







Binders for floor coatings



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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</p> <p>> a partner to our customers for more than 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 • Congleton, UK • Greensboro, USA • Shenzhen, China • Zhuhai, China

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



Introduction

Depending on the kind of flooring, there are different possible kinds of coatings.

Wood floor coatings

Coatings for wooden floors are used to protect and enhance the beauty of the wood. In today's world they need to be compliant with emission regulations and HSE requirements.

ALBERDINGK BOLEY has a long tradition in serving this market and a strong competence in reacting to customers' needs.

Primer

Acrylic dispersions for primers on wood are used to adjust colour ("Anfeuerung"), reduce cost and also reduce emissions of the whole system. ALBERDINGK offers a vast variety of polymers with different effects to match most required properties.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2700	42.0-44.0	50-500	7.0-8.0	0	Ultra-low VOC-demand
Ren AC 8700	42.0-44.0	50-4,000	7.0-8.0	4	Biobased version of AC 2700, ultra-low VOC-demand
AC 3635	40.0-42.0	50-500	7.4-7.7	30	Neutral color, clear in the can
AC 3650	40.0-42.0	50-500	7.0-8.0	38	Excellent „Anfeuerung“, NC-like
AC 5503	49.0-52.0	1000-5,000	7.0-9.0	0	Lowest fibre rising polymer



Stains

For a more colourful life, consumers like to use stains even on floors. Alkaline soluble acrylics for stains help to prevent overlapping issues – **ALBERDINGK® LUR 3** is a linseed oil based polyurethane dispersion.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2575	44.0-46.0	10-300	8.0-9.0	65	Alkaline soluble acrylic
LUR 3	34.0-36.0	20-400	7.5-8.5	0	Based on 55% renewable resource (on solids)

Oil / Wood care

Natural oils are more demanded by consumers due to their renewable content and non film forming properties. ALBERDINGK has developed a urethane oil based on linseed oil which is solvent free and can be used with driers and isocyanate.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
OP 100	100	500-1,500	-	-	PU-modified linseed oil with > 80% RR-content
OP 105	100	ca. 100			PU-modified linseed oil with > 99% RR-content

Varnishes

Varnishes for floors are categorized by 1 component vs. 2 component systems, with and without isocyanate crosslinker and their quality level. Furthermore, special products for low emission systems are highlighted to comply with latest environmental regulations.



1-pack economic

Economic systems have gained market share over the years as consumers are very cost sensitive. ALBERDINGK offers pure acrylics, blend options where cost & quality can be adjusted as well as copolymers to satisfy market needs.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 3635	40.0-42.0	50-500	7.4-7.7	30	Clear in the can, low foaming tendency, economic
AC 2700	42.0-44.0	50-500	7.0-8.0	0	Excellent application properties, low emission
Ren AC 8700	42.0-44.0	50-4,000	7.0-8.0	4	Biobased version of AC 2700, ultra-low VOC-demand

1-pack allround

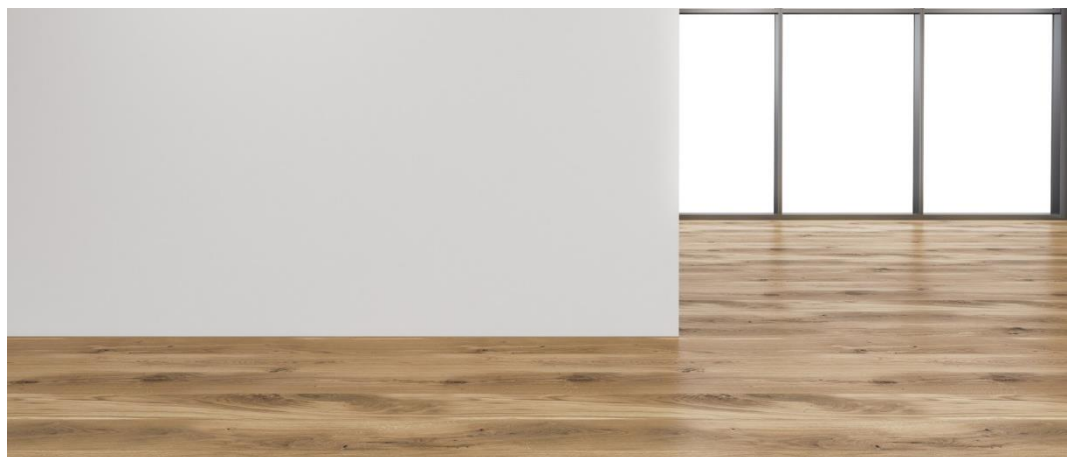
1-pack allround systems in our mind have a higher PUD content and represent the „medium to high“ quality level in floor finishes.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
U 7500	33.0-35.0	20-200	7.0-9.0	13	Combines low emission with excellent application properties. Workhorse PUD
U 8500	34.0-36.0	20-200	7.5-8.5	0	Biobased PUD with best application properties at low VOC, Workhorse PUD
UC 84	34.0-36.0	20-200	7.5-8.5	42	Very hard copolymer, neutral "Anfeuerung"
AFU 850	39.0-41.0	20-200	7.0-8.5	25	Amine free PUD, neutral "Anfeuerung", hard, good adhesion

