




Dispersions for decorative applications



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ALBERDINGK BOLEY in a nutshell

 <p>Leading international manufacturer of environmentally friendly water-based binders and oils with unique properties to refine, refurbish, bind and protect multiple types of substrates</p>	 <p>Medium sized, privately owned company > 250 million Euro group turnover in 2021 > a partner to our customers for 250 years</p>	 <p>> 500 employees</p>
 <p>Dynamic, Innovative and flexible</p> <p>Pioneers in biobased polymer dispersions</p>	 <p>Dispersions: Acrylic, Vinyl acetate, Polyurethane and hybrid dispersions</p> <p>Oils: Linseed oil, Castor oil, Derivatives</p>	 <p>Locations:</p> <ul style="list-style-type: none"> • Krefeld, Germany • Kerpen, Germany • Leuna, Germany • Treviso, Italy • Greensboro, USA • Shenzhen, China • Zhuhai, China

For more information about ALBERDINGK BOLEY and our product offerings, visit www.alberdingk-boley.de.



Introduction

Decorative applications can be divided into the following sections of paints / primers and stabilizers

Interior paint binders

Low MFFT styrene acrylic and pure acrylic dispersions for high PVC paints.

ALBERDINGK® AS 6004 is the latest addition to the product range and offers superior scrub resistance even at low polymer content.

Styrene acrylics & pure acrylics

Alberdingk®- product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2003	49.0-51.0	20-2,000	7.0-9.0	3	For class 1+2 paints, superior water resistance, ammonia neutralised
AS 6004	49.5-51.0	200-2,000	8.0-9.0	0	For class 1+2 paints, silicate compatible, very hydrophobic
AS 6400	49.5-51.0	200-2,000	8.0-9.0	0	For class 1+2 paints, for class 1 silicate paints, low odour, suitable for preservative-free paints
AS 6900	48.0-50.0	20-2,000	7.0-8.0	0	For class 1+2 paints, for class 1 silicate paints, low odour

Due to the new biocide restriction published in the 13th ATP of the CLP regulation and the new criteria for the German „Blauer Engel“ environmental logo (RAL-UZ 102) more and more preservative free or silicate paints are being produced.

ALBERDINGK BOLEY has a wide portfolio of silicate compatible dispersions with only CMIT preservation as well as for classical silicate paints which may still contain some traces of preservatives.

Special products such as **ALBERDINGK® AS 6400**, which is designed for long shelf life in silicate paints as well as scrub class 1 (EN 13 300) with only 5% organic content are most suitable for making future proof paints.



Styrene acrylic for silicate and preservative free paints

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AS 6400	49.5-51.0	200-2,000	8.0-9.0	0	For class 1+2 paints, for class 1 silicate paints, low odour

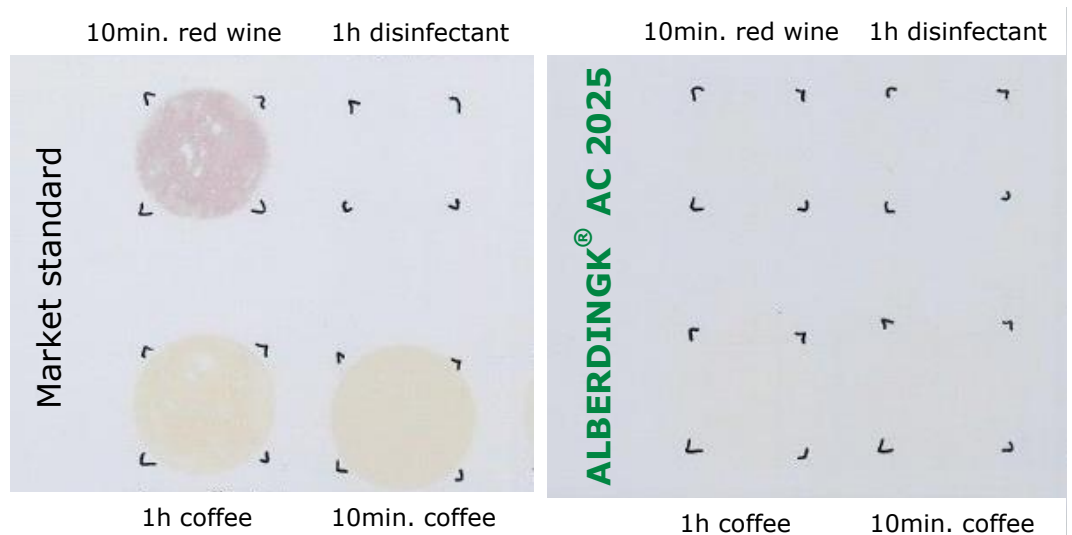
Multiphase acrylics for high stain resistant paints

For high resistant paints and for formulations with lower PVC levels, multiphase polymers which consist of hard and soft domains offer superior stain and wet scrub resistance combined with a block free surface.

ALBERDINGK® AC 2025 is particularly designed for low temperature film formation and excellent pigment wetting/binding capacity.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2025	48.0-50.0	500-4,000	8.0-9.0	0	Multiphase acrylic, optimised for very high scrub and chemical resistance, excellent blocking resistance

Stain resistance-comparison:



White paint based on **ALBERDINGK® AC 2025** compared to a market standard



Renewable resource PUD

Paints which are based on renewable resources are becoming more and more attractive as consumers are looking for „green“ chemistry which is more environmental friendly.

