

DISPERBYK-2170 and DISPERBYK-2175

Highly compatible wetting and dispersing additives based on a new polyurethane technology for aqueous, solvent-borne, and high-solid systems

Modern coating formulations are highly complex systems that vary depending on the end application to meet specific requirements and consistently achieve optimal results. Therefore, broad compatibility with various systems and pigments is an essential characteristic of a wetting and dispersing additive.

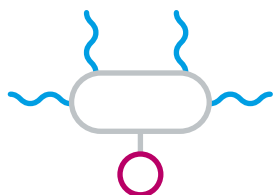
BYK has now developed two additives based on a new polyurethane technology: DISPERBYK-2170 and DISPERBYK-2175. Thanks to their innovative polymer design, which features a more flexible backbone structure and several different pigment-affinic groups, the additives are

suitable for a wide variety of pigments. Both additives can therefore be used with various inorganic and organic pigments and particles and are suitable for a broad range of systems. Despite being based on the same innovative technology, they offer significantly different application profiles.

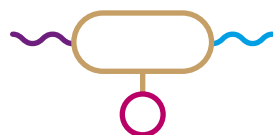
DISPERBYK-2170 is an excellent compatibilizer to improve colorant acceptance even when post-added. **DISPERBYK-2175** is an effective wetting and dispersing additive that is especially recommended, among others, for acid-catalyzed systems due to its neutralized structure.

New polyurethane technology offers exceptionally versatile compatibility

Traditional technology of a polyurethane wetting and dispersing additive:



New polymer design:



The new polymer design provides **multiple pigment-affinic groups**, making it suitable for various pigments.

Rigid polyurethane backbone
 Flexible polyurethane backbone
 Pigment-affinic group
 System-affinic group
 System-affinic group with a pigment-affinic group

Benefits

- Broad compatibility
- Versatile pigment affinity
- Excellent long-term color stability
- Reduced flooding and floating of pigments
- Great colorant acceptance and color strength
- Good anti-settling properties in some systems and improved in-can stability

Additional benefits

of DISPERBYK-2170:

- Improved colorant acceptance in point-of-sale pigment concentrates
- Suitable for post-addition

of DISPERBYK-2175:

- Specifically designed for acid-catalyzed systems
- Also recommended for high-solid systems

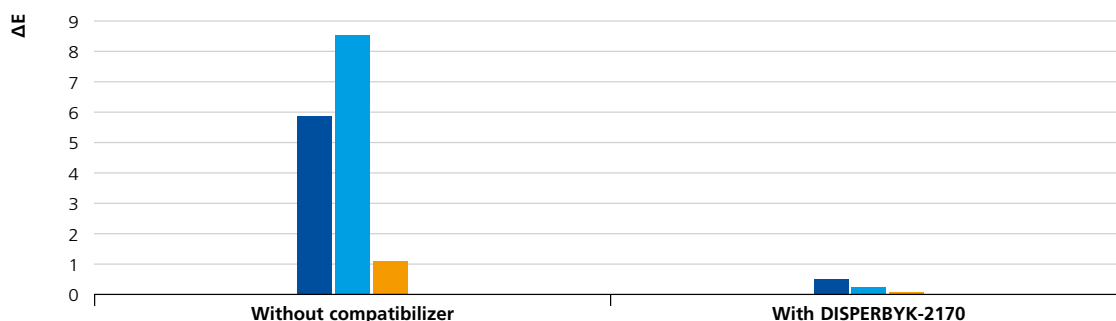


Post-add
compatibilizer

Technical data

- Polyurethane
- Density (20 °C): 1.07 g/cm³
- pH value (1 % in water): 9.0
- Active substance: 100 %
- Amine value: 6.5 mg KOH/g
- Delivery form: liquid

DISPERBYK-2170 – Perfect colorant acceptance when post-added



● Before storage ● After storage (7 days at room temperature) ● Color shift during aging

Test system: aqueous acrylic system with black and resin-free white colorant; **tinting:** 84 % clear base paint, 15 % TiO₂ colorant, 1 % black colorant; **compatibilizer dosage:** 0.5 % DISPERBYK-2170 (as supplied) based on the total formulation

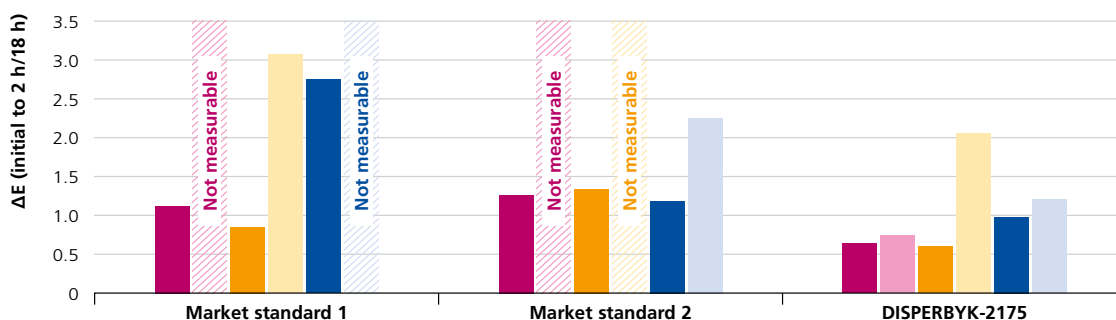


Specialist for
acid-catalyzed
systems

Technical data

- Polyurethane
- Density (20 °C): 1.07 g/cm³
- pH value (1 % in water): 7.9
- Active substance: 100 %
- Acid value: 3.8 mg KOH/g
- Amine value: 6.2 mg KOH/g
- Delivery form: liquid

DISPERBYK-2175 – Excellent long-term color stability in a broad range of pigment concentrates



● Iron oxide red 2 h ● Iron oxide red 18 h ● Iron oxide yellow 2 h ● Iron oxide yellow 18 h
● Phthalocyanine blue 2 h ● Phthalocyanine blue 18 h

Test system: solvent-borne, acid-catalyzed conversion varnish with different inorganically and organically pigmented colorants;
tinting (base paint : colorant): red: 76 : 24, yellow: 76 : 24, blue: 97 : 3;
additive dosage (solid on pigment): red: 5 %, yellow: 5 %, blue: 24 %



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