1-pack high performance

The 1-pack high performance polymers are superior in chemical resistance and offer 2-pack performance with a 1-pack system. **ALBERDINGK® U 9000** is the reference in chemical resistance today and performs almost as good as highly crosslinked 2-pack or UV cure systems.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
CUR 920	29.0-31.0	20-200	7.0-8.5	0	Approx. 43% renewable resources outstanding wood warming, high gloss, fast hardness development
U 9800	34.0-36.0	20-300	7.5-9.0	40	DMEA neutralized PUD, high hardness and high chemical resistance
U 9804	34.0-36.0	20-300	7.5-9.0	40	Economic, DMEA neutralized PUD, high hardness and high chemical resistance
U 7500	33.0-35.0	20-200	7.0-9.0	13	Very good application properties at low VOC, Workhorse PUD
U 8500	34.0-36.0	20-200	7.5-8.5	0	Biobased PUD with best application properties at low VOC, Workhorse PUD





2-pack

2-pack polyisocyanate crosslinked varnishes (9:1 or 10:1) are a market standard for high traffic areas. **ALBERDINGK® U 9150** is the long established market standard while **ALBERDINGK® U 8500** offers best application properties at very low VOC levels.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	features
U 7500	33.0-35.0	20-200	7-9	13	Very good application properties at low VOC, Workhorse PUD
U 8500	34.0-36.0	20-200	7.5-8.5	0	Biobased PUD with best application properties at low VOC, Workhorse PUD
U 9150	34.0-36.0	20-300	7.5-8.5	5	Market standard for 2-pack NCO x-linked floor varnishes
U 9154	34.0-36.0	20-300	7.5-8.5	0	For economic high quality 2-pack NCO x-linked floor varnishes

2-pack non-isocyanate crosslinking

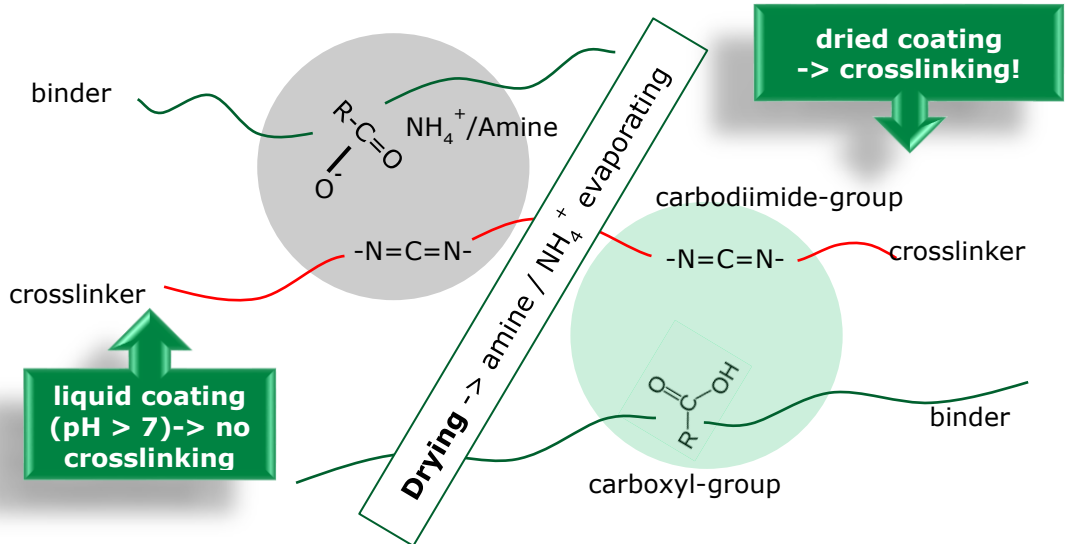
Due to increasing concerns in HSE, polyisocyanates are under higher pressure. ALBERDINGK offers matched chemistry of carbodiimide crosslinker and PUDs which can directly replace a 9:1 or 10:1 isocyanate system without change for the applicator (in can clarity).