ALBERDINGK® CUR 751 VP based paints reach approx. 80% of renewable content (incl. water). Since it's based on castor oil, it has a non-yellowing film and fast drying. Castor oil is ethically correct as it's not a food crop. Paints based on **ALBERDINGK®CUR 751 VP** have no odour – unlike alkyd based paints.

Alberdingk®-product	Solids [%]	pH-value	MFFT [°C]	Features
CUR 751 VP	34.0-36.0	7.0-8.5	0	Castor oil based PUD, class 2 paints with excellent wet scrub resistance and low odour

Primers / stabilisers

Hydrosols are used in stabilisers and primers since a long time. Ultra-fine particle size and excellent wetting and binding properties are key features of our hydrosols.

Hydrosol

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
H 595	29.0-31.0	20-35	7.5-9.0	0	Workhorse styrene acrylic hydrosol, silicate compatible



Exterior paints

Pure acrylics

Our pure acrylics are designed for long lasting exterior coatings. **ALBERDINGK® AC 2077** is developed for colour stable exterior coatings / house paints.

ALBERDINGK® AC 2003 is a new product with superior early water resistance and **ALBERDINGK® AC 2008** offers a very high solids which offers an extremely broad formulation latitude.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2003	49.0-51.0	20-2,000	7.0-9.0	3	Superior water resistance, low surface tack
AC 2006	45.0-57.0	20-200	7.5-8.5	6	Superior scrub resistance, excellent non-leaching properties & water resistance
AC 2008	58.0-60.0	200-2,000	8.0-9.0	0	Ultra-high solids, suitable for fast drying systems, excellent weathering resistance, low surface tack
AC 2019	45.0-47.0	500-1,500	8.0-9.0	17	Universal, very good water resistance
AC 2077	45.0-47.0	20-300	8.0-9.0	17	Wet adhesion promoted, with optimized colour stability
AC 548	49.0-51.0	3,000-6,000	7.5-8.5	13	Universal, very good water resistance



Styrene acrylics

Our styrene acrylics are workhorse products which find use in cost effective exterior coatings, thanks to the improved pigment binding capability of styrene.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AS 6900	49.5-51.0	200-2,000	8.0-9.0	0	For class 1+2 paints, for class 1 silicate paints, low odour
SC 48	49.0-51.0	3,000-5,000	7.0-7.5	14	Most hydrophobic styrene acrylic
SC 4400	49.0-51.0	2,000-5,000	7.0-8.0	17	Workhorse product, extremely versatile
SC 4450	49.5-51.0	500-5,000	7.5-8.5	18	Low odor, for indoor & outdoor, matt & glossy

Binders for renders / plasters

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2019	45.0-47.0	500-1,500	8.0-9.0	17	Universal, very good water resistance
AS 6900	49.5-51.0	200-2,000	8.0-9.0	0	For class 1+2 paints, for class 1 silicate paints, low odour
SC 48	49.0-51.0	3,000-5,000	7.0-7.5	14	Most hydrophobic styrene acrylic
SC 4400	49.0-51.0	2,000-5,000	7.0-8.0	17	Workhorse product, extremely versatile
SC 4450	49.5-51.0	500-5,000	7.5-8.5	18	Low odor, for indoor & outdoor, matt & glossy



Binders for colour quartz renders

ALBERDINGK® acrylics for colour quartz renders offer superior early water resistance and long durability at various MFFT levels.

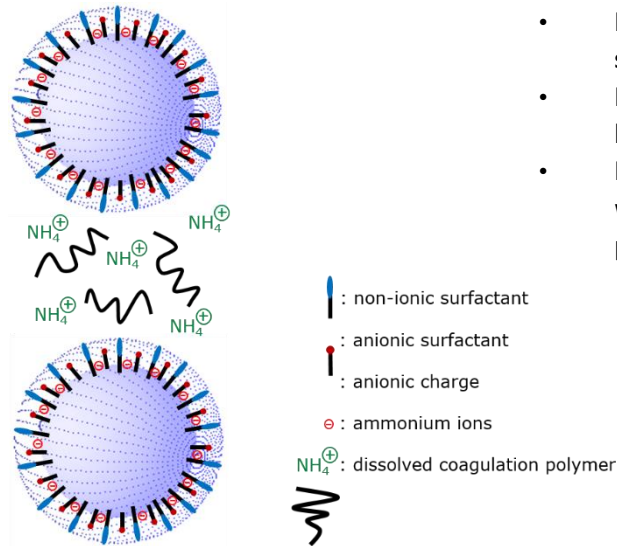
Alberdingk®- product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 548	49.0-51.0	3,000-6,000	7.5-8.5	13	Universal, very good water resistance
AC 2003	49.0-51.0	20-2,000	7.0-9.0	3	Superior early water resistance, low surface tack
AC 2019	45.0-47.0	500-1,500	8.0-9.0	17	Universal, very good water resistance, higher Tg

Fast drying acrylics for autumn / spring

ALBERDINGK's quick drying system based on controlled coagulation is based on **ALBERDINGK® AC 2008** (high solids pure acrylic) and **ALBERDINGK® ALBORapid 22** (coagulation polymer) for paints and renders which set quickly in marginal conditions.

