

***BLANC FIXE micro
for high-quality
coatings***



Great Solutions with Small Particles

Great Solutions with Small Particles



Sachtleben's synthetic barium sulfates have been well known on the coatings market for more than one hundred years. Originally used as extenders for simple low-cost systems, in the course of time they continuously gained in importance as inorganic additives for special high-quality coatings. The driving force behind the development of modern synthetic barium sulfates has been the transfer of know how and technology from the production of pigments such as titanium dioxide. Special production methods, various inorganic treatments and the design of special crystallites now permit customized solutions for the most diverse range of problems.

In the world of modern paints and paint technologies, BLANC FIXE micro provides the coatings industry with top quality solutions for paints and for paint production.

BLANC FIXE micro

Automotive coatings



Decorative coatings



Industrial paints



High Solids



Pigment pastes



Powder-coating systems



Product properties

BLANC FIXE micro is a functional extender for paints and coatings with maximum gloss and brilliance standards. Despite its extremely fine particle size, BLANC FIXE micro can be dispersed relatively easily. BLANC FIXE micro is totally inert under normal conditions, and possesses high resistance to outdoor exposure and to chemicals.

Thanks to its synthesis from high purity solutions, BLANC FIXE micro is itself extremely pure. This is apparent in its extremely high brightness and the total absence of catalytically active trace elements.

BLANC FIXE micro has only an extremely low grit content, since its crystals are obtained from solutions and are not produced by means of grinding processes.

This also results in the complete avoidance of extremely fine particles, which would otherwise cause viscosity difficulties. Problematic agglomerates are virtually completely eliminated by means of micronization during this product's final processing stage.

BLANC FIXE micro in automotive coatings

BLANC FIXE micro is used in various paint systems:

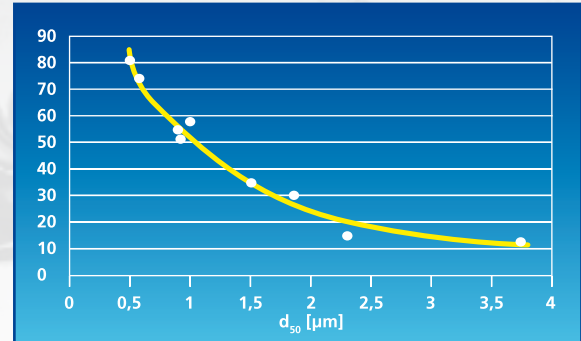
- ▶ E-coats, primers and base coats
- ▶ OEM and repair paint systems

The reasons: BLANC FIXE micro enhances

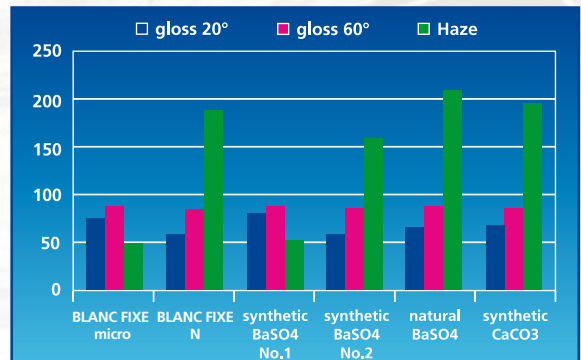
- ▶ Resistance to stone chipping
- ▶ Resistance to corrosion
- ▶ Weathering resistance
- ▶ Intermediate adhesion

BLANC FIXE micro generally improves coating properties:

- ▶ It acts as a spacer for TiO_2 , coloured pigments and carbon blacks
- ▶ It has an extremely fine particle size of around $0.7\mu\text{m}$
- ▶ It exhibits an extremely low binder demand
- ▶ It is chemically inert
- ▶ It is resistant to outdoor exposure
- ▶ It has an extremely narrow particle size distribution
- ▶ It has no grit contents



Gloss as a function of particle-size



Comparative assessment of various extenders

Small particles and an extremely uniform particle size distribution, combined with a spherical particle geometry, ensure enhanced gloss and guarantee low haze



BLANC FIXE micro in decorative coatings

BLANC FIXE micro's pigment-stabilizing action permits

- ▶ Replacement of 5 to 15% titanium dioxide with BaSO₄ extender
- ▶ Replacement of a similar percentage of coloured pigments
- ▶ Significant raising of solids contents

