecular weight distribution, resulting in an excellent dispersion and stabilization of, in particular, organic pigments and carbon blacks, it notably enhances the transparency of UV-curing printing inks while simultaneously giving color strength. The 100% solid DISPERBYK-2013 does not introduce any solvents into the formulation.



Benefits

- Well-balanced product polarity
- Solvent-free, liquid additive with 100 % active substance
- Effective viscosity reduction with minimized thixotropic flow behavior
- Enhanced storage stability of the formulated coating systems
- Significantly improved optical properties, such as
 - color strength and transparency
 - increased gloss and minimized haze

Applications

- Printing inks
- Industrial coatings
- Wood and furniture coatings

Wetting and dispersing additives

DISPERBYK-2152

Emission-free, hyperbranched wetting and dispersing additive for solvent-free epoxy systems and other reactive systems; conforms to the German AGBB.

To obtain excellent pigment deflocculation and stabilization, an additive with highly effective pigment affinic groups is required. These pigment affinic groups are aminic and able to react with epoxy resins. The ideal solution would be an additive with encapsulated aminic pigment affinic groups. However, creating such an additive was not possible using existing technologies.

With the introduction of DISPERBYK-2151 in 2011, BYK has developed an innovative additive which combines high effectivity with stability. The new DISPERBYK-2152 is a 100 % additive based on the same active substance. Thus, the mechanism of DISPERBYK-2152 is analogous to that of DISPERBYK-2151. The additive contains no solvents or volatile components and fulfills the strict requirements of the German AgBB as well as French VOC standards.

19

Benefits

 Excellent wetting and dispersing properties in epoxy systems and other reactive systems such as polyurethane, acrylics, and unsaturated polyesters

- 100 % active substance
- Fulfills the requirements of the German AgBB and French VOC regulations
- High molecular weight
- No negative effect on coating properties
- Significant viscosity reduction of mineral-filled plastic and adhesive systems
- Stabilization of various types of solid particles, especially:
 - Ouartz
 - Aluminum oxide
 - Aluminum hydroxide
 - Calcium carbonate

Applications

Especially recommended for

- Industrial coatings
- Wood and furniture coatings
- Protective coatings
- Ambient curing systems
- Adhesives

Recommended for

Automotive coatings

Wetting and dispersing additives

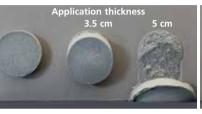
DISPERBYK-2290

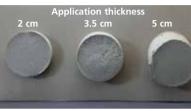
VOC- and APEO-free powder wetting and dispersing agent for use with highly alkaline aqueous building materials

DISPERBYK-2290 is a highly efficient powder VOC- and siliconefree wetting and dispersing agent for use in predominantly sagcontroled, minerally based building material formulations. The additive is highly compatible with various different mineral binder systems. Due to its powder form, the additive is easy distributed in the building material formulation.

DISPERBYK-2290 accelerates and improves wetting of the powder components. Not only the consistency but also the rheological properties are retained throughout the processing time. The processing properties are improved by the homogeneous and robust texture.

DISPERBYK-2290 – Improved anti-sagging properties after application





0.05 % competitor

0.05 % DISPERBYK-2290

Benefits

- Environmentally friendly
 - VOC-free, < 1500 ppm
 - APEO-free
- Accelerated and easier mixing
- A robust and homogeneous structure is achieved
- Workability properties are improved
- Consistency is maintained over a longer period of time
- No negative influence on setting behavior
- Stabilization of pigments and fillers

Wetting and dispersing additives

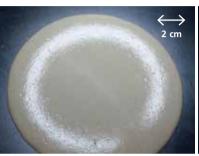
DISPERBYK-2291

VOC- and APEO-free powder wetting and dispersing agent for highly alkaline aqueous building material formulations

DISPERBYK-2291 is a highly efficient powder VOC- and siliconefree wetting and dispersing agent for use in predominantly flowable, minerally bound building material formulations. The additive is highly compatible with various different mineral binder systems. Due to its powder form, the additive is easy distributed in the building material formulation.

The additive accelerates and improves wetting of the fine-grain powder components in flowable systems without increasing the consistency during mixing. Furthermore, high density and an almost unchanging consistency are achieved throughout the processing time.

DISPERBYK-2291 – Excellent workability properties and surface characteristics in a ternary self-leveling compound





Competitor/30 min.

0.1 % DISPERRBYK-2291/30 min.

Benefits

- Environmentally friendly
 - VOC-free, < 1500 ppm
 - APEO-free
- Accelerated and easier mixing
- A robust and homogeneous structure is achieved
- · Leveling properties are optimized
- Consistency is maintained over a longer period of time
- No negative influence on setting behavior
- Stabilization of pigments and fillers

BYK-1680 •

Construction material applications, in particular in combination with concrete additives based on polycarboxylate ethers.

BYK-1680 – Very good defoaming and leveling properties in a self-compacting concrete application



25

High-performance superplasticizers enable outstanding flow and workability properties in concrete applications. In the end system, however, the maximum possible strength properties cannot be achieved due to the foam-stabilizing effect of the superplasticizer, particularly in the case of PCE-based flow agents.

The use of defoamers is therefore mandatory in such formulations. Numerous suitable defoamers are incompatible and therefore, sooner or later, cause phase separation in the concrete additive. Over a longer period of time, many defoamers also tend to become ineffective in the end system.

In contrast to this, BYK-1680 is characterized by its excellent and sustained defoaming effect as well as its very good compatibility in aqueous polymer solutions and construction material formulations.

Benefits

- Very good miscibility with water and PCE-based polymer solutions
- No turbidity or phase separation in concrete additives
- Long-term stability in concrete additives, even at elevated storage temperatures
- Very good spontaneous and controlled long-lasting defoaming effect
- Improvement to the flow behavior
- Post-addition to the end system possible without restrictions

BYK-1692 SD •

VOC- and silicone-free powder defoamer for aqueous mineral-bound building material formulations

BYK-1692 SD is a versatile, highly effective defoamer based on a combination of polymers and fatty acid derivatives. The combination of materials is formulated to work perfectly with one another for excellent defoaming results and compatibility with various dry mortar formulations. Especially recommended application areas include skim coats, jointing compounds and putties, leveling compounds (SLU/SLO) and screeds. The additive can also be used in tile adhesives, repair mortars, and hybrid systems (3-pack PU, 3-pack epoxy).

Defoaming effect of BYK-1692 SD in a skim coat formulation – backlit images





The additive is characterized by fast initial defoaming combined with long-lasting effectiveness in alkaline systems. This therefore ensures consistent surface and strength properties over the entire application window.

