BYK-4510

Adhesion promoter for solvent-borne and aqueous systems on metallic substrates and glass.

Product data

Composition
Solution of acidic polyester

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

Density (20 °C):	1.12 g/cm³
Non-volatile matter (10 min, 150 °C):	80 %
Solvent:	methoxypropanol
Flash point:	48 °C
Acid value:	30 mg KOH/g
Delivery form:	liquid

Storage and transportation
Product shelf life in unopened original packaging: 36 months

Applications

Coatings industry

Special features and benefits
The acidic groups of the silicone-free adhesion promoter cause a strong affinity, particularly to metallic substrates, and improve adhesion to steel, galvanized steel, aluminum, non-ferrous metals, and even glass. BYK-4510 reacts with melamine resins and polyisocyanates and is thus incorporated into the polymer matrix. It is compatible with most binders and can therefore be applied universally.

Depending on the system, the additive can improve flexibility without reducing hardness.

Storage stability, recoatability, and weather resistance of the coating are not negatively affected. The additive is stable even at high baking temperatures (briefly up to 280 °C) and does not cause discoloration.

Recommended use
BYK-4510 is recommended for baking systems and 2-pack polyurethane systems.

General industrial coatings	■
Coil coatings	■
Can coatings	■
Automotive refinish coatings	■
Marine and protective coatings	■
Architectural coatings	□
Automotive OEM coatings	□
Floor coatings	□
Wood and furniture coatings	□

■ especially recommended □ recommended

Recommended levels
1-5 % additive (as supplied) based on the total formulation.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

Incorporation and processing instructions
The additive is added to the let-down or the finished coating while stirring continuously.

In solvent-borne systems, the additive should be be tested for compatibility beforehand in the non-pigmented formulation. Higher proportions of polar solvents (alcohols, ester) reduce any possible turbidity.

For use in aqueous systems with less than 5 % co-solvent, BYK-4510 can be neutralized by adding amine and water. Alternatively, the use of BYK-4509 is recommended.

When using inorganic pigments, the gloss of the coating may be reduced if the pigments have not been sufficiently stabilized with a suitable wetting and dispersing additive before adding the adhesion promoter.

Adhesives and sealants

Special features and benefits
The additive is used to improve adhesion to various substrates, such as different metals (e.g., steel, galvanized steel, aluminum) and glass.

BYK-4510 reacts with melamine resins and polyisocyanates and is thus incorporated into the polymer matrix.

Depending on the system, the additive can improve flexibility without reducing hardness.

Recommended use
BYK-4510 is recommended for use in 2-pack epoxy and 2-pack polyurethane formulations.

Recommended levels
1-5 % additive (as supplied) based on the total formulation.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

Incorporation and processing instructions
The additive should be added to the resin component while stirring.

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