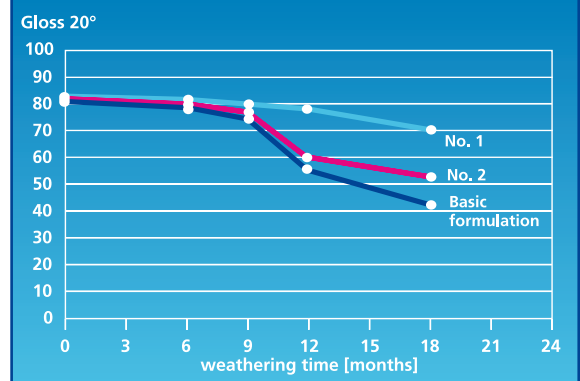
Benefits:

- ▶ Savings on raw-materials costs
- ▶ Enhancement of weathering resistance
- ▶ More effective hiding power and tinting strengths
- ▶ Reduced flocculation
- ▶ Reduction of VOC
- ▶ Binder content savings
- ▶ Reduction of solvent recovery



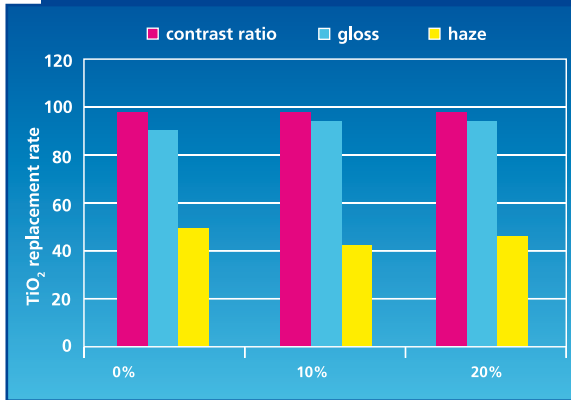
	Basic formulation	Partial replacement of TiO ₂ 1	Identical TiO ₂ content additional BLANC FIXE micro 2
▶ Alkyd resin	65	65	65
▶ Rutile	20	18	20
▶ BLANC FIXE micro	0	3	2
▶ Additives	2	2	2
▶ Solvents	13	13	13
▶ PVC TiO ₂ [%]	12.4	11.1	12.2
▶ PVC total [%]	12.4	12.8	13.3
▶ Gloss 20°	80	81	80
▶ Gloss 60°	90	91	91
▶ Scattering Power [mm ⁻¹]	116	120	134
		Same hiding power	Extra hiding power

Weathering resistance



BLANC FIXE micro in industrial paints

Example of constant optical quality: White water-based lacquer



Applications:

- ▶ Utility-vehicle paint systems
- ▶ Machinery paint systems
- ▶ Can and container coatings
- ▶ Household goods
- ▶ Coil coatings
- ▶ Wood paints
- ▶ Marine paints

TiO₂ replacement [%]

		0	10	20
▶ Bayhydrol D 155	binder	37.2	37.2	37.2
▶ Cymel 327	binder	5.7	5.7	5.7
▶ DMEA	additive	1.5	1.5	1.5
▶ Water		26.6	26.6	26.6
▶ Butoxy ethanol	solvent	2.9	2.9	2.9
▶ Byk 301	additive	0.5	0.5	0.5
▶ HOMBITAN R 210	rutile	25.6	23.0	20.5
▶ BLANC FIXE micro	functional additive	0.0	2.6	5.1

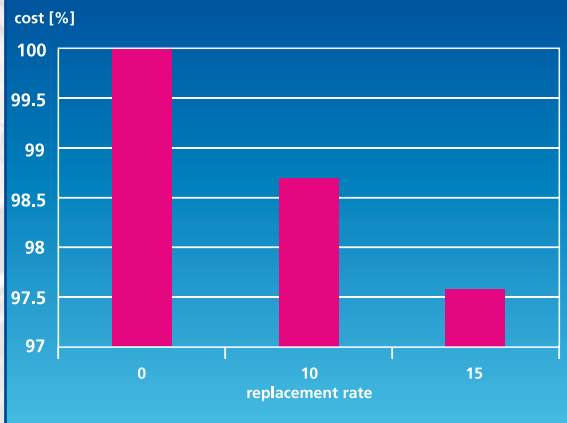
Benefits from using BLANC FIXE micro:

- ▶ No effect on viscosity
- ▶ Easily dispersible
- ▶ Weathering-resistant
- ▶ Good intermediate adhesion
- ▶ Brilliant, high-gloss coatings
- ▶ Extremely good mechanical film properties

BLANC FIXE micro is the only spacer effect additive that has no negative effects on the optical properties of the paint system.