Benefits

- VOC < 1500 ppm
- Excellent defoaming performance over the entire application window
- · Achieves optimum surface properties
- Versatile applications
- Free-flowing powder, easy to dose

Areas of application

- Skim coats
- · Jointing compounds and putties
- Leveling compounds (SLU/SLO)
- Screeds
- Tile adhesives
- Repair mortars
- Hybrid systems (3-pack PU, 3-pack epoxy)

BYK-1693 SD •

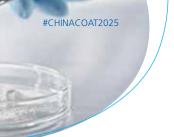
Bio-based, powdered defoamer for aqueous 2-pack building material formulations.

Hybrid building material formulations usually consist of two components: the mineral-bound dry-mix mortar and an aqueous or powder dispersion. Mixing the two components creates a thixotropic flow behavior that stabilizes macrofoam and prevents the release of air voids. However, if these are too large or the amount is too high, this can lead to a reduction in density and can impair the application and mechanical properties, such as strength, and cause surface defects.

#CHINAC

Benefits

- Highly effective defoaming of hybrid systems
- Very good compatibility in different binder systems
- Strong and long-lasting defoaming performance
- Increased density of fresh mortar and the hardened system
- Increased flexural and compressive strength
- Optimum surface properties in the hardened system
- Easy dosage due to powder delivery form



BYK-1693 SD is a new, very effective, powdered defoamer especially developed for hybrid systems based on mineral dry-mix mortars in combination with an aqueous or powder dispersion. The specific active ingredient combination of polymers and vegetable oils enables a strong and long-lasting defoaming performance over the entire processing time. The additive reduces the air void content and improves the properties of the fresh mortar as well as the physical properties of the hardened system. BYK-1693 SD is versatile and is particularly recommended for 2-pack waterproofing membranes.

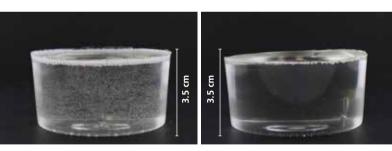
Areas of application

- Waterproofing membranes (polymer cement mortar (PCM))
- Concrete repair mortar (polymer cement concrete (PCC))
- Jointing compounds and putties
- Tile adhesives
- Skim coats
- Leveling compounds (SLU/SLO)
- Screeds

BYK-1748

Silicone- and VOC-free, 100 % polymeric defoamer for epoxy resin-based, clear thick layer systems.

BYK-1748 – The ideal solution, even for very high layer thicknesses



Without additive

With BYK-1748

Test system: Solvent-free, clear 2-pack epoxy resin coating **Additive dosage:** 0.1 % additive (as supplied) based on the total formulation

31

Thick layer systems, in particular solvent-free systems, require the use of highly effective additives. Ensuring good defoaming even at high film thicknesses requires powerful products that can cause turbidity in clear systems.

BYK-1748 is a new, silicone-free polymeric defoamer that has been specially developed for clear, high-build, and solvent-free 2-pack epoxy resin systems. Despite its particular efficiency, it does not cause turbidity or cratering. With the use of BYK-1748, excellent transparency can be achieved, even at very high film thicknesses.

BYK-1748 is a 100 % additive that largely consists of bio-based raw materials and is VOC- and APEO-free.

Benefits

- Excellent defoaming of epoxy resin-based thick layer systems
- High transparency in clear applications
- Does not affect the surface properties
- High level of effectiveness, even at low dosage
- Very good storage stability
- Silicone-free
- 100 % active substance
- High proportion of bio-based raw materials
- VOC- (< 1500 ppm) and APEO-free
- Label-free

RYK-1754 BYK-1755

Polymer-based, silicone- and aromatic-free defoamer for solvent-borne printing inks and overprint varnishes.

BYK-1754 prevents foam formation in solvent-borne printing ink systems during production and filling. It also prevents air entrapment during processing. The additive displays a spontaneous foam-destroying effect and does not reduce the intercoat adhesion when recoating. Furthermore, BYK-1754 improves leveling.

BYK-1755 prevents foam formation in solvent-borne printing ink systems during production and filling. It prevents air entrapment during processing. The additive displays a spontaneous foam-destroying effect and does not reduce the intercoat adhesion when recoating.

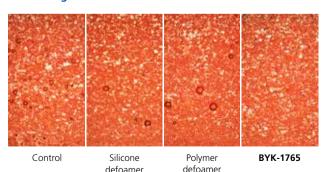


BYK-1765

Solvent- and silicone-free defoamer for high-solid and solvent-free epoxy systems

The combination of high viscosity, low solvent content and high film thickness that can be seen in epoxy systems in protective and floor coatings, poses a particular challenge for the defoaming of such systems.

Microscope image of the coating cross section: Defoaming of the entire film



Test system: 2-pack high-solid epoxy primer

Additive dosage: 1 % additive as supplied on component A

35

Insufficient defoaming affects not only the optical properties, but also the functionality of coatings, e.g. corrosion resistance.

The polymer defoamer BYK-1765 was therefore especially developed for the special requirements in high-solid and solvent-free epoxy systems.

Benefits

- Excellent defoaming in high film thicknesses
- Improved surface appearance
- Silicone-, fluor- and solvent-free

Application

Especially recommended:

- Marine and protective coatings
- Floor coatings

Recommended:

- General industrial coatings
- Adhesives and sealants

BYK-1810/BYK-1811/ BYK-1815/BYK-1816/ BYK-1818



PFAS-free, silicone-containing defoamers for solvent-borne and solvent-free systems.

Per- and polyfluoroalkyl substances (PFAS) are widely used in everyday life as components of, for example, non-stick coatings, fire-fighting foams, or paints. However, since PFAS are now suspected of having the potential to be harmful to health, their use is being viewed increasingly critically worldwide.

Defoamers also often contain fluorine-modified silicones for a spontaneous and fast defoaming effect. BYK has expanded their portfolio and now offers PFAS-free sustainable alternatives to fluorine-modified silicone defoamers: BYK-1810, BYK-1811, BYK-1815, BYK-1816, and BYK-1818.

These five new additives provide high efficiency and excellent spontaneous defoaming on a par with PFAS-containing products, yet are completely fluorine-free. They can be used in a wide range of solvent-borne and solvent-free systems and cover a broad spectrum of applications overall.