Non-isocyanate x-linker (recommended for PUDs & UCs)

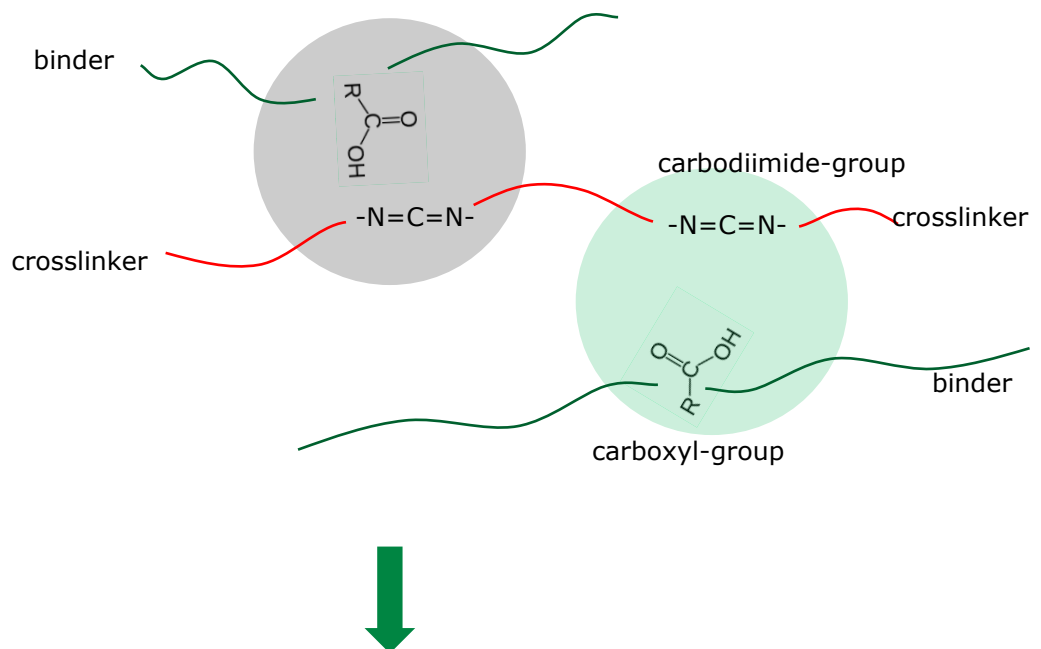
Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	features
ALBOLink CD 20	19.0-21.0	20-200	6.5-9.0	Label free carbodiimide crosslinker, replaces NCO in 9:1 or 10:1 systems

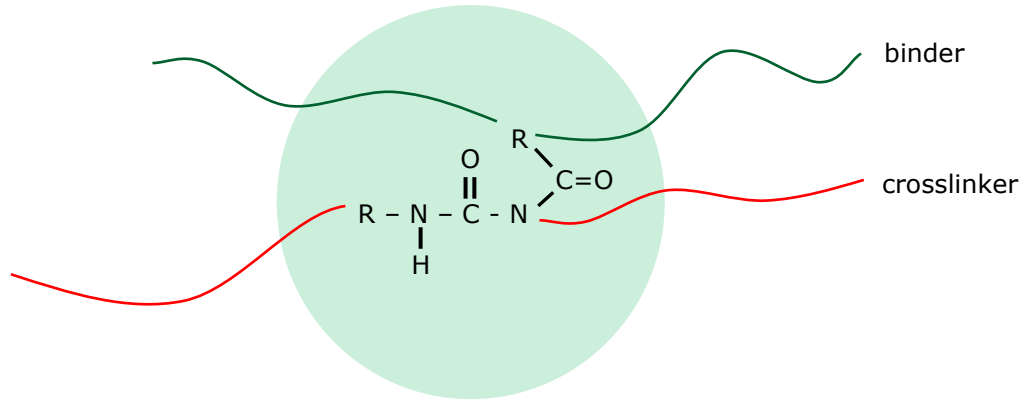
Crosslinking-mechanism of ALBOLink CD 20

Neutralized carboxyl-groups avoid the crosslinking



During drying, the amine/ NH_4^+ evaporates and carboxyl-groups are forming -> Now the crosslinking is possible





→ No CO₂ release → no gas-bubbles in the film !

