

Substance for Success.



Product Guide CM-PG 3

# Additives for Pultrusion

## The Wetting and Dispersing Process

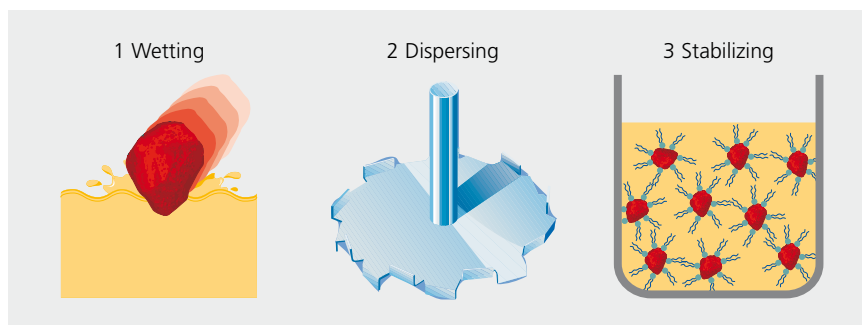


figure 1

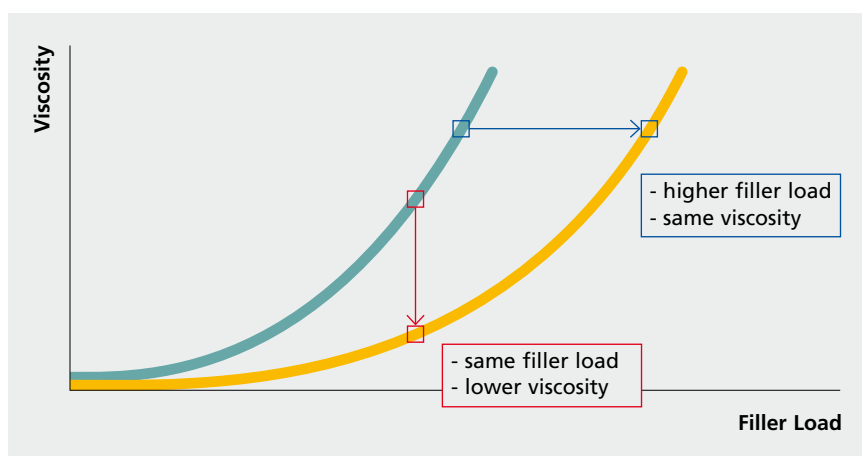
## Wetting and Dispersing, Viscosity Reduction and Higher Filler Load

Incorporation of fillers increases paste viscosity.

BYK wetting and dispersing additives facilitate the incorporation of fillers and lower paste viscosity.

As a result, higher filler loading is possible. Lower viscosity improves and speeds up the wetting of the glass fibers.

## Lower Viscosity, Higher Filler Load



■ without additive ■ with additive

figure 2

## UP & LS-Resin with Filler and Pigment



figure 3

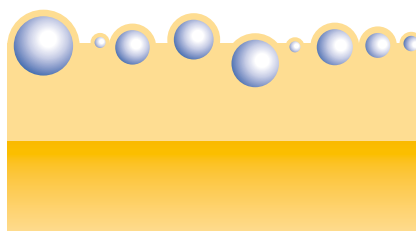
## Anti-Separation Additives

LS or LP additives such as PS or SBS are incompatible with the UP resin and can cause phase separation in the paste. The use of BYK additives helps to compatibilize both phases and stabilize the paste during storage and processing.

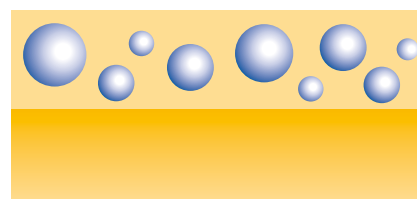
## Air Release

During the preparation of the paste, air is also incorporated. Depending on the formulation and process, air can cause major problems. BYK air release additives speed up the deaeration of the paste.

### Defoaming Versus Air Release



Foam on the surface. Defoamers destabilize the foam bubbles.



Air incorporation within the layer itself. Air release agents accelerate the migration of the bubbles to the surface.

figure 4

## Anti-Sedimentation

Low filled systems tend to settle. This effect is even greater when coarser fillers are used. BYK offers a wide range of additives to stabilize the resin mix.

### Selection Guide

	UP/VE resins	Acrylic resins	EP resins	Recommended dosage
<b>Anti-separation</b>	BYK-9076 BYK-W 972 BYK-W 974			0.5-1 phr
<b>Anti-sedimentation</b>	ANTI-TERRA-204 ANTI-TERRA-P BYK-W 940 BYK-W 980	ANTI-TERRA-204 BYK-W 940 BYK-W 980	ANTI-TERRA-204 BYK-W 980	0.5-1.5% based on filler
<b>Wetting and dispersing, viscosity reduction and higher filler load</b>	BYK-W 9010 BYK-W 9011	BYK-W 9010 BYK-W 9011	BYK-W 9010 BYK-W 9011	0.5-1% based on filler
	BYK-W 996	BYK-W 996	BYK-W 996	1-2% based on filler
<b>Air release</b>	BYK-A 515 BYK-A 555 BYK-A 560	BYK-A 515 BYK-A 555 BYK-A 560		0.3 phr BYK-A 515 or BYK-A 560 +0.2phr BYK-A 555
			BYK-A 530 BYK-A 535	1-2% based on total resin and hardener
<b>Fiber wetting</b>	BYK-9076 BYK-A 515 BYK-A 560 BYK-W 972	BYK-9076 BYK-A 515 BYK-A 560 BYK-W 972	BYK-9076	1% based on fiber content
<b>Lubrication (filled systems)</b>	BYK-P 9051 BYK-P 9065	BYK-P 9051 BYK-P 9065	BYK-P 9065	1.5-2.5% based on total resin

figure 5

## Fiber Wetting

Some BYK additives can improve fiber wetting. Especially in lower filled high glass content products, these additives improve wet-out.



## Products and Applications

### BYK Additives

#### Product Range Additives:

- Additives to improve surface slip, leveling and substrate wetting
- Adhesion promoters
- Defoamers and air release agents
- Foam stabilizers
- Processing additives
- Rheological additives
- UV-absorbers
- Viscosity depressants
- Waxes
- Wetting and dispersing additives for pigments and extenders

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#### Application Areas:

##### Coatings Industry

- Architectural Coatings
- Automotive Coatings
- Industrial Coatings
- Can Coatings
- Coil Coatings
- Wood & Furniture Coatings
- Powder Coatings
- Leather Finishes
- Protective & Marine Coatings

##### Plastics Industry

- Ambient Curing Systems
- PVC Plastics
- SMC/BMC
- Thermoplastics

##### PUR Industry

- C.A.S.E. Applications
- PUR Foams

##### Printing Ink Industry

- Flexo Inks
- Gravure Inks
- Silk Screen Inks
- Offset Inks
- Overprint Varnishes

##### Paper Coatings

- Impregnation
- Coatings

##### Adhesives & Sealants

##### Construction Chemicals

##### Pigment Concentrates

##### Raw Materials for Manufacturing of Release Agents

### BYK Instruments

BYK offers a complete line of testing instruments to meet your needs in many application areas:

- Gloss/Appearance
- Color

Portable or stationary laboratory equipment – including easy-to-use quality control software.

BYK instruments – the complete solution for the coatings and plastics industry.

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