Applications of PFAS-free defoamers

Applications	BYK-1810	BYK-1811	BYK-1815	BYK-1816	BYK-1818
Architectural coatings	•	0	0	0	0
Floor coatings	•	0	0	0	0
General industrial coatings	•	0	•	•	0
Marine coatings	•	•	•	•	•
Protective coatings	•	•	•	•	•
Wood and furniture coatings				•	0
Automotive refinish coatings	0				
Adhesives and sealants	•	0	•		
Thermosets	0		0		

- ▶ Highly recommended
 Recommended

Benefits

- Excellent defoaming properties in solvent-borne and solvent-free systems (wide range of applications)
- Spontaneous defoaming even at low dosage levels
- Prevention of pinholes
- Reduction of surface tension
- Positive influence on leveling and surface appearance
- Good storage stability

Defoamers

BYK-1851 BYK-1852

New polymer defoamers replace well-known standard products in solvent-borne and solvent-free systems

Markets are changing dynamically, and this also affects the procurement side. As an important raw material for the well-known polymer defoamers BYK-051 N, BYK-052 N, and BYK-053 N is no longer available, BYK has developed replacement products that are almost identical. They are based on the same chemistry as their predecessors and are equivalent in terms of application, but no longer contain aromatic solvents. This results in marginal changes in the technical data.

BYK-1851 and BYK-1852 replace well-known standard defoamers

BYK-051 N	>	BYK-1851
BYK-052 N	>	BYK-1852
BYK-053 N	>	BYK-1852

39

Both new defoamers are silicone-free and have a strong and spontaneous effect, although BYK-1851 is the slightly more compatible additive. BYK-1852, on the other hand, is more efficient and can therefore be used at an even lower dosage. It is suitable for medium- to non-polar systems. BYK-1851 and BYK-1852 do not reduce the intercoat adhesion when recoating.

Benefits

- Spontaneous and very efficient defoaming of a wide range of systems
- Silicone- and aromatic-free
- For good leveling and defect-free surfaces

Areas of application

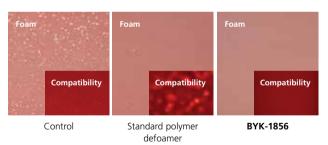
- General industrial coatings
- Architectural coatings
- · Wood and furniture coatings
- Automotive coatings
- Marine and protective coatings
- Floor coatings
- Printing inks and overprint varnishes

Defoamers

BYK-1856

Silicone- and aromatic-free defoamer with excellent defoaming effect and exceptional compatibility for solventborne and solvent-free systems

BYK-1856 in a protective epoxy primer: Very good defoaming and outstanding compatibility



Test system: conventional 2-pack protective epoxy primer **Additive dosage:** 0.5 % (as supplied) based on the A component **Application method:**

- Foam: pour out the epoxy primer onto PE foil after incorporating air by vigorously stirring
- 2. Compatibility: draw down of the epoxy primer on glass panel in a film thickness of 200 µm (wet) after stirring

41

In many applications, defoamers should be not only highly effective, but also highly compatible; something that initially appears to be contradictory. The new, silicone-free BYK-1856 defoamer has been developed based on acrylates and can achieve both effects at the same time. The defoamer is particularly suitable for systems requiring high compatibility and good defoaming. BYK-1856 is effective in 2-pack epoxy-and 2-pack polyurethane-based coating applications as well as in many common thermoset systems based on epoxy resin, unsaturated polyester and vinylester resin, and acrylic syrups of a low molecular weight.

General benefits

- Silicone- and aromatic-free
- Powerful and spontaneous defoaming/air release effect
- Excellent compatibility
- Easy handling due to low viscosity

Specific benefits in coating applications

- Improves leveling
- Especially recommended for epoxy resin and polyurethane systems
- · Highly suitable for increased film thicknesses

Defoamers

BYK-1880

Airless by airless

Technology for solvent-borne and solvent-free systems applied by airless or air-assisted airless spray

Solvent-borne or solvent-free coatings, e.g. typical 2-pack PUR systems for ACE* applications, are often applied using airless or air-assisted airless spray. In this application method, air is dragged along with the paint due to the very high pressure at the spray nozzle. The coating then hits the substrate at high speed (~150 m/s), the dragged along air is entrapped and later becomes visible as microfoam in the coating. This is difficult to defoam and leads not only to a poor visual appearance, but also to loss of gloss, an increase in viscosity and poor durability of the coating.

To defoam these demanding systems, the new BYK-1880 has been developed. The silicone-containing defoamer is based on a novel, patented ABC structure and is specifically recommended for 2-pack high-solid PUR systems. In addition, the product can also be used in conventional spray-applied systems and is widely applicable in many solvent-borne and solvent-free coatings.

* Agricultural, Construction and Earthmoving

43

Benefits

- Particularly effective against microfoam caused by airless or air-assisted airless application
- Highly effective and at the same time very compatible
- Excellent defoaming in low as well as in higher film thicknesses
- Suitable for any gloss level
- No negative influence on paint properties, such as gloss, adhesion and leveling
- Especially recommended for 2-pack PUR systems (high-solid and conventional)
- Suitable for many solvent-borne and solvent-free coatings such as alkyds or 2-pack epoxy systems

Areas of application

- General industrial coatings
- Marine and protective coatings
- Floor coatings
- Automotive refinish coatings

Surface additives

BYK-314/BYK-3765 BYK-3772/BYK-UV 3511

Cyclic siloxanes in siliconebased surface additives - Purified alternatives to additives with a higher cyclic siloxanes content

As of June 2018, silicone-based products containing 0.1% or more D4. D5. or D6 cyclic siloxanes must be labeled as SVHC (Substance of Very High Concern) on the EU Safety Data Sheet.

BYK offers purified alternatives with a residual D4, D5, and D6 content of less than 0.1% each to ensure safe use in any formulation

What does "purified" mean?

By adding an additional production step after manufacturing, the D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.

45

Low cyclic alternatives to surface additives with a cyclic siloxanes content of 0.1 % or higher

Standard additives with a cyclic siloxanes content of ≥ 0.1 %	Alternatives with a cyclic siloxanes content of < 0.1 %
BYK-300*1	BYK-3750*1/BYK-3755*1
BYK-301	BYK-3751
BYK-302	BYK-3752
BYK-306*1	BYK-3761*1/BYK-3765
BYK-307	BYK-3762
BYK-323	BYK-3780
BYK-330	BYK-3763
BYK-331	BYK-3753
BYK-342	BYK-3754/BYK-3756
BYK-370*1,2	BYK-3772
BYK-377	BYK-3771
BYK-378	BYK-3764
BYK-UV 3500	Technical alternative: BYK-UV 3505*2
BYK-UV 3510	BYK-UV 3511

^{*1} Aromatic solvent (BTX)

^{*2} Contains organotin

Surface additives

BYK-379 A

Highly active silicone-containing surface additive with strong dynamic properties and minimal foam stabilization

In order to achieve excellent surface properties, such as good substrate wetting, surface slip, anti-crater properties, or scratch resistance in coatings and printing inks, BYK offers a number of highly active polyether-modified polydimethylsiloxanes that provide a strong reduction in static surface tension. In fast printing processes, spray applications, and in inkiet applications. the reduction of dynamic surface tension is also important.