Example of the economizing effect: Blue water-based lacquer

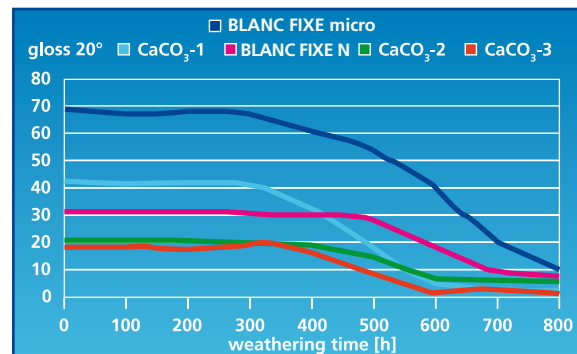


BLANC FIXE micro makes paint formulations cheaper - without loss of quality!

Benefits from using BLANC FIXE micro:

- ▶ Maximum resistance to weathering
- ▶ Best gloss retention
- ▶ Lowest chalking

▶ Bayhydrol D 155 [%]	binder	43.7	43.7	43.7
▶ Cymel 327 [%]	binder	6.7	6.7	6.7
▶ DMEA [%]	additive	10.0	10.0	10.0
▶ Water [%]		31.5	31.5	31.5
▶ Butoxy ethanol [%]	solvent	3.4	3.4	3.4
▶ Byk 301 [%]	additive	0.6	0.6	0.6
▶ HOMBITAN R 210 [%]	rutile	11.4	10,3	9.7
▶ Heliogenblue L 6700 F [%]	colored pigment	0.1	0.9	0.8
▶ BLANC FIXE micro [%]	functional additive	0.0	1.2	1.75



BLANC FIXE micro has the best resistance to weathering.

BLANC FIXE micro in pigment pastes



Systems:

- ▶ Pigment concentrates
- ▶ Universal pastes

Protective coatings

- ▶ White commercial acrylic dispersion
- ▶ White commercial solvent-based acrylic resin lacquer
- ▶ White commercial emulsion paints

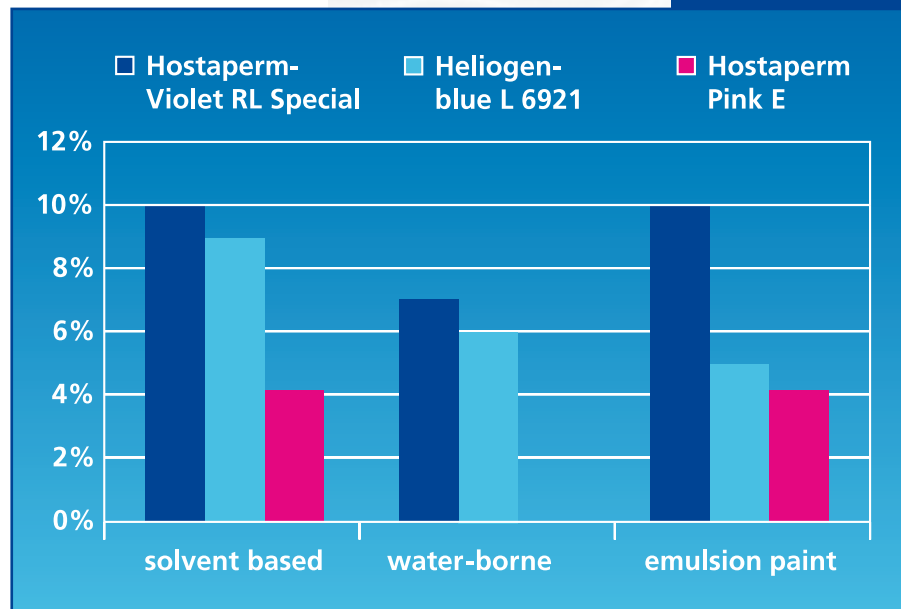
Coloured pigment

- ▶ Heliogen Blue L 6921
- ▶ Hostaperm Violet RL special
- ▶ Hostaperm Pink E

Dispersion

- ▶ Skandex 90 min., glass beads 2mm

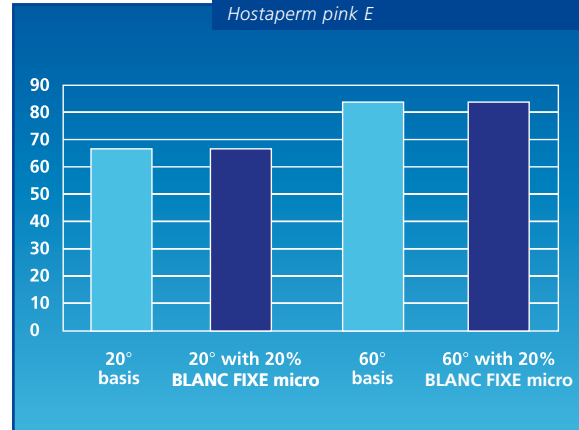
Improved tinting strength



Improved hiding power produces coloured pigment savings and thus reduces formulation costs