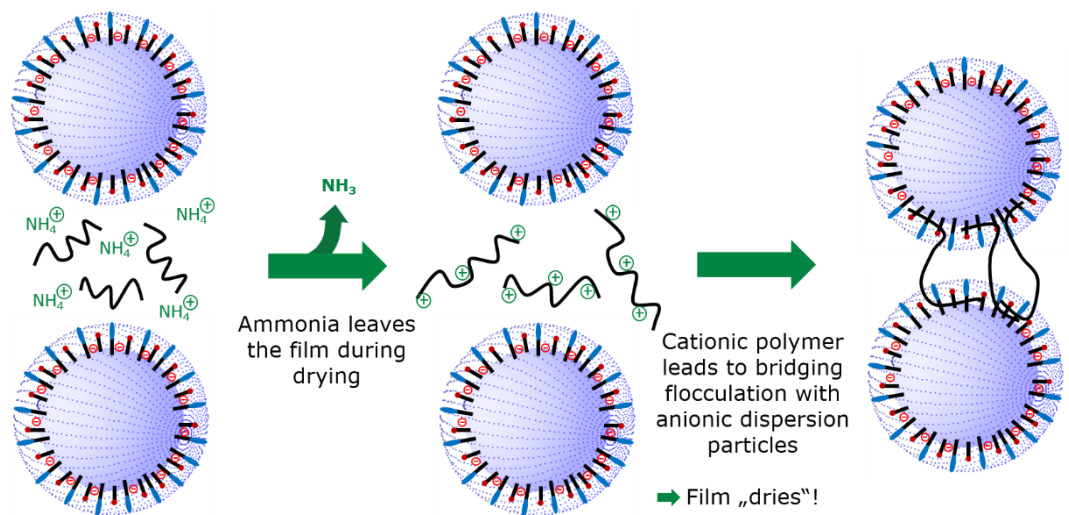
Alberdingk®- product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2008	58.0-60.0	200-2,000	8.0-9.0	0	Ultra-high solids, suitable for fast drying systems, excellent weathering resistance, low surface tack
ALBORapid 22	19.0-22.0	n.a.	9.0-10.0	n.a.	Additive polymer which can significantly increase the drying speed of water based coatings.

Formulation with Dispersion and **ALBORapid** at high pH level



- Particles with electrostatic and steric stabilization
- High concentration of ammonia at high pH level
- Dissolved coagulation polymer without electrostatic charge at high pH level

Coagulation Mechanism of **ALBORapid**-base



PUDs for exterior coatings

Polyurethane dispersions in exterior masonry coatings are still „exotic“ due to their higher raw material cost. PUD’s offer a non-tacky surface at very low Tg, combined with high elongation and superior colour stability compared to acrylic dispersions. Thanks to their high water vapor permeability and low water absorption they can be easily formulated into high performance paints.

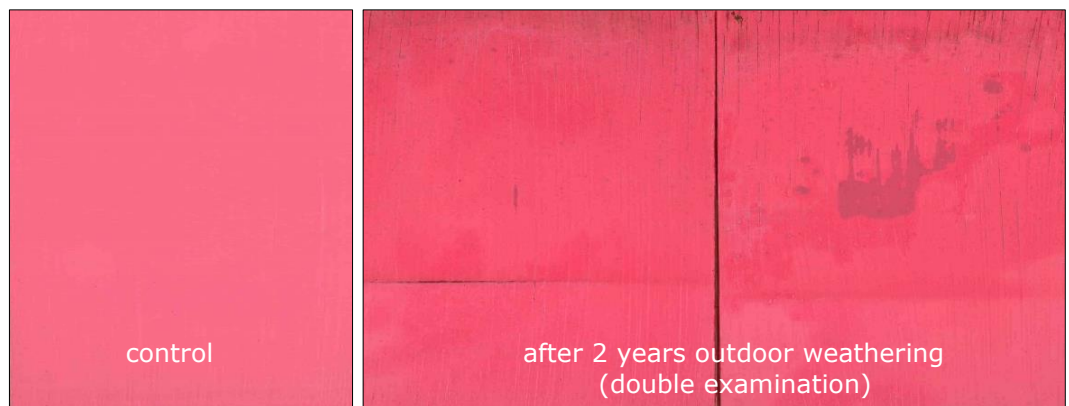
Alberdingk®- product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
U 199	59.0-61.0	20-1,000	7.5-9.5	0	Very high solids, excellent weathering resistance
U 400 N	39.0-41.0	20-200	7.0-8.0	0	Saponification and hydrolysis resistant, high water vapour permeability

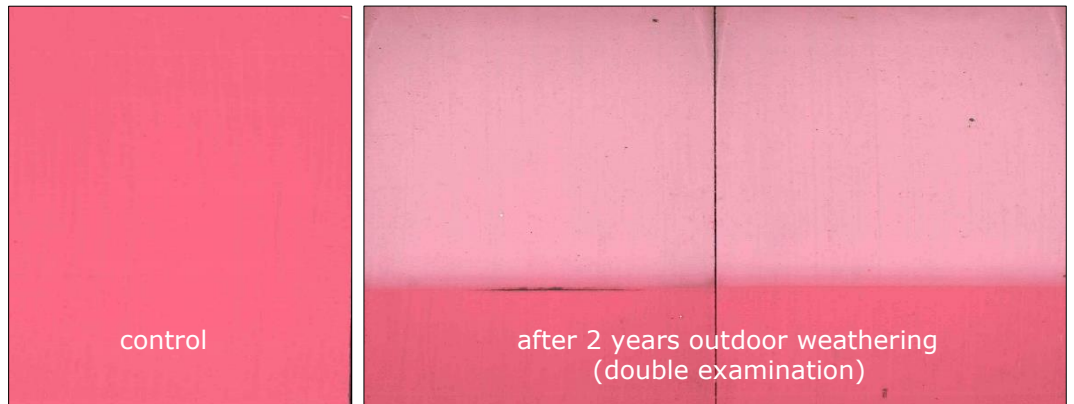
Outdoor weathering resistance

Formulation FP 400-11 + 0.5% addition of 40% red pigment preparation:

Permanent Red FGR (Clariant, 17% s.o.p. DISPERBYK-199)

ALBERDINGK® U 400 N:



Competitor (optimized acrylic for coloured exterior paints)

Binders for multicolour paints (MCP)

Multicolour paints are using a special rheology / rheology modifier to have several colours in one paint. This requires polymer dispersions with very hydrophobic stabilization mechanism that reacts better with OPTIGEL®-thickeners.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2019	45.0-47.0	500-1,500	8.0-9.0	17	Universal, very good water resistance
AC 2523	47.0-49.0	500-4,000	7.5-8.5	0	Multiphase, very good chemical resistance





Enamels / lacquers / trim paints / stains

ALBERDINGK offers a variety of acrylics for enamels – all based on multiphase technology to ensure excellent blocking and weathering resistance.

ALBERDINGK® AC 3600 and other members of the AC 36xx-family of products offer a significantly improved open time due to their special grafted hydrophilic stabilization system. AC 36xx products develop immediate blocking resistance and a very hard, almost solvent based like surface hardness even at low MFFT.

Acrylics for enamels

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2025	48.0-50.0	500-4,000	8.0-9.0	0	multiphase acrylic, optimized for very high gloss and chemical resistance
AC 2360	46.0-48.0	100-3,000	7.0-9.0	0	Multiphase, high gloss and good wet adhesion
AC 25381	47.0-49.0	2,000-8,000	7.5-8.5	9	Harder multiphase acrylic, very versatile and easy to formulate

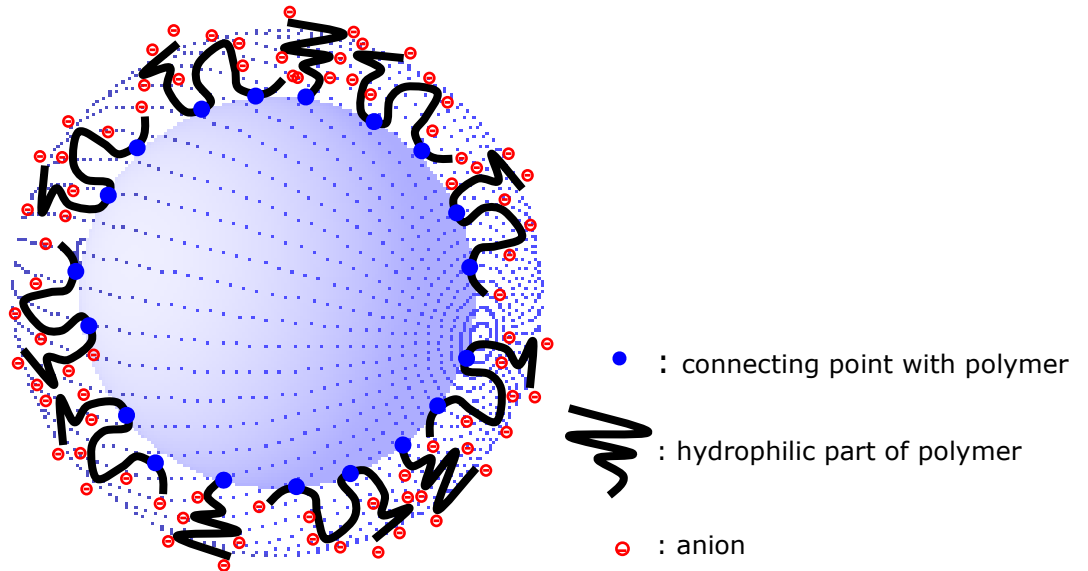
Improved open time acrylics

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	features
AC 3600	40.0-42.0	20-200	7.5-8.5	0	Very hard with low MFFT, superior chemical and blocking resistance
AC 3626	39.0-41.0	50-200	8.0-9.0	45	Superior hand fat resistance