The new silicone additive BYK-379 has therefore been especially developed for printing inks and inkjet inks to ensure these dynamic properties as well as to achieve the same surface effects as conventional highly active silicone additives. Due to the comb-like structure of the product, a reduction of static and dynamic surface tension is achieved at the same time.

The additive is universally usable in aqueous, solvent-borne, and radiation-curing coatings, printing inks, and inkjet inks and is broadly compatible. In addition, it hardly stabilizes foams and is very effective even at low dosages.

Benefits

- Very strong reduction of dynamic surface tension
 - → Good wetting in fast printing processes
 - → Improved jetting in UV inkjet inks
 - → Excellent drop spread on the substrate in UV inkjet inks
- Very strong reduction of static surface tension
 - → Good substrate wetting
 - → Optimized anti-crater properties
 - → Increase of surface slip
 - → Improvement of scratch resistance
- No or only minimal foam stabilization
- 100 % active substance
- Universally usable broadly compatible in aqueous, solvent-borne, and radiation-curing coatings, printing inks, and inkjet inks
- Cyclic siloxanes D4/D5/D6 content: each < 0.1 %
- Complies to the food contact regulations according to Swiss Ordinance and Nestlé Guidance Note*
- * This information is correct as of November 2022.

 The current status for all of the above can be found at https://www.byk.com/en/service/regulatory-affairs/food-contact

Surface additives

BYK-3483

Modern, multi-functional silicone surface additive for aqueous systems, especially with low co-solvent content.

The general trend in the industry is toward high-solid, solventfree, or aqueous systems. With aqueous systems, the industry faces major challenges that require strong and versatile additives. For example, the increasing use of low-polarity substrates requires additives that greatly reduce surface tension. In addition, the additives should offer very good anti-cratering and anti-contamination properties, as some resin systems and special applications require strong defoamers, which can cause side effects such as dewetting or cratering. Contamination by low-polarity liquid droplets or dust can also occur.

In order to cover all these requirements with only one product, BYK has developed another special additive that combines different functions such as wetting, leveling, and defoaming and at the same time is suitable for different aqueous systems from lower to higher polarity. BYK-3483 expands the range of applications of the BYK-3480 family by being particularly suitable for systems with a very low co-solvent content and offering a good balance between defoaming effect and excellent compatibility in various aqueous systems. It can also be used in solvent-free UV systems.

Benefits

- Excellent substrate wetting and leveling with one additive
- Strong reduction of surface tension
- Defoaming effect
- Anti-cratering properties and pinhole elimination
- Strong contamination resistance
- Universal and good compatibility: suitable for very low up to higher organic co-solvent content

Areas of application

- · General industrial coatings
- Leather finishes and coated fabrics
- Printing inks
- Marine and protective coatings
- Architectural coatings
- Wood and furniture coatings
- Floor coatings
- Adhesives and sealants

Surface additives

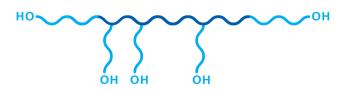
BYK-SILCLEAN 3725



PFAS-free, silicone-containing surface additive for a permanent easy to clean effect in aqueous coatings.

For many years, BYK has been investing considerable research efforts and resources in replacing products containing per- and polyfluoroalkyl substances (PFAS) with more environmentally friendly alternatives. This is resulting in a sustainable, PFAS-free portfolio with versatile product properties for a wide range of applications.

Structure of BYK-SILCLEAN 3725



- Polysiloxane backbone, non-polar
- Hydrophilic modification, polar

51

The new BYK-SILCLEAN 3725 is one such additive. It is hydroxy-functional and, thanks to its special structure, highly effective in aqueous, crosslinking coating systems. In this type of application, it permanently improves the resistance to contamination by water- or oil-containing substances and the cleanability (easy to clean effect). It is therefore a perfect addition to the BYK-SILCLEAN product range.

Benefits

- PFAS-free and low cyclic siloxanes content
- · Creates permanent properties such as
 - Hydrophobicity and oleophobicity for water- and oil-repellent coating surfaces
 - Reduced dirt adhesion to the coating surface and easier cleaning
 - Improved substrate wetting, leveling, and surface slip of coatings
 - Anti-blocking
- Very compatible in many aqueous systems

Applications

- General industrial coatings
- Architectural coatings
- Automotive OEM coatings
- Floor coatings
- Marine and protective coatings
- Wood and furniture coatings
- Leather finishes and coated fabrics

Surface additives

BYK-UV 3590 BYK-UV 3595

Radiation-curing silicone-based surface additives

These two radiation-curing additives are particularly characterized by extremely strong tape release properties.

BYK-UV 3590 and BYK-UV 3595 are particularly suitable for UV-curing printing inks and overprint varnishes. The additive accumulates on the surface due to its very high interfacial activity. Due to its acrylic functionality, it can be incorporated into the polymer composite and thus permanently anchored to the surface. There it causes a reduction in adhesive tape adhesion (improvement of tape release properties) and leads to a significant increase in surface slip. In addition, BYK-UV 3590 exhibits very good defoaming properties and has only a slight influence on the turbidity of the system. BYK-UV 3595 improves flow and exhibits defoaming properties without affecting turbidity. By using BYK-UV 3590 and BYK-UV 3595, it is also possible to create structural effects in overprint varnishes and printing inks.

BYK-UV 3590 and BYK-UV 3595 are particularly recommended for all non-aqueous, radiation-curing flexographic, offset and screen printing inks as well as for radiation-curing overprint varnishes.

The additives are colorless, odorless, essentially clear and characterized by a very low content of the cyclic siloxanes D4, D5 and D6 (each < 0.1 %).



Wax additives

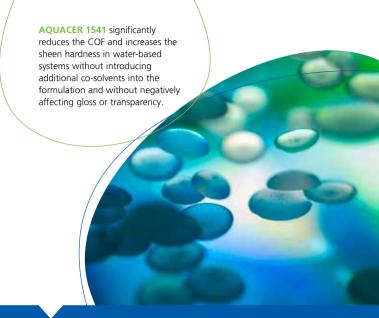
AQUACER 1541

Carnauba wax emulsion to improve the surface properties of aqueous can coatings

Wax additives are commonly used in can coating systems to improve the surface properties of the coating, for example by reducing COF values and improving scratch and abrasion resistance. These wax additives can either be a dispersion in an organic solvent, an emulsion with water as carrier, or micronized. Wax dispersions affect the VOC content of the formulation due to the organic solvent they contain, which is undesirable in many aqueous coating systems. Furthermore, the use of biocides is not allowed in food contact applications.