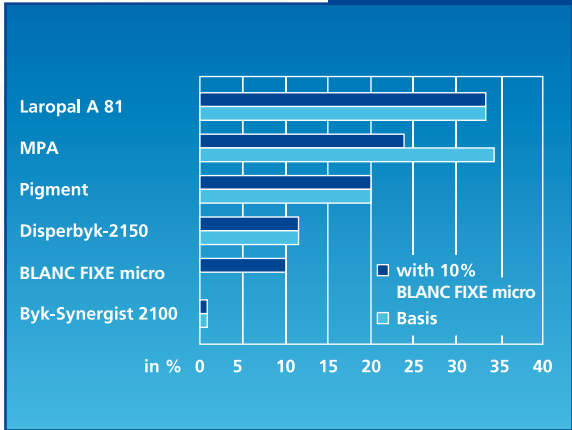


Gloss in a solvent borne system containing Hostaperm pink E



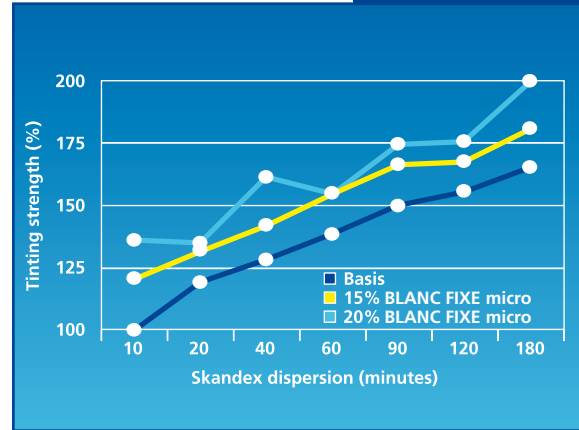
BLANC FIXE micro has no effect on gloss

Pigment paste formulation



The use of BLANC FIXE micro permits reduction of VOC with no effect on viscosity

Growth of tinting strength



Faster increase in hiding power reduces dispersion time and cuts costs by shortening the production process

BLANC FIXE micro in powder-coating and high-solids systems

Top product for powder-coating systems with special brilliance and high gloss.

A product for thin film layers

- ▶ No loss of brilliance, thanks to small particles
- ▶ No loss of gloss, thanks to narrow particle size distribution
- ▶ Enhanced hiding power, thanks to optimum dispersion properties and resultant excellent pigment stabilization
- ▶ Optimum chemical resistance thanks to micro's purity and chemical nature
- ▶ No surface disruption thanks to extremely extensive reduction of oversize
- ▶ Extremely good resistance to weathering and to chemicals
- ▶ FDA approved





BLANC FIXE micro's low binder demand permits high extension levels and low VOC with no negative effects on viscosity, no loss of gloss and no effects on other paint-system properties - but with simultaneous reduction of formulation costs!

BLANC FIXE micro is an extremely effective functional extender in high-solids systems

- ▶ BLANC FIXE micro has an extremely low binder demand
- ▶ BLANC FIXE micro possesses the necessary particle fineness
- ▶ BLANC FIXE micro is easily dispersible
- ▶ BLANC FIXE micro offers all the advantages of a synthetic product
- ▶ BLANC FIXE micro has a stabilizing action on TiO_2 , coloured pigments and carbon black



Sachtleben does not guarantee the accuracy, topicality, correctness, completeness, quality or usefulness of any information provided.
Any liability claims in connection with such information are excluded.

04.088.03.09.e

Great Solutions with Small Particles



Sachtleben Chemie GmbH
A company of **ROCKWOOD** Holdings, Inc.
P.O. Box 17 04 54 • D-47184 Duisburg/Germany
Phone +49 2066 22-2615 • Fax +49 2066 22-3615
E-Mail: coatings@sachtleben.com • www.sachtleben.com