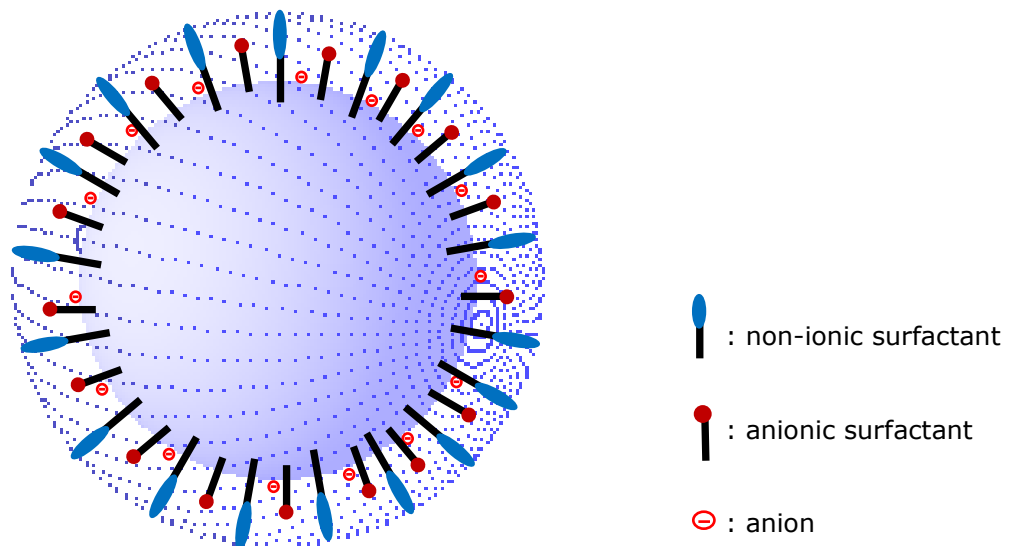


AC 36xx-family stabilization system vs. conventional surfactant stabilization

Grafted electrosteric stabilization of particle in AC 36xx-family:



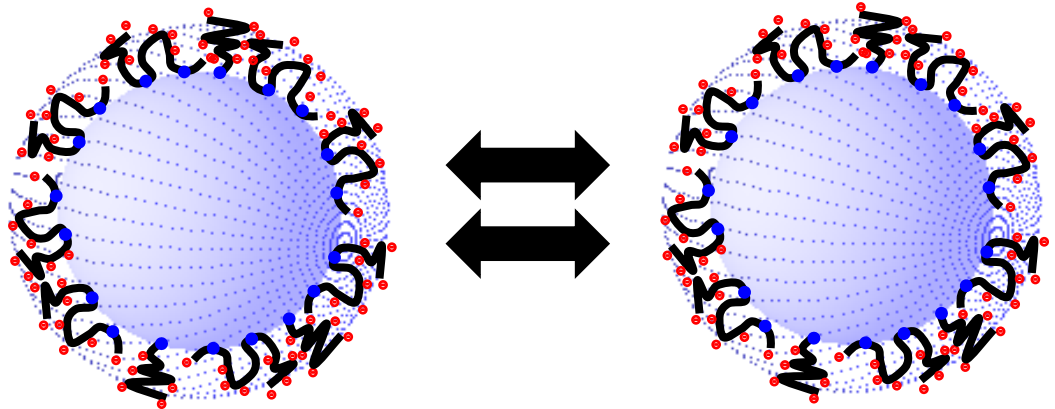
Conventional surfactant based electrosteric stabilization of particle:



Impact of stabilization on open time

AC 36xx-family:

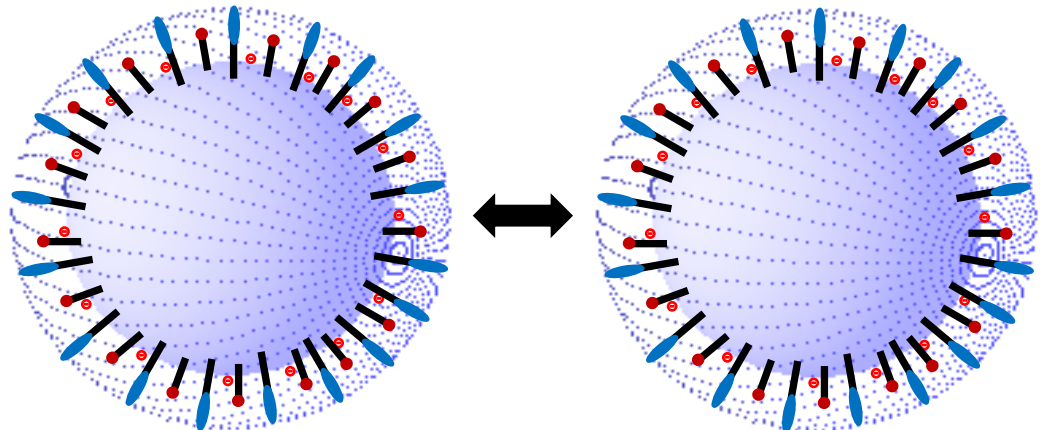
- Strong repulsive force between the particles
- More hydrophilic particle surface



- ➔ Longer open time
- ➔ More newtonian, less thickener response

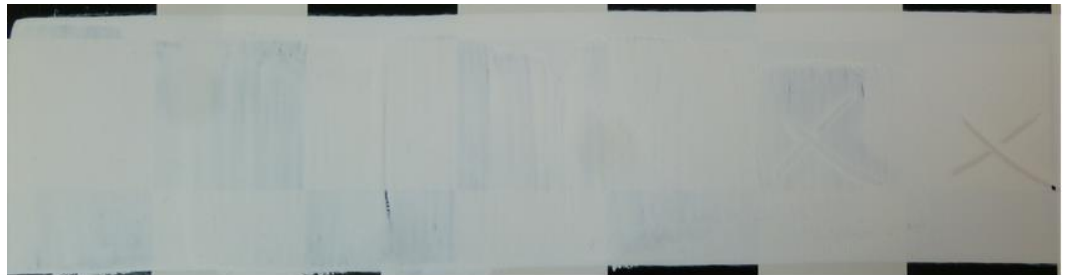
Conventional acrylics:

- Weaker repulsive force between the particles
- More hydrophobic particle surface



- ➔ Shorter open time
- ➔ Stronger thickener response

Open Time Test (ASTM D7488; 21°C 50% humidity)



t=15min

t=20min

t=25min

t=30min

t=35min

t=40min



Handfat resistance*

FP 3626-04 enamel for brush application

trade quality paint (alkyd/PUD)

FP 3626-04 = **ALBERDINGK® AC 3626**



*16h Alberdingk-fatty acid test which simulates the resistance of the film to human hand fat or hand lotions.

