BYK-3558

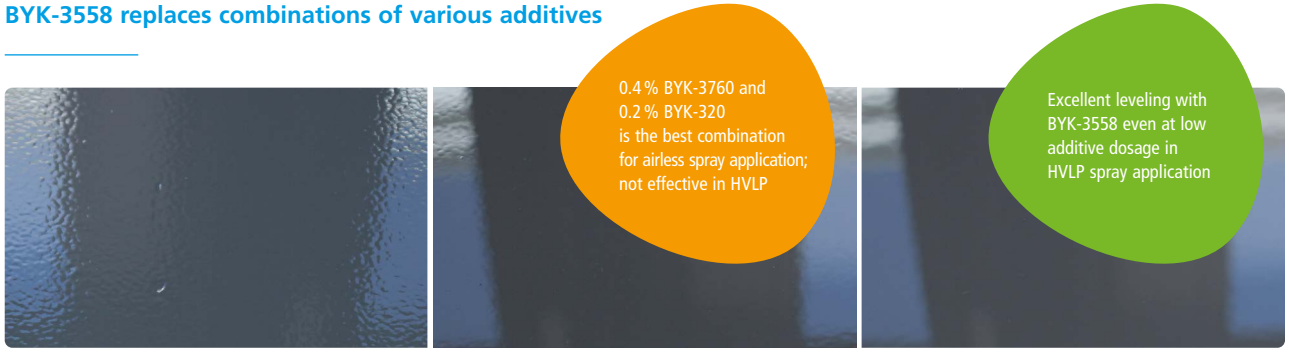
Surface additive to improve leveling and prevent cratering in high- and medium-solid coating systems

Coating systems with a higher solid proportion, e.g. high- or medium-solid coatings, typically contain a significantly reduced quantity of solvents. This is particularly advantageous, for example, in cases where coating is carried out manually, such as in automotive refinish applications. The disadvantage is that these modern high-solid systems are more challenging to apply, especially with regard to good leveling and a crater-free surface.

To date, the use of standard additives alone has only been able to achieve partially satisfactory results. For this reason, combinations of additives are often used, for example, a medium-active silicone for a sufficient reduction of surface tension and good slip together with a leveling-promoting acrylate.

BYK-3558 is based on a new technology and combines the beneficial properties of silicones and polyacrylates in a well-balanced manner in one product. It moderately reduces the surface tension, thereby wetting the substrate and ensuring good leveling. It prevents cratering and increases surface slip. BYK-3558 is therefore an excellent and easy-to-use alternative for perfect surfaces in solvent-reduced high- and medium-solid coating systems.

BYK-3558 replaces combinations of various additives



Control | **0.4 % BYK-3760 and 0.2 % BYK-320** | **0.2 % BYK-3558**

Test system: High-solid 2-pack PU system

Additive dosage: Active substance on component A

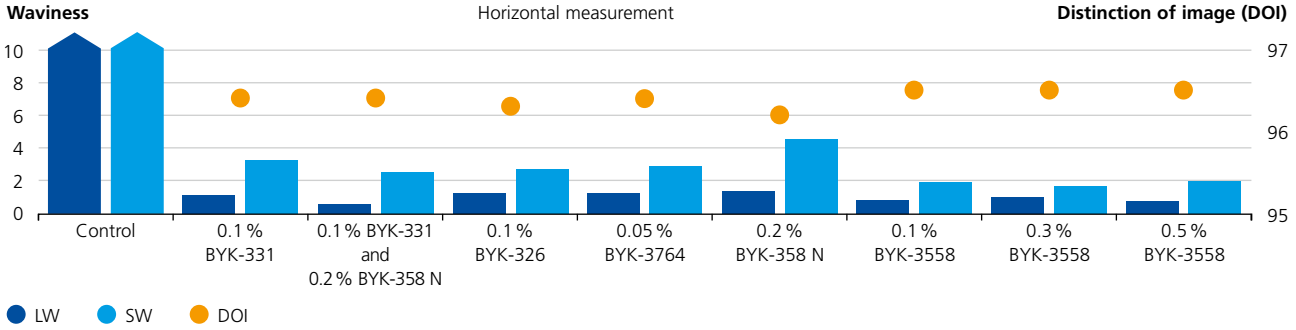
Test method: Spray application using HVLP (high volume, low pressure); nozzle: 1.4 mm, pressure: 2.0 bar

Benefits

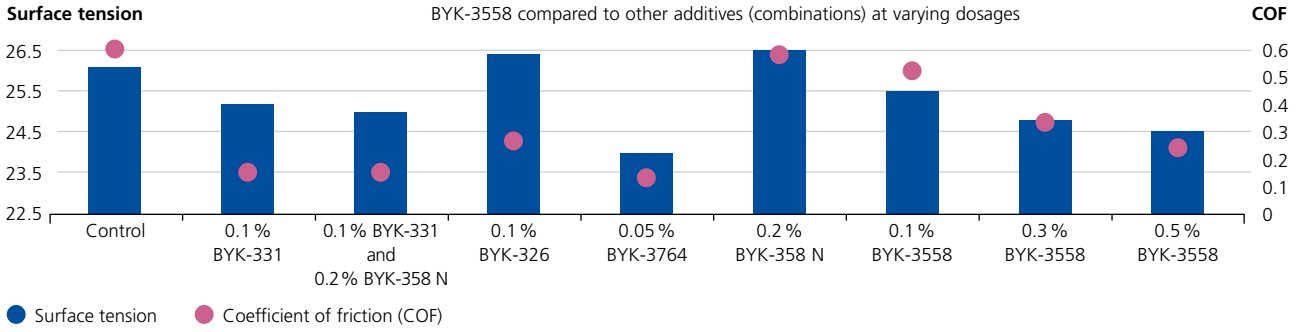
New technology combines the benefits of silicones (reduction of surface tension, increase in surface slip) and polyacrylates (improvement of leveling properties) in one additive.

- Excellent leveling in high- and medium-solid clearcoats and pigmented coatings for automotive refinish and industrial coating applications
- Reduction of surface tension and increase in surface slip at the same level as medium-active silicones
- Effective prevention of cratering

BYK-3558: Excellent leveling in a high-solid 2-pack automotive refinish clearcoat



BYK-3558: Moderate reduction in surface tension and significant increase in surface slip



Technical properties

Polydimethylsiloxane- and polyether-modified polyacrylate

Density (20 °C): 1.017 g/ml
Active substance: >98 %
Flash point: 101 °C
Appearance: colorless to slightly yellow, clear to slightly turbid

Test system: 2-pack automotive refinish clearcoat based on Synthalat A 149/Tolonate™ HDT-LV/Vestanat® T 1890 E

Additive dosage: Additive solid based on component A

Test method: Manual spray application on aluminum panel coated with 1.) a coil coating primer and 2.) an aqueous basecoat

Drying conditions: 10 min flash-off and 30 min curing at 60 °C

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