AOUACER 1541 is a new wax emulsion based on carnauba wax that effectively lowers the COF value and significantly improves the scratch resistance of water-based can coatings. The additive is particularly suitable for aqueous systems with a low organic co-solvent content and does not have a negative impact on gloss and transparency. It complies with food contact regulations*, is biocide-free, and is made from biobased raw materials.

^{*} Status December 2024. For information regarding the regulatory status according to food contact regulation please visit www.byk.com/en/service/ regulatory-affairs/food-contact or contact our BRIEF Team.



Benefits

- Reduced COF values
- Improved scratch resistance
- No negative impact on gloss or transparency
- Suitable for aqueous systems with a low co-solvent content
- Food contact compliant*
- Biocide-free
- From bio-based materials

Wax additives

CERAFLOUR 1050 A CERAFLOUR 1051 A CERAFLOUR 1052 A

PTFF-free micronized wax additives for excellent abrasion and scratch resistance in aqueous, solvent-free, solvent-borne, and UV coating systems.

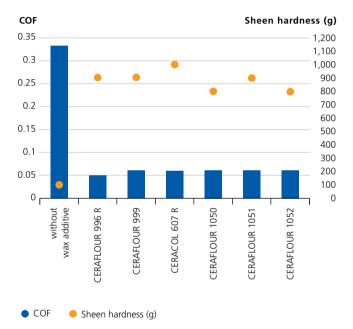
Polytetrafluoroethylene (PTFE) is a typical representative of perfluoroalkyl and polyfluoroalkyl (PFAS) substances. Its usage has been increasingly critically assessed at a global level for some time now, because products from this group of chemicals are suspected of being harmful to health. Nevertheless, PTFE possesses some desirable properties that harmless materials often do not have. In the field of wax additives, for example, conventional PTFE-based variants demonstrate outstanding abrasion and scratch resistance.

57

For this reason, BYK has developed sustainable alternatives to PE/PTFE wax additives that are both safe to use and ensure excellent application results: CERAFLOUR 1050, CERAFLOUR 1051, and CERAFLOUR 1052. Their special composition gives these additives a comparable level of mechanical resistance, including abrasion and scratch resistance. Their fine particle size distribution also makes them ideal for use in clearcoats and systems with low film thicknesses. CERAFLOUR 1050, CERAFLOUR 1051, and CERAFLOUR 1052 can be used to achieve matting in aqueous cosolvent-containing systems. All three additives are food contact compliant.



Very good scratch resistance and surface slip in a BPA-free can coatings clearcoat



Test system: BPA-free polyester/melamine system

Additive dosage: 1 % wax additive solid based on the total formulation

COF: Coefficient of friction

Benefits



59

of CERAFLOUR 1050, 1051, and 1052:

- Significant improvement in abrasion and scratch resistance
- Medium to strong reduction in surface slip
- Very fine particle size distribution → also suitable for clearcoats and systems with low film thicknesses
- Food contact compliant

Additional benefits

- of CERAFLOUR 1050: Especially recommended for clearcoats and haze-sensitive systems
- of CERAFLOUR 1051: Good performance in a wide range of application areas
- of CERAFLOUR 1052:
 Ideal for systems that require less surface slip

Applications

- General industrial coatings
- Can coatings
- Coil coatings
- Wood and furniture coatings
- Architectural coatings

Rheology additives

GARAMITE-7305

Powdered rheology additive for polar solvent-based and solvent-free systems to increase storage duration and sagging resistance

GARAMITE-7305 is a rheology additive that delivers advantages over conventional organophilic phyllosilicates (organoclays). Conventional phyllosilicates usually require high shear forces and polar activators to support dispersion during incorporation. In comparison, GARAMITE-7305 can be incorporated and activated very easily in solvents and binders using moderate shear forces. The additive features a strong pseudoplastic viscosity profile. The use of GARAMITE-7305 allows formulations with high viscosity to be achieved in the low shear range, resulting in excellent anti-settling features and antisyneresis properties. When shear forces are applied, a major reduction in viscosity takes place, which significantly improves the application properties.

Recommended use

GARAMITE-7305 is best suited for mid-polar to polar systems in the following applications:

Architectural coatings	•
Protective coatings	•
Industrial coatings	•
Coil coatings	0
Powder coatings	•

especially recommendedrecommended

Rheology additives

LAPONITE-7007

Rheology additive for perfect orientation of effect pigments in aqueous coatings

In aqueous coatings, adjustment of the rheology profile is generally of the utmost importance. However, it is particularly essential in effect coatings, in which the rapid structure formation after shearing, for example in spray applications, enables perfect orientation of the pigments and thereby excellent flop values.

Solid synthetic phyllosilicates such as the LAPONITE product series are especially suitable for achieving this effect, but can be difficult to handle.

The new LAPONITE-7007 is a special, user-friendly supplement to this product series and allows dispersions to be manufactured with a higher content of solid additive without impairing processability. In addition, LAPONITE-7007 is less sensitive to water quality and has longer storage stability as a dispersion. It is therefore particularly suitable for applications in which easy handling plays an important role, such as in refinish automotive coatings.

63

LAPONITE-7007: The best way to combine the unique rheological performance of the LAPONITE product series with easy processing.

Benefits

Easy handling

- Ideal for dispersions with a higher additive content (up to 5%)
- Dispersions have longer storage stability
- · Less sensitive to water quality
- 100 % solid additive with a low-dusting characteristic

Excellent application result

- Very rapid recovery of viscosity after shearing for excellent orientation of effect pigments → high flop values
- Significant anti-settling effect in aqueous pigment slurries

Applications

- Automotive OEM coatings
- Automotive refinish coatings
- General industrial coatings
- Wood and furniture coatings
- Architectural coatings

Rheology additives

OPTIBENT-7920 OPTIBENT-7925

Rheology additives in powder form for aqueous paste-like and cementitious construction formulations with no negative impact on hydration and setting behavior

Layered silicates are often organically treated (modified) to achieve a very high efficiency as rheology additives in construction formulations

High levels of modification prevent end products from meeting regulatory requirements or current environmental standards. In addition, they often impact the physical and chemical processes in the construction formulations, such as hydration and setting behavior.

OPTIBENT-7920 and OPTIBENT-7925 are a new generation of activated layered silicates from BYK, which, due to a targeted selection of raw materials and a special manufacturing process, attain the desired high effectiveness and therefore require no. or only minor, modification.

