CHEMICAL
RAW MATERIALS

WORLÉE
seit 1851

ABC OF RAW MATERIALS

Our product overview

Top-quality raw materials and innovative solutions

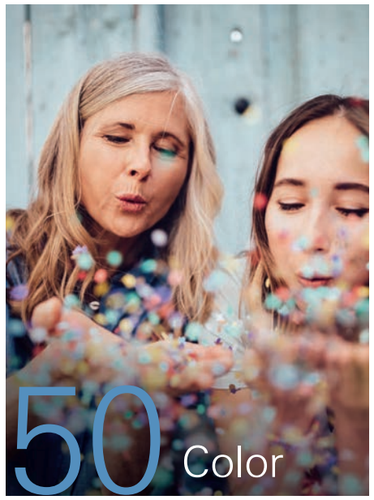
"Our raw materials are important building blocks for the success of our customers," states Reinhold von Eben-Worlée, shareholder of the Worlée Group.

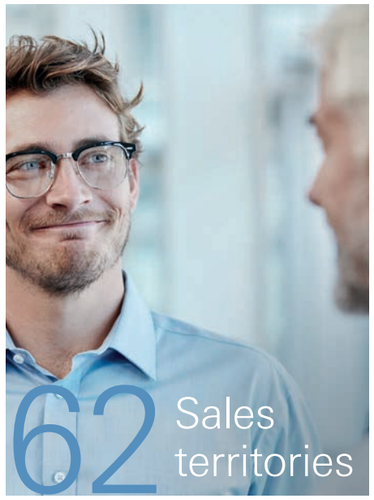
As a supplier, refiner and producer, Worlée supplies customers all over the world with high-quality chemical, natural and cosmetic raw materials. Our drive for increased sustainability, our innovative strength and our creativity in finding individual solutions is what sets us apart from the rest. The highest quality standards, comprehensive technical expertise and an intuitive feel for trends and market developments make us a trustworthy and reliable partner for your success.

Our over 170 years of experience in the industry along with countless product innovations serve us well as we tirelessly strive to optimise existing products and processes. Among other things, we already produce many of our binders on the basis of renewable raw materials. Indeed, we continually work to keep moving in this direction.

Sustainable thinking and action is a fundamental focus area for us. For example, thanks to our progressive energy, emissions and resource management, we have already won the VCI Nord Responsible Care Award several times, and we were also the first company in our industry to be awarded the title of "Climate Protection Company."

Content





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ADDITIVES

BINDERS

COLOR

Additives

For endless possibilities

A as in additives. In the ABCs of chemical raw materials, these take first place, though mostly the opposite is true in formulations. Our auxiliary and additive agents, referred to collectively as additives, are used in products only in small quantities, but their effect is that much the greater.

Our comprehensive range of additive products for use in paints, coatings, adhesives and construction chemistry cover an equally broad spectrum of functions as they work to enhance the properties of your end products.

Additives

A | WorléeAdd

Silicone additives for improving surface properties in solvent-based paint systems

Type	Appearance	Form of delivery [%]	Addition [%]	Main uses/principal characteristics
WorléeAdd 311	Clear to slightly turbid, low viscous liquids	approx. 30	0,03–0,3	For paints, lacquers and leather finishes, improve mar resistance, slip, flow, gloss, reduce foaming, pinholing and orange peel
WorléeAdd 312	Clear, low viscous liquid		0,1–1,0	Especially for decorative paints, eliminates cell structure and brush marks, improves flow, mar resistance and slip, specially designed for aromatic free decorative paints
WorléeAdd 315	Clear to yellow liquid	approx. 30	0,5–1,0	Additive for water and solvent-based paints, improving mar resistance and slip, flow and gloss, anti-cratering agents
WorléeAdd 327	Clear, low viscous liquid	approx. 10	0,1–1,5	Improves wetting of plastic and aluminium substrates, increases mar resistance and slip, avoids cratering
WorléeAdd 3545	Colourless liquid	approx. 20	0,2–1,0	For solvent-based coatings, improves deairing, levelling, mar resistance, slip and gloss, reduces orange peel and cratering, also suitable for curtain coatings, thermostable in stoving systems
WorléeAdd 373 N	Colourless, low viscous liquid	approx. 100	0,2–1,0	Additive with multifunctional properties, used in solvent-based coatings mainly to achieve surface smoothness and mar resistance, at the same time it works as antifoam agent and avoids surface imperfections, for architectural coatings
WorléeAdd 429	Colourless liquid	approx. 10	0,2–1,0	For improving the efficiency of matting agents in solvent-based silk gloss decorative paints, additionally improvement of flow and scratch resistance, deairing
WorléeAdd 3585	Colourless to slightly amber liquid	approx. 3	0,1–0,5	Multifunctional additive to improve slip, leveling, scratch resistance and surface wetting
WorléeAdd 3610	Clear colorless liquid	approx. 15 in Xylol	0,1–0,5	Hammer finish additive