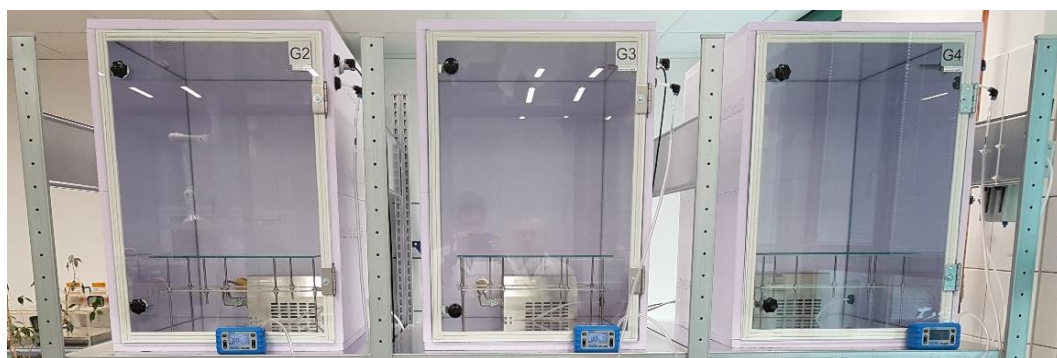
**Recommended ALBERDINGK PUDs for crosslinking with
ALBERDINGK® ALBOLink CD 20**

Alberdingk®- product	Solids [%]	Viscosity [mPas]	pH- value	MFFT [°C]	Features
U 7500	33.0- 35.0	20-200	7.0- 9.0	13	Very good application properties at low VOC, Workhorse PUD
U 8500	34.0- 36.0	20-200	7.5- 8.5	0	Best application properties at low VOC, Workhorse PUD
AFU 850	39.0- 41.0	20-200	7.0- 8.5	25	Best reactivity with ALBOLink CD 20 , amine free
UC 84	34.0- 36.0	20-200	7.5- 8.5	42	Hard copolymer with very good reactivity to ALBOLink CD 20

Low emission coatings (AgBB, etc.)

ALBERDINGK offers a broad selection of PUDs and acrylics which have a low co-solvent demand and low or no volatile amine content.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
U 7800	39.0-41.0	20-300	7.5-8.5	0	MFFT 0°C, low amine content, self-crosslinking
U 7500	33.0-35.0	20-200	7.0-9.0	13	Very good application properties at low VOC, Workhorse PUD
U 8500	34.0-36.0	20-200	7.5-8.5	0	Best application properties at low VOC, Workhorse PUD
PUR-MATT 910	34.0-36.0	20-2,000	7.0-9.0	15	Low amine content, best burnishing resistance in matt systems
PUR-MATT 940 VP	35.0-37.0	100-500	8.0-9.0	15	Ultra-matt version of PM 910, no external matting necessary, excellent storage stability
AFU 850	39.0-41.0	20-200	7.0-8.5	25	Amine free PUD, neutral "Anfeuerung", hard, good adhesion
U 9150	34.0-36.0	20-300	7.5-8.5	5	DMEA-neutralized, very good "Anfeuerung" and abrasion resistance
U 9200	29.0-31.0	20-200	8.0-10.0	0	VOC-free PUD, MFFT 0°C, high hardness and chemical resistance
AC 2700	42.0-44.0	50-500	7.0-8.0	0	Ultra low VOC-demand