Visualisation of the softening by applying carbon black powder.



Acrylics for stick to anything paints

Multisubstrate or „stick to anything” paints have become very popular over recent years. Combinations of **ALBERDINGK® AC 2403** (adhesion, hydrophobic properties) with harder polymers (**ALBERDINGK® AC 3687** or **ALBERDINGK® AC 3660**) to adjust application and mechanical properties are first choice for high class paints.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2403	46.0-48.0	200-2,000	8.0-9.0	16	Best adhesion and super hydrophobic properties
AC 3687	40.0-42.0	20-200	7.5-8.5	0	High hardness @low MFFT, enhanced open time
AC 3660	39.0-41.0	20-200	8.0-9.0	55	Highest chemical resistance, enhanced open time

Adhesion properties

FP 3600-05 stick to everything paint, white, multipurpose
(based on **ALBERDINGK® AC 3600** & **ALBERDINGK® AC 2403**)

Test	Substrates	Results*	Test Conditions
Adhesion (according to ISO 2409)	ABS	GT 1	Cross hatch cut, Tape peel-off
	PS	GT 2	
	PVC	GT 0	
	Steel	GT 1	
	Aluminium	GT 1	
	Galvanized steel	GT 1	
	Tiles	GT 0	

* GT 0 = best / Gt 5 = worst

Acrylics for trim paints

Full colour trim paints for wood can be based on economic single phase polymers such as **ALBERDINGK® AC 2019** and more sophisticated multiphase acrylics such as **ALBERDINGK® AC 25381**. In both cases a long durability is easily achieved.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2019	45.0-47.0	500-1,500	8.0-9.0	17	Universal, very good water resistance
AC 25381	47.0-49.0	2,000-8,000	7.5-8.5	9	Workhorse polymer with excellent resistances and durability

Weathering resistance

Outdoor enamel formulation FP 2019-06 based on **ALBERDINGK® AC 2019** after 4 years outdoor weathering



Binders for stains

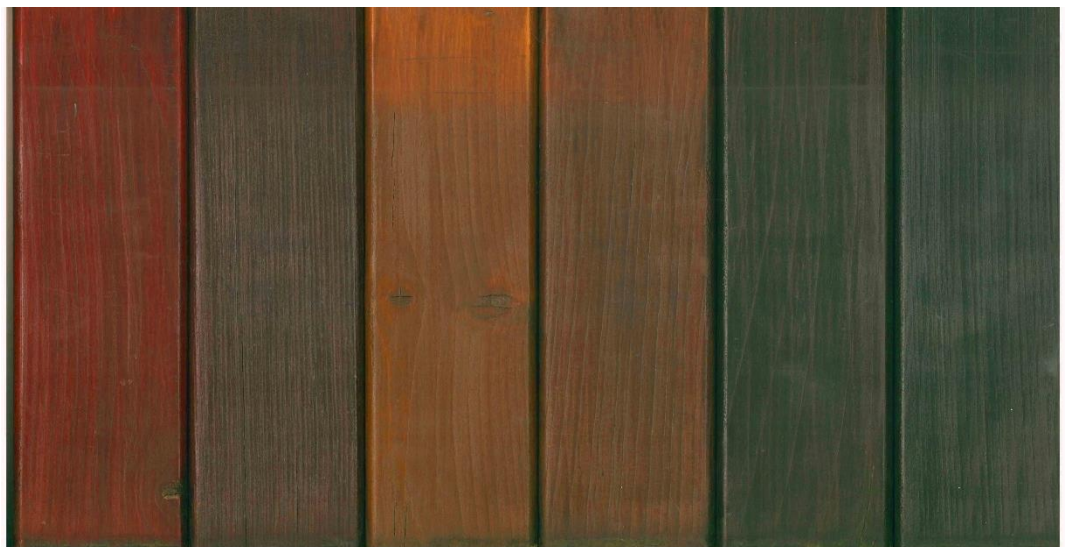
Acrylic and Polyurethane dispersions for wood stains / decking. **ALBERDINGK® AC 2019** and **ALBERDINGK® AC 5401** are single phase, economic products.

ALBERDINGK® AC 2736 is a multiphase acrylic with very high water vapor permeability and Lignocure-technology, which allows a reaction with the lignin of the wood in order to avoid/retard the degradation of the lignin/wood.