*calculated on total formulation

A | WorléeAdd

Adhesion promoters

Type	Appearance	Form of delivery [%]	Addition [%]	Main uses/principal characteristics
WorléeAdd 480 N	Clear, colourless liquid	approx. 70	1.0–5.0	Special epoxy ester to improve the adhesion of aqueous baking enamels and polyurethane systems on metallic substrates
WorléeAdd 4820	Clear, slightly to dark yellowish liquid	approx. 80	2.5–5.0	Reactive polymeric adhesion promoter for improving adhesion of polyurethane- and stoving systems mostly on substrates as glass, ceramic and tiles, but also on metallic substrates
WorléeAdd 484	Colourless to light yelllow liquid	approx. 75	1.0–5.0	Special polyester resin for improving adhesion of solvent-based two component PU and stoving paints on metals substrates, improves elasticity and flow, NMP-free
WorléeAdd 487	Colourless to light yellow, clear to slightly turbid liquid	75–80	1.0–3.0	Special polyester resin for improving adhesion of solvent-based two component PU and stoving paints on metals substrates, improves elasticity and flow, NMP-free
WorléeAdd 4890	Yellowish to brownish liquid	100	1.0–3.0	Adhesion additive to improve the adhesion of 2 K PU systems to metals

*calculated on total formulation

A | WorléeAdd
Silicone additives for improving surface properties in aqueous paint systems

Type	Appearance	Form of delivery [%]	Addition [%]	Main uses/principal characteristics
WorléeAdd 327	Clear, low viscous liquid	approx. 20	0.1–1.5	Improves wetting of plastic and aluminium substrates, increases mar resistance and slip, avoids cratering
WorléeAdd 330	Clear, slightly yellowish, low viscous liquid	approx. 10	0.3–0.5	For stoving systems to improve overspray take of in wet in wet applications
WorléeAdd 351	Turbid, creamy, still flowing liquid	approx. 70 in butylglycol	0.1–1.0	High molecular silicone additive for ourstanding slip, mar resistance and antiblockings
WorléeAdd 352	Turbid, creamy, free-flowing liquid	approx. 70 in propylenglycol	0.1–1.0	High molecular silicone additive for outstanding slip, mar resistance and antiblocking
WorléeAdd 3410	Clear to yellowish, low viscous liquid	approx. 50	0.2–1.5	Silicone-based surface wetting additive for aqueous paint and lacquers
WorléeAdd 3440	Clear to yellowish, low viscous liquid	100	0.1–1.0	Silicone-based high performance surface wetting additive for aqueous paint and lacquers
WorléeAdd 3520	Turbid, creamy, free-flowing liquid	approx. 77 in water	0.1–1.0	High molecular silicone additive to improve slip, mar resistance and antiblocking
WorléeAdd 3530	Turbid, creamy, free-flowing liquid	approx. 70 in water/ propylenglykol	0.1–1.0	High molecular silicone additive to improve slip, mar resistance and antiblocking
WorléeAdd 3585	Colourless to slightly amber liquid	100	0.01–0.5	Multi functional additive to improve flow, levelling, surface slip and surface wetting

*calculated on total formulation

A | WorléeAdd
Cobalt-free catalysts

Type	Appearance	Form of delivery [%]	Addition [%]	Main uses/principal characteristics
WorléeAdd 2100	Colorless liquid	50	2–4	Acid catalyst for use in silane-modified binders. Provides fast through-drying, improved through-drying and very good long-term stability.
WorléeAdd 2110	Colorless liquid	50	2–4	Acid catalyst for use in silane-modified binders. Provides fast through-drying, improved through-drying and very good long-term stability Long-term stability.
WorléeAdd 2560	Brownish liquid	approx. 12	1.5–3.0	Cobalt-free drier for alkyd systems; free from 2-ethyl hexanic acid
WorléeAdd 2700	Clear brownish liquid	approx. 12	0.5–2.0	Cobalt-free catalyst to support the oxidative drying of aqueous systems, metal complex

*calculated on total formulation

A | WorléeAdd
Corrosion inhibitors

Type	Appearance	Form of delivery [%]	Addition [%]	Main uses/principal characteristics
WorléeAdd 456	Colourless to slightly yellowish liquid	approx. 30	0.5–2.0	Nitrit-free anti-flash rust agent and corrosion inhibitor for aqueous paints and lacquers
WorléeAdd 458	Colourless liquid	approx. 38	0.5–2.0	Nitrit-free anti-flash rust agent for aqueous paints and lacquers