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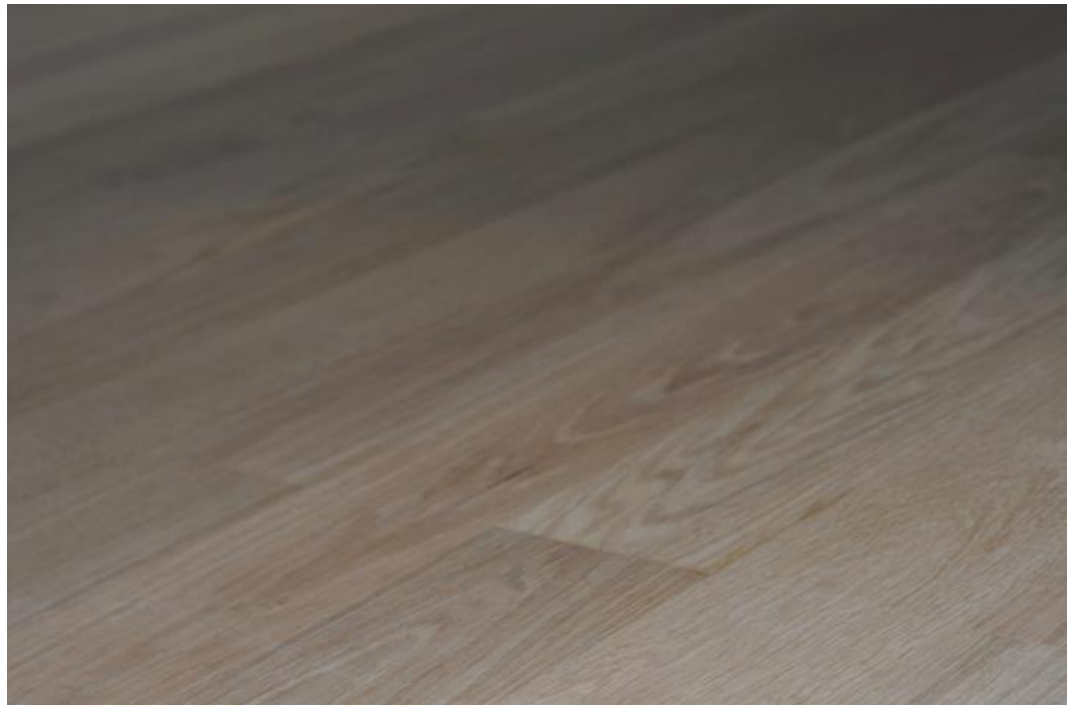
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Ultra matt coatings

ALBERDINGK® PUR MATT 910 is a hard, inherent matt PUD which can be used as matting agent and as main binder to formulate ultra matt finishes with superior burnishing resistance.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
PUR-MATT 910	34.0-36.0	20-2,000	7.0-9.0	15	Best burnishing resistance, very neutral "Anfeuerung", excellent sandability, very high coefficient of friction (antislip)
PUR-MATT 940	35.0-37.0	100-500	8.0-9.0	15	Ultra-matt version of PM 910, no external matting necessary, hard but flexible, excellent storage stability



UV-cure on-site

ALBERDINGK products for on-site UV cure are designed to offer instant chemical resistance and hard, mechanical resistant films.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
LUX 220	34.0-36.0	20-200	7.0-9.0	0	Highest chemical resistance, full physical drying before UV
LUX 250	39.0-41.0	10-500	6.5-8.0	0	Fast flash-off time, high scratch resistance
LUX 484	36.0-38.0	20-200	7.0-8.5	0	Strong physical drying, easy to apply by roller



©DecoRad® Systems

Concrete floor coatings

Coatings for concrete floors offer hot tire resistance and very high chemical resistance.

1-pack allround

Products for 1-pack allround are economic polymers which offer good chemical resistance and adhesion.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 25381	47.0-49.0	2,000-8,000	7.5-8.5	9	High water resistance and universal adhesion, workhorse acrylic
AC 3660	39.0-41.0	20-200	8.0-9.0	55	For wet look, epoxy acrylic, high chemical resistance
AC 3687	40.0-42.0	20-200	7.5-8.5	0	High hardness @low MFFT, enhanced open time



1-pack for garage floors

Our products for 1-pack garage floors offer hot tire resistance at lowest possible MFFT level.

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, excellent chemical resistance
AC 3660	39.0-41.0	20-200	8.0-9.0	55	For wet look, epoxy acrylic, high chemical resistance

Hot tire resistance

ALBERDINGK® AC 3660:

commercial product:



2-pack for industrial floors

High OH-containing, primary acrylics for fast drying coatings offer superior chemical resistance.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 27401	37.0-39.0	700-2,000	7.5-8.5	15	Superior chemical resistance, for matt varnishes with easy to clean properties
AC 3770	46.0-48.0	20-2,000	7.5-8.5	80	Outstanding chemical & hot tire resistances
AC 3699	39.0-41.0	50-500	7.0-8.0	40	Long open time, high chemical resistance and very fast drying/curing

Multicolour paint

ALBERDINGK® AC 2714 is compatible with LAPONITE® thickeners giving the option to formulate hot tire resistant multicolour paints (clear topcoat recommended).