65

General benefits

- · Very pure, activated layered silicates
- Highly effective low dosage possible
- For creamy consistency combined with high sag resistance of the construction formulations

 excellent workability behavior

Benefits of OPTIBENT-7920

- Unmodified → no impact on hydration or setting behavior
- Very high degree of whiteness
- Suitable for formulations that meet the most stringent regulatory requirements
- Especially recommended for paste-like systems (dispersions)

Benefits of OPTIBENT-7925

- Mostly inorganic

 minimal effect on hydration and setting behavior
- Improves wetting and adhesive properties of systems
- Suitable for formulations that meet stringent regulatory requirements
- Especially recommended for cementitious and alternative binder systems (hybrid cement, geopolymers, SCM)

Rheology additives

66

RHEOBYK-7601

VOC-, APEO-, and tin-free associative thickener (HEUR) for aqueous systems, to generate a highly pseudoplastic flow behavior.



67

RHEOBYK-7601 increases the viscosity in the low shear range and generates a highly pseudoplastic flow behavior. As a result, the sagging tendency and storage stability are significantly improved and good leveling is also achieved. When added to color pastes, the additive preserves the viscosity and increases the compatibility of the color pastes in the system. Due to its composition, RHEOBYK-7601 is very easy to incorporate, and it is not necessary to control the temperature or adjust the pH value. The balanced compatibility of the additive enables use in different coating systems and leads to good results particularly in low-VOC and VOC-free formulations. When combined with rheology additives that are effective in the high shear range, it enables optimal workability properties.

Recommended use

Architectural coatings	•	
Marine and protective coatings	•	
Wood and furniture coatings	0	
General industrial coatings	0	
especially recommended recommended		

Rheology additives

RHEOBYK-7460 CA RHEOBYK-7470 CA RHEOBYK-D 7460

Lithium chloride-free liquid rheology additives for aqueous, solvent-based, and solvent-free systems.

Benefits

- For outstanding
 - Anti-sagging
 - Anti-settling
 - Storage stability in various systems and a wide range of applications
- Lithium chloride-free → for the most stringent regulatory requirements
- Liquid easy to dose and handle

Regulatory requirements are increasing continuously, not only for new products but also for established ones. For example, it is expected that in the near future all products containing 0.3 % (within the EU) or 0.1 % (outside the EU) lithium chloride will have to be labeled as reprotoxic, i.e. will receive the H360E addition

For many years, BYK has been proactively developing alternatives to the existing portfolio that also meet future regulatory requirements. As part of this initiative, three new urea-based liquid rheology additives have now been developed, which are variants of known thixotropic agents:

The lithium chloride-free variants work very similarly, but not completely identically.

69

Lithium chloride- containing additive	Lithium chloride- free variant	
RHEOBYK-7410 CA	RHEOBYK-7460 CA	For medium-polar solvent-based and -free systems
RHEOBYK-7420 CA	RHEOBYK-7470 CA	For aqueous and high-polar systems
RHEOBYK-D 410	RHEOBYK-D 7460	For medium-polar solvent-based and -free systems

By replacing the stabilizer, the new additives are lithium chloride-free. Like the existing products, they provide a strong thixotropic flow behavior and significantly reduce the sagging and settling tendency of the application systems.

Rheology additives

RHEOBYK-7691

Solid, non-dusting, biocide-, and VOC-free associative thickener (HEUR) for aqueous systems that generates a Newtonian flow behavior.

Recommended use

Emulsion paints and coatings that are based on acrylic, styrene acrylate, vinyl acetate, PU, and epoxy dispersions, as well as alkyd emulsions.

Architectural coatings	•
Wood and furniture coatings	•
General industrial coatings	•
Marine and protective coatings	•
Floor coatings	•
 especially recommended recommended 	

RHEOBYK-7691 is suitable for use in highly polar and aqueous binder systems.

71

Special features and benefits

RHEOBYK-7691 increases the viscosity in the high shear range with an extremely low impact in the low shear range.

- Improvement of:
 - Processability
 - Leveling
 - Storage stability
 - Brush resistance
- Reduced spattering during application
- Achieves higher film thicknesses along with an excellent balance between flow and leveling
- No negative impact on gloss and color acceptance
- Supplied as solid flakes to prevent dust formation and to increase application safety
- No need to add biocides to the additive to avoid microbial infestation

Special pH value adjustment and temperature control during incorporation not required. Combination with rheology additives that are effective in the low shear range, such as RHEOBYK-7650, leads to optimized storage stability and processability.

Rheology additives

RHEOBYK-D 420

Liquid rheology additive for aqueous systems to generate thixotropic flow behavior

RHEOBYK-7420 CA

Liquid rheology additive to produce thixotropic flow behavior in aqueous and highly polar systems for improving anti-sagging and anti-settling properties

RHEOBYK-D 420 and RHEOBYK-7420 CA are preferably used as anti-settling additives to produce aqueous pigment, filler and matting agent concentrates. The additives excellent shear thinning effect is advantageous for dosing such concentrates because of their low viscosity. In addition, they are suitable for controlling the thixotropic flow behavior and for optimizing the anti-sagging properties and leveling.

After being stirred into the coating system, the additives generate a three-dimensional network structure. The resulting thixotropic flow behavior is highly suited for preventing sedimentation and syneresis and increasing the antisagging properties without impairing leveling. The additives are liquid and therefore easy to handle. It is not necessary to specifically adjust the pH value or control the temperature during incorporation.

ADDITIVES 73

Technical data

RHEOBYK-D 420

- Active substance: 45 %
- Density (20 °C): 1.15 g/ml
- Solvents: Dimethyl sulfoxide
- Flash point: 95 °C

RHEOBYK-7420 CA

- Active substance: 52 %
- Density (20 °C): 1.08 g/cm³
- Solvents: Cyclic amide
- Flash point: 123 °C



74

measure the visible and beyond.

The world is in a continuous change. The trends of 'globalization and standardization' within a more and more 'digital world' not only change consumer behavior but also your requirements for testing solutions:

Global communication

- Global specifications are prerequisite for seamless communication and ask for digital standard distribution.
- Excellent technical performance in compliance with international standards is a must.

Standardized QC management system

- Standardized QC procedures and QC reports need to be easy to set up globally.
- Routine QC checks and documentation are the key to product and process optimization.

Increase efficiency

 Innovative technologies are needed to guarantee objective and reliable measurement data.

Figures and facts instead of feelings!

QC solutions for transparent products

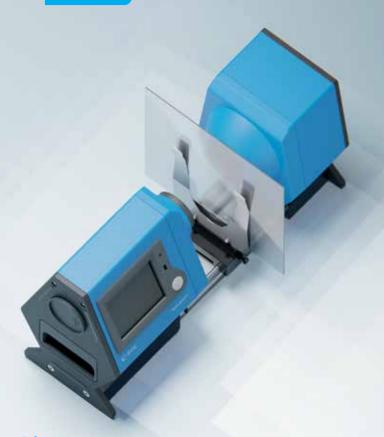
Did you ever walk into a glass door? Was the wrapping of the cookies unvisible?

