

BYK-R 605

Liquid rheology additive for plastic applications such as vinyl ester and epoxy resins, unsaturated polyester resins, and gel coats to reinforce the rheological effectiveness of pyrogenic silica. Incorporation of the fumed silica is made easier, separation is prevented, and the thixotropic behavior increased or stabilized.

Product Data

Composition

Solution of polyhydroxycarboxylic acid amides

Typical Properties

The values indicated in this data sheet describe typical properties and do not constitute specification limits.

Density (20 °C):	0.93 g/ml
Refractive index (20 °C):	1.496
Gardner color number:	< 10
Non-volatile matter (20 min., 150 °C):	52 %
Flash point:	29 °C

Food Contact Legal Status

For the current food contact legal status, please contact our product safety department or visit www.byk.com for further information.

Storage and Transportation

Separation or turbidity may occur. Mix well before use. Product efficiency is not influenced.

Applications

Ambient Curing Resin Systems

Special Features and Benefits

BYK-R 605 is used as a thixotropic-reinforcing additive in unsaturated polyester resins, epoxy and polyurethane systems that already contain pyrogenic silica or organophilic phyllosilicates (organoclays) as rheology additives. The additive reinforces the three-dimensional network structure of the silica or phyllosilicates through additional bridges, thereby enhancing the thixotropy. For this reason, it achieves sufficiently high anti-sagging properties with improved leveling and air release properties, even with low quantities of silica or phyllosilicates.

Low quantities of BYK-R 605 (5 % based on the silica) stabilize silica in laminating resins, thereby preventing resin separation during storage.

In vinyl ester resins, BYK-R 605 activates hydrophilic, pyrogenic silica.

The additive can be used in various resins, including polyols, to prevent fillers settling during storage.

In polyols, BYK-R 605 is used to stabilize molecular sieves such as zeolite.

Recommended Levels

Additive quantity (as supplied) based on the

pyrogenic silica in vinyl ester resins:	20-50 %
pyrogenic silica in other resins:	10-30 %
organophilic phyllosilicates (organoclays):	5-20 %
inorganic fillers:	0.5-2 %

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

The additive should be added to the resin whilst stirring before incorporating the silica, phyllosilicates or fillers. Post-addition of the additive is also possible.

Adhesives & Sealants**Special Features and Benefits**

BYK-R 605 is a thixotropic-reinforcing additive for polyurethane and acrylate resins that are rendered thixotropic using pyrogenic silica or organophilic phyllosilicates (organoclays). It reinforces the hydrogen bonds of the silica and phyllosilicates, resulting in increased thixotropy. For this reason, it achieves sufficiently high anti-sagging properties with improved leveling and air release properties even with low quantities of silica or phyllosilicates.

Recommended Levels

10-30 % additive (as supplied) based upon the pyrogenic silica or organophilic phyllosilicates.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

The additive should be added to the resin before incorporating the silica/phyllosilicates whilst stirring. Post-addition is also possible.



Additive Guide



BYK-Chemie GmbH
P.O. Box 10 02 45
46462 Wesel
Germany
Tel +49 281 670-0
Fax +49 281 65735

info@byk.com
www.byk.com

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