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 2714	43.0-45.0	30-300	8.0-9.0	50	Tire resistant polymer which works well with LAPONITE® thickeners



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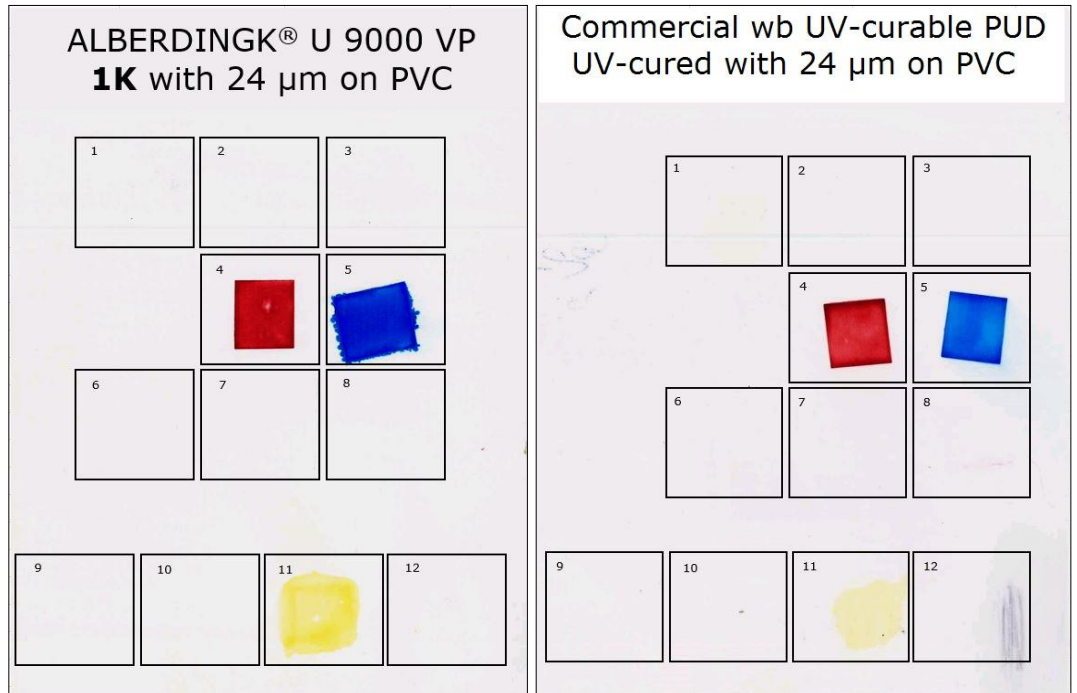
Coatings for plastic floors / Vinyl

Design flooring based on Vinyl or other plastics are a hygienic alternative for e.g. wood flooring or others as they can be applied seamless. ALBERDINGK offers products for OEM as well as repair/care. **ALBERDINGK® U 9000** offers the highest possible chemical resistance including iodine/betadine resistance.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 27401	37.0-39.0	700-2,000	7.5-8.5	15	2-pack, superior chemical resistance, for matt varnishes with easy to clean properties
LUX 220	34.0-36.0	20-200	7.0-9.0	0	UV-curable, highest chemical resistance, full physical drying before UV
PUR-MATT 910	34.0-36.0	20-2,000	7.0-9.0	15	Best burnishing resistance, very neutral "Anfeuerung"
U 9000	28.0-30.0	50-1,000	7.0-8.5	0	Highest chemical and stain resistance, for 1-pack /2-pack
U 9380	31.0-34.0	10-250	7.5-9.0	25	Very high chemical resistance, outstanding flexibility
UC 90	34.0-36.0	20-200	7.5-8.5	35	Self-crosslinking, good surface hardness, abrasion and blocking resistance

Comparison of Dye-resistance on PVC

U 9000 VP vs. waterbased UV-curing Polyurethane



1. Sudan yellow 146 (1% in white spirit, 16h)
2. Sudan blue 670 (1% in white spirit, 16h)
3. Sudan red 500 (1% in white spirit, 16h)
4. Neozapon red 335 (1% in ethanol, 16h)
5. Basonyl blue 644 (1% in ethanol, 16h)
6. Basacid yellow 093 fl. (1% in water, 16h)
7. Basacid blue fl. 762 (1% in water, 16h)
8. Basacid red 316 (1% in water, 16h)
9. Coal tar (1h)
10. Shoe polish (Kiwi Red, 2h)
11. Iodine (1% in ethanol, 2min)
12. Edding perm. Marker 3000 red & black (1min)

ALBODUR®-technology: 100% polyols for PU systems

100% solids 2-pack PU coatings with MDI-crosslinkers are well-established materials. In the past, these coatings were mainly used in industrial areas thanks to their extremely high chemical and mechanical resistance.