ALBERDINGK® LUR 3 is a linseed oil based PUD with outstanding weathering resistance.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	features
AC 2019	45.0-47.0	500-1,500	8.0-9.0	17	Universal, very good water resistance
AC 5401	48.0-50.0	200-1,500	8.0-9.0	5	Universal, excellent stain locking
AC 2736	39.0-41.0	50-2,000	8.0-9.0	0	High water vapor permeability, Lignocure-technology, blocking resistant
LUR 3	34.0-36.0	20-400	7.5-8.5	0	Linseed oil PUD, excellent weathering resistance

ALBERDINGK® AC 2736, wood stains in different colour shades after 5 years outdoor exposure:



Metal paints

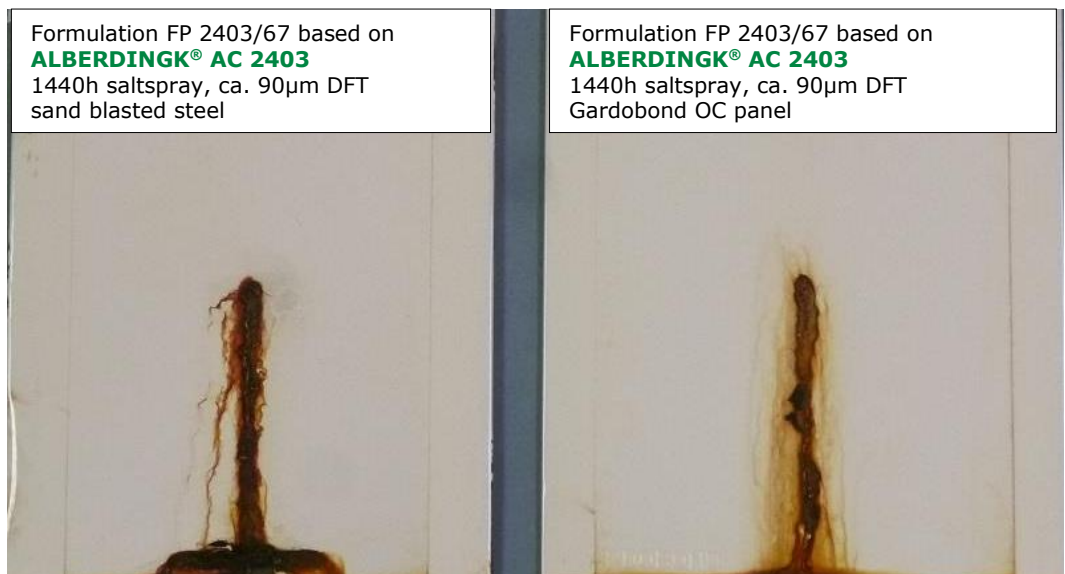
Our acrylic dispersions for metal paints offer protection up to C5I-long level !
ALBERDINGK® AC 2403 is the leading market standard in metal protection.

ALBERDINGK® AC 2003 and **ALBERDINGK® SC 48** are single phase, economic solutions for primers and paints.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2003	49.0-51.0	20-2,000	7.0-8.0	3	Good corrosion resistance, economic
AC 2403	46.0-48.0	200-2,000	8.0-9.0	16	Highest corrosion resistance & universal adhesion
AC 2420	46.0-48.0	200-3,000	8.0-9.0	20	Harder version of AC 2403, optimized for galvanized surfaces
SC 48	49.0-51.0	3,000-5,000	7.0-7.5	14	Good corrosion resistance, high PVC products, Zn-compatible

Test Results (after 1440 hours salt-spray test)

FP 2403-67 anti-corrosion coatings, PVC approx. 22%
 also suitable for sandblasted steel



Stain locking primers

Stain locking primers with exceptional water resistance prevent stain migration without the use of heavy metals.

Alberdingk®- product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2003	49.0-51.0	20-2,000	7.0-9.0	3	Good weathering resistance, low water absorption
AC 2403	46.0-48.0	200-2,000	8.0-9.0	16	Excellent stain locking, very good water barrier, improves intercoat adhesion
AC 5401	48.0-50.0	200-1,500	8.0-9.0	5	Economic and very versatile

Floor paints

1-pack, self-crosslinking multiphase acrylics with exceptional hot tire and chemical resistance.

ALBERDINGK® AC 3660 offers wet look when being formulated as clear coating.

Alberdingk®- product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2714	43.0-45.0	30-300	8.0-9.0	50	Very hydrophobic
AC 3660	39.0-41.0	20-200	8.0-9.0	55	Wet look, epoxy acrylic
AC 3687	40.0-42.0	20-200	7.5-8.5	0	Low VOC-applications

Hot tire resistance

ALBERDINGK® AC 3660:

commercial product:





Varnishes

Varnishes for DIY offer low co-solvent demand combined with high chemical resistance.

ALBERDINGK® AC 2700 offers a good compromise of hand fat and general chemical resistance – **ALBERDINGK® AC 3600** has best application properties (flow, levelling & open time) combined with „snap drying“.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2700	42.0-44.0	50-500	7.0-8.0	0	Good hand fat resistance, very good sanding properties
AC 25381	47.0-49.0	2,000-8,000	7.5-8.5	9	Universal product with very good chemical resistance, economic
AC 3600	40.0-42.0	20-200	7.5-8.5	0	Outstanding hardness and sanding properties, clear in the can

Artist paints

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 548	49.0-51.0	3,00-6,00	7.5-8.5	ca. 13	High clarity & elasticity