Films and foils are used in thousands of different packaging applications available as shrink film, blister or medical films and dependent on its useage should be crystal clear (flower packaging) or very hazy (grocery bags). The same is true for transparent sheets used as organic glass for example as protection panels in ice hockey arenas (highly transparent) or as green house panels (highly diffusing).





Transparency is more than just the ability to transmit light. The perceived quality of a transparent product is dependent on how "good" we can see the objects behind it. It can appear crystal clear, hazy or unsharp. Consistent transparency can only be guaranteed if the key material and process factors are under control and a standardized sample preparation is used.



References

78

ISO 13468 Determination of the total luminous transmittance of

transparent materials

ISO 14782 Determination of haze for transparent materials

ASTM D1003 Haze and luminous transmittance of transparent plastics

#CHINACOAT2025 INSTRUMENTS

Sample holders for ease of handling



Thick film and sheet holder guarantees film is placed flush and cease-free at the measurement port



Thin film holder guarantees film is placed flush and cease-free at the measurement port



79

holder
Haze a measure to
evaluate abrasion
resistance of
PMMA sheets.

Taber abrasion

haze-gard i The industry standard for transparency control

- Three measurements in one:
 Total transmittance transmission haze clarity
- Repeatable results guaranteed due to reference beam and innovative LED technology
- · Open design for small and large specimens
- Large touch display in color for onboard analysis
- Versatile sample holder for films and sheets
- ASTM and ISO: two standard methods in one unit

Color quality control solutions for plastic raw material

80

There are almost as many different types and forms of plastic raw materials as there are different areas of end

different areas of end use. As most of plastic

pellets are typically translucent, non-uniform in size and inhomogeneous in color, guaranteeing lot-to-lot color consistency is the ultimate challenge.

Repeatable and reproducible measurement results with minimal operator sample handling can only be achieved using a high-performance benchtop

spectrophotometer with accessories specially designed to save sample preparation time and to increase measurement accuracy of the plastic raw material.

#CHINACOAT2025 INSTRUMENTS

81



color2view and automatic rotator Perfect partner for pellets

- The only benchtop spectrophotometer that combines 45°c:0° color and 20°/60° gloss measurement with an integrated fluorimeter. Control color harmony and analyze long-term color stability based on fluorescence.
- Thanks to the powerful LED technology and many years of experience, an outstanding technical performance is guaranteed. The superior accuracy and excellent interinstrument-agreement allow use of digital standards.
- The Automatic Rotator attached to the color2view automatically rotates the pellets during the measurement – manual refilling is no longer needed. Thus, excellent repeatability and reproducibility are guaranteed!

Color quality control solutions for final products

82

Color harmony has a major influence on the impact of perceptual quality on a product and thus, plays a key role in purchasing decision. The quality of a multi-component product is the immediate result of the cooperation of many partners along the entire supply chain. Whether directly on the production line, during the assembly or immediately before shipping: Portable spectrophotometers offer consistent and accurate color and gloss control wherever they are needed.





		spectro2guide	spectro2go	color2go	color2check
Measuring Geometry	45°c:0°	•	•	•	•
	d:8° (Spin/Spex)	•	•		
	d:8° (Spin)			•	•
MeasuringArea	8 mm	•	•	•	•
	4 mm		•		
Measuring Capability	Color	•	•	•	•
	Gloss	•	•	•	
	Fluorescence	•		0	
	Jetness	•			
Reproducability	Digital Standards	•	•	0	
	ΔΕ94 0.1	•	•	•	
	ΔΕ94 0.3				•
Delivery Content	Dockingstation	•	•		
	Garage			•	•
	WiFi	•	•	0	0
	Software	•	•	•	

BYKs solution task force for color quality control

84

The new color2go is a portable spectrophotometer with horizontal alignment for professional color quality control. It not only combines color and 60° gloss measurement with a compact design, but also state-of-the-art and intuitive operation via touch display. In addition, the color2go includes two licenses for the smart-chart data analysis software — a complete package to get your color quality control started right away.

The new color2check is a cost-effective entry-level model into the world of portable color measurement. With its compact yet robust design and equipped with a garage for safe storage, it offers beginners a simple and inexpensive start to color quality control.

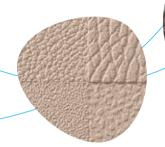




Although fluorescent materials have been used in plastics manufacturing for decades, their quality control has always been a major challenge. The portable spectrophotometer spectro2guide has the world's smallest fluorimeter built in for accurate quality control of fluorescent material. In addition to color and 60° gloss measurement, it predicts how much a fluorescent sample is likely to change due to exposure to sunlight.

Measurement needs are different within a supply chain. A manufacturer of plastic pellets prefers a benchtop instrument to repeatably measure granulates, while finished goods need to be directly controlled at the production line where portable devices are required. Due to the excellent agreement between color2view and spectro2guide, digital standards can be exchanged between benchtop and portable color instruments for the first time ever in the industry. The seamless use of digital standards has become reality – without any extra-profiling.

Overall color and grain harmony





Structured surfaces can be found everywhere – either created by nature or purposely made by a special manufacturing process. From leather like grain up to fine eroded surfaces, textures are used as a design tool or to achieve certain technical properties.

In automotive interior the assembled parts are made of different materials and are often manufactured by different suppliers using different processes. But in the end, they all should have the same grain. In addition to color control the overall harmony can only be achieved by objectively controlling grain size as well as perceived depth.

Eroded plastic parts have very fine structures that result in a visually perceived roughness. The visual perception is also influenced by the reflectivity of the surface. This "glossy appearance" is mainly dominated by the contrast between sparkling and non-sparkling spots.



spectro2profiler Supports you through ups and downs

- 45°c:0° color measurement to measure color as you see it
- 3D topography measurement to determine grain size, grain depth and texture uniformity
- 2D gloss measurement to determine reflectivity contrast, which correlates with the visual perception of structure depth
- Traditional 60° gloss measurement according to international standards
- Smart high-tech LEDs with peak performance for digital standards
- Efficient data analysis and documentation with smart-chart software

Standardized viewing conditions for color judgement

No surprising mismatches anymore!

Color harmony is a key quality criterion and dependent on the products' usage often guaranteed for different lighting conditions such as daylight, fluorescent and tungsten illuminations. The visual assessment is highly influenced by the type of light sources, surroundings and the observer. The most important color match is under natural daylight. Depending on daytime and weather conditions, natural daylight varies in color and intensity. Therefore, daylight illuminants were defined by international standards.