With increased legislative pressure on MDI-crosslinkers, more efforts have been made to offer alternative systems based on HDI-crosslinking technology.

The use of aliphatic crosslinkers has opened up new markets in residential and public areas where these coatings are used in decorative floor coatings.

Their extremely high resistance properties against wear and chemicals make them an ideal choice for long lasting coatings in e.g. schools, hospitals and office buildings.



ALBERDINGK® ALBODUR®-polyols are based on renewable resource materials (castor oil) which is modified for improved crosslinking with polyisocyanates.

The product range varies from soft to hard polyols which are designed for either aromatic or aliphatic cure.



ALBBODUR® 1054 is our latest addition to our product range, offering excellent HDI-crosslinker compatibility combined with superior UV resistance.

UV-stability test after 1000h QUV:



ALBBODUR® 1054

Standard 2pack PU resin
x-linked with aliphatic PIC

UV-stable epoxy



®Vencorex



Primer for concrete

ALBODUR®-product	Viscosity [mPas]	OH-value [mg KOH/g]	Shore A	Features
ALBODUR® 912	600	208	97	Used in combination with SUPRASEC® 9584 for PU/urea primers

Polyols for MDI-crosslinked floor coatings

ALBODUR®-product	Viscosity [mPas]	OH-value [mg KOH/g]	Shore A	Features
ALBODUR® 901	600	185	89	Soft coatings for sports flooring and comfort coatings
ALBODUR® 903	700	160	65	Very flexible coatings for sports flooring and comfort coatings
ALBODUR® 912	600	208	97	Workhorse polyol, excellent balance of hardness and elasticity, Shore D 44
ALBODUR® 921	600	218	98	Harder version of ALBODUR® 912 with improved chemical resistance, Shore D 58,
ALBODUR® 923	3,000	234	97	High hardness and high chemical resistance, Shore D 75
ALBODUR® 942	500	318	98	Longer Pot life version of ALBODUR® 941 , highest hardness, similar to epoxy systems but flexible, Shore D 80



Polyols for HDI-crosslinked floor coatings

ALBODUR®-product	Viscosity [mPas]	OH-value [mg KOH/g]	Shore A	Features
ALBODUR® 1054	3,000	210	80	Workhorse, excellent UV, chemical and mechanical resistance, excellent HDI compatibility, Shore D 40
ALBODUR® 956	2,300	305	96	For harder HDI coatings, Shore D 65
ALBODUR® 957	2,600	260	95	For harder HDI coatings, Shore D 55
ALBODUR® 965	1,100	291	90	For flexible coatings on e.g. balconies, Shore D 40

Stone carpets

ALBODUR®-product	Viscosity [mPas]	OH-value [mg KOH/g]	Shore A	Features
ALBODUR® 1054	3,000	210	80	Excellent UV resistance, better crosslinking under marginal conditions



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Topcoats for ALBODUR® floors

Topcoats for 100% solids PU floors are typically waterbased 2-pack systems with very high chemical and mechanical resistance properties.

ALBERDINGK OH-functional acrylic and polyurethane dispersions are an ideal choice for topcoats on high demanding PU floors.

Alberdingk®-product	Solids [%]	Viscosity [mPas]	pH-value	MFFT [°C]	Features
AC 27401	37.0-39.0	700-2,000	7.5-8.5	15	For low gloss 2-pack with superior chemical resistance and easy to clean surface, best hot tire resistance
AC 3770	46.0-48.0	200-2,000	7.5-8.5	80	Outstanding chemical- and stain resistances, as well as hot tire resistance
AC 3699	39.0-41.0	50-500	7.0-8.0	40	For glossy and low gloss coatings, excellent balance of hardness and resistance
AFU 850	39.0-41.0	20-200	7.0-8.5	25	In combination with ALBOLink CD 20 for low emission coatings systems

For more information on **ALBODUR®** products and specific applications, please refer to the separate **ALBODUR®**-polyol technology info.



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