Construction products

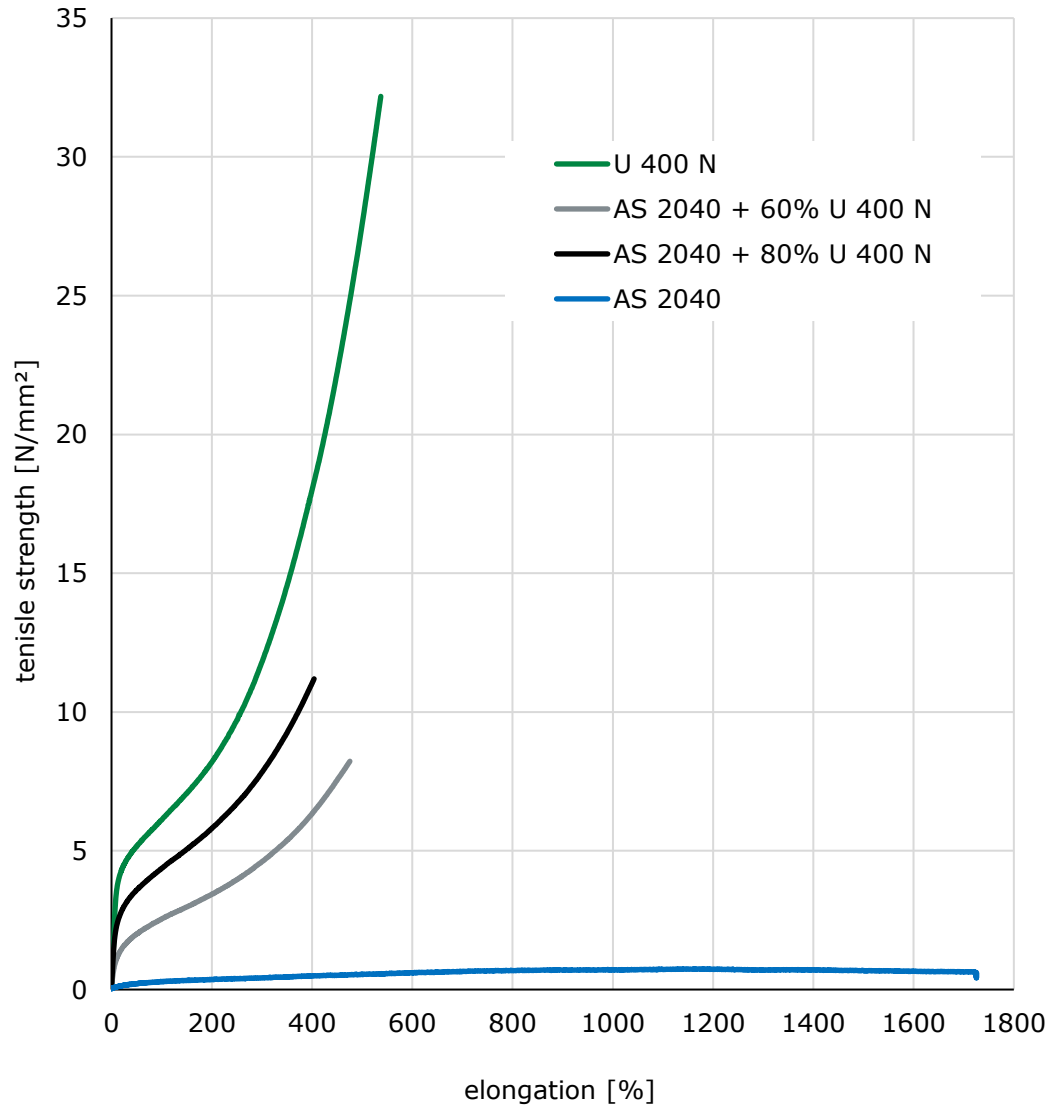
Waterproofing

ALBERDINGK® AS 2040 is a workhorse styrene acrylic for sealants, waterproofing, etc. Our polyurethane dispersions offer excellent hydrolysis resistance, low Tg and very low dirt pickup.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AS 2040	59.0-58.0	1,500-4,500	7.0-9.0	0	Tg -8°C, universal compatibility (especially with cement)
CUR 2021	59.0-61.0	100-2,000	7.5-8.5	0	Based on renewable resource, good hydrolysis resistance
Ren U 178 VP	57.0-59.0	20-2,000	8.0-9.0	0	Soft & flexible, hydrolysis- & alkali-resistant, approx. 78% renewable resources
U 199	59.0-61.0	200-1,000	7.5-9.5	0	Very good hydrolysis resistance
U 228	59.0-61.0	200-1,000	7.5-9.5	0	Superior hydrolysis resistance
U 400 N	39.0-41.0	20-200	7.0-8.0	0	Highest hydrolysis and alkaline resistance

Film Properties

Tensile strength and elongation of the free film (according to DIN EN ISO 527-1)





Grouts and mortars

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AS 2040	59.0-58.0	1,500-4,500	7.0-9.0	0	Tg -8°C, universal compatibility (especially with cement)
SC 4400	49.0-51.0	2,000-5,000	7.0-8.0	17	Universal, odorless, tough-elastic, water- and alkali resistant



Primer for ceramic tiles

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AS 2120	49.0-51.0	500-2,000	7.0-8.0	17	For waterproofing, cement-free tile adhesives and primers on difficult substrates

Photos: pixabay.com



ALBERDINGK BOLEY

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