It can happen that you approve a metameric sample pair outdoors in natural daylight but reject it when evaluated in a light booth with "daylight". The reason for this is how well natural daylight can be simulated with artificial light sources.





byko-spectra *pro*See things the right way

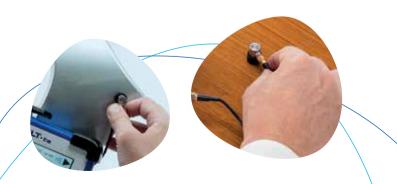
A smart combination of filtered tungsten-halogen lamps and LEDs masters the challenge to bring true daylight into your lab – as if you were outside.

- Light booth with highest MIvis class A for daylight simulation of CIE D65: Combination of filtered halogen lamps with LEDs
- Seven certified light sources: D65, A, HZ, CWF, TL84, U30 and UV
- Simultaneous visualization of color temperature and light intensity in lux ensures 100 % controlled illumination
- Auto sequence mode for standardized and efficient color evaluation
- Available as luminaire. Mount on the ceiling or a wall and conveniently appraise large products

Multi-layer film thickness measurement for any substrate

Film thickness variation has a significant impact on paint durability, color and appearance harmony. Accurate monitoring will avoid excess material usage. Multi-layer systems could only be measured accurately using destructive methods combined with a high-cost microscope which is very time consuming and requires expert knowledge. The BYK-PELT family is the solution for non-destructive multi-layer film thickness measurement with highest precision — available as a handheld measurement tool or an automated version to mount on a robot for process control.

A game changer in your quality control that saves time and money while giving you accuracy and valuable data for optimization you didn't have before.



#CHINACOAT2025 INSTRUMENTS 91



BYK-PELT

Accurate echoes from layer to layer

- Non-destructive measurement of multi-layer systems on any substrate material.
- Reports individual layer thickness and total thickness at each measurement location.
- Compact and lightweight with color touch-screen display.
- smart-chart software for professional documentation and data analysis with SPC charts.
- Innovative transducer technology for a wide thickness range:
 - Low frequency transducers for thick layers up to 5 mm
 - Medium frequency transducers for layers 18–500 µm
 - High frequency transducers for thin layers down to 5 µm



#CHINACOAT2025 BYK LIVE

25th November

13:30-14:00

Kecun Miao,
Marine & protective
coatings lab head
BYK locally developed
new products: aterbased
super emulsified

defoamer and BYK-1852

<u>14:00-14:30</u>

Yekang Wang Special coatings chemist

BYK-3483-Modern multifunctional surface additive for aqueous systems

93

14:30-15:00

Jingbo Yang Transportation coatings chemist

Technology redefined, experience elevated: introducing LAPONITE-7007

15:00-15:30

Kui Fan Color manager

Application of AI in the BYK-match intelligent color matching system

What do we mean by...

94



...innovation?

Continually offering the most modern and advanced additives. To do this, we invest about 8 percent of our annual turnover in research and development – 3 times more than most in the sector. Research and development and application technology staff make up 22 % of our workforce.

#CHINACOAT2025 BYK INSIDE

...expertise?

We host more than 40 customer seminars annually, sharing valuable know-how and insights into product solutions and application techniques.

byk.com



95

..closeness?

Our global footprint and end-use structure enable us to deliver regional, tailor-made solutions to our customers with specialized industry and application focus.

Welcome to the **interactive world** of BYK additives

96





BYK: world's largest and most versatile flexshuttle facility

- Significant time-to-market advantage for customers
- BYK doubles capacity in application technology

Would you like to learn more?

Feel free to talk to our HTS experts: hts.byk@altana.com

BYK by numbers

About

samples a day

More than **laboratories** across the globe



Investment in R&D :

times higher than the industry average

years of expertise

More than

More than employees around the world



Do you know BYK's solutions and products for sustainability?

What does sustainability mean at BYK?

Sustainability is of high value at BYK and has many facets. The search for alternative raw materials, the reorientation of research and development towards more sustainable products, sustainability in the applications of our customers, and the safest possible recycling in the sense of the circular economy are also among our most important topics.

We integrate the three dimensions of ecology, economy, and social commitment into all decision-making processes at BYK.

Unfortunately, we cannot be THE solution to climate change – but we can be part of the solution. With our sustainable solutions, we want to create value – not only for our customers, but also for our environment, our employees and future generations.



Discover byk.com/sustainability

Publishing information

ShowNews #CHINACOAT2025 - A publication of BYK.

Publisher: BYK-Chemie GmbH, Global Marketing & Sales Services, Abelstr. 45, 46483 Wesel, Germany

Editor-in-chief: Nicole Weiand

Editorial Team: Christin Buchmann, Dörte Claussen-Dietsch, Anita Fehr, Gang Fei, Carola Gaulke, Leon Gong, Cathline Guo, Ji Dong He, Gabi Kigle-Böckler, Julia Kleist, Fabian Klumpers, Sven Kremser, Marcel Krohnen, Dr. Martin Strathmann, Julia von Lehmden. Alina Xie

marketing.byk@altana.com bvk.com

ShowNews is the fair newspaper of BYK, published in Chinese and English. Reproduction and incorporation in other media is permitted only with the approval of the editorial board.

Pictures: Neue Zeiten, Getty Images, Adobe Stock Layout: heureka GmbH. Essen

BYK-Chemie GmbH

Abelstraße 45 46483 Wesel Germany Tel +49 281 670-0

info@byk.com byk.com

BYK-Gardner GmbH

Lausitzer Strasse 8 82538 Geretsried Germany Tel +49 8171 3493-0

info.byk.gardner@altana.com byk-instruments.com

ANTI-TERRA®, AQUACER®, AQUAMAT®, AQUATIX®, BENTOLITE®, BYK®, BYK-AQUAGEL®, BYK®-DYNWET®, BYK-MAX®, BYK®-SILCLEAN®, BYKANOLE®, BYKCARE®, BYKEOLE®, BYKISTE®, BYKONITE® BYKOPILAST®, BYKUMEN®, CARBOBYK®, CERACL®, CERAFAL®, CERAFILOR®, CERAMAT®, CERATIX®, CLAYTONE®, CLOISITE®, DISPERBYK®, DISPERBYK®, DISPERBYK®, OPTIBENT®, OPTIGEL®, PURABYK®, RECYCLOBYK®, RHEOBYK®, SCONA®, SILBYK®, TIXOGEL® and VISCOBYK® are registered trademarks of the BYK group.

The information contained herein is based on our current knowledge and experience. No warranties, guarantees and/or assurances of any kind, either express or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding any products mentioned herein and data or information set forth, or that such products, data or information may be used without infringing intellectual property rights of third parties. Any information about suitability, use or application of the products is non-binding and does not constitute a commitment regarding the products' properties, use or application. Contractual terms and conditions, in particular agreed product specifications, always take precedence. We recommend that you test our products in preliminary trials to determine their suitability for your intended purpose prior to use. We reserve the right to make any changes and to update the information herein without notice.