*calculated on total formulation

A | Resiflow/WorléeAdd
Acrylic based flow and levelling additives

Type	Appearance	Form of delivery [%]	Addition [%]	Main uses/principal characteristics
Resiflow® FL 2	Colourless, high viscous liquid	approx. 98	0.2–2.0	Silicone-free acrylic flow control agent for solvent-based and solvent-free coatings based on alkyd, polyester, acrylic, vinyl, epoxy and polyurethane resin
Resiflow® FL 9	Colourless, high viscous liquid	approx. 98	0.2–1.5	As Resiflow™ FL 2, but often better compatibility
Resiflow® FK 70	Colourless liquid	approx. 70	0.3–2.0	Silicone-free anti-floating and flow control agent e.g. for polyester/melamine resin based stoving paints, eliminates craters, pinholes and fisheyes
Resiflow® FM 4 **Resiflow® FM 4-50**	Colourless, high viscous liquid	approx. 98 approx. 50	0.2–2.0 0.4–4.0	As Resiflow™ FL 2, but with improved efficiency
Resiflow® L 66 F	Clear, viscous liquid	approx. 98.5	0.2–2.0	Liquid functional flow control agent, excellent transparency in TGIC-powder clear coats, use via a master batch production
Resiflow® L 3075	Clear viscous liquid	approx. 75	0.2–2.0	Silicone-free acrylic flow control agent for solvent-based coatings, correct surface imperfections, especially suitable for coil coating systems
Resiflow® LH-240	Viscous liquid	100	0.2–2.0	Flow control and degassing additive for solvent-based and solvent free formulations of different composition, including gel coats
Resiflow® LH-241	Clear, viscous liquid	100	0.2–2.0	Silicone-free acrylic flow control agent for solvent-based and solvent-free coatings based on alkyd, polyester, acrylic, epoxy, polyurethane resins etc, excellent compatibility, especially suitable for clear coats
Resiflow® W 51	Medium-viscous liquid	approx. 50	0.2–2.0	Silicone-free acrylic flow control agent for mainly water-based coating systems as well as solvent-based stoving systems (very good compatibility), effective pigment wetting agent
Resiflow® W 52	Colourless, medium viscous liquid	approx. 50	0.5–2.0	Silicone-free acrylic flow control agent for mainly water-based coating systems as well as solvent-based stoving systems (very good compatibility), effective pigment wetting agent
Resiflow® W 5200	Colourless, high viscous liquid	approx. 96	0.2–1.5	Silicone-free polymer flow control agent, especially for aqueous coatings but also for solvent-based systems
WorléeAdd 100	Colourless, high viscous liquid	approx. 98	0.1–1.0	Polymeric, silicone free flow control agent for solvent-based and solvent free coatings, UV-resistant, good recoatability, avoids surface imperfections, corresponds to FDA § 175.300
WorléeAdd 101	Colourless, high viscous liquid	approx. 98	0.1–1.0	Silicone-free acrylic flow control agent for solvent-based and free coatings and printing inks of different composition, avoids also surface imperfections, corresponds to FDA § 175.300
WorléeAdd 137-70	Colourless high viscous liquid	approx. 70	0.1–1.0	Silicone-free acrylate leveling agent for solvent-based and solvent free coatings, fluor modified, excellent recoatability, high-velocity-coating

*calculated on total formulation

A | WorléeAdd
Defoamers for non-aqueous systems

Type	Appearance	Form of delivery [%]	Addition [%]	Main uses/principal characteristics
WorléeAdd 370	Colourless, low viscous liquid	approx. 10	0.03–0.5	Fluor silicone-based defoamer and deairing agent for solvent-based paints and inks of different compositions as well as EP-coatings
WorléeAdd 372	Colourless, low viscous liquid	approx. 5	0.05–0.8	Fluor silicone-based defoamer and deairing agent for solvent-based and high solid coatings., especially for decorative paints
WorléeAdd 6235	Clear liquid	approx. 6.5	0.5–2.0	Highly effective silicone defoamer for reactive thicklayer systems based on epoxy resins
WorléeAdd 6236	Clear to slightly turbid liquid	approx. 12 in Exxsol D 220/240	0.5–1.0	Highly effective silicone defoamer especially suitable for solvent-free PU-coatings

A | WorléeAdd
Defoamers for aqueous systems

Type	Appearance	Form of delivery [%]	Addition [%]	Main uses/principal characteristics
WorléeAdd 628	Slightly turbid liquid	approx. 66	0.1–1.0	Silicone-based defoamer solution for aqueous formulations
WorléeAdd 6223	Slightly turbid, yellowish liquid	approx. 50	0.1–1.0	Silicone-based, silica containing defoamer compound for aqueous systems
WorléeAdd 6226	Colourless viscous liquid	100	0.1–1.0	Silicone-based, silica containing defoamer for aqueous formulations, very good grinding defoaming
WorléeAdd 6410	White thixotropic liquid	approx. 27	0.1–1.0	Silicone-based, silica containing defoamer emulsion for aqueous formulations, very good grinding defoaming, very easy incorporation; especially for PU, PU-hybrid and alkyd emulsions
WorléeAdd 6420	White thixotropic liquid	approx. 26	0.1–1.0	Silicone-based, silica containing defoamer emulsion for printing inks and overprint varnishes

A | WorléeDisperse
Dispersing agents

Type	Appearance	Form of delivery [%]	Addition [%]	Main uses/principal characteristics
WorléeDisperse 8400 W	Yellowish liquid	50	-	Universal dispersant for organic and inorganic pigments. For aqueous formulations. Excellent properties for direct grind and high loaded pigment concentrates.
WorléeDisperse 8100 S	Brownish liquid	100	1–5	Universal dispersant for organic and inorganic pigments. For solvent-based formulations. For direct grind and pigment concentrates.

A | WorléeAdd
Additives for paints and lacquers – Miscellaneous

Type	Appearance	Form of delivery [%]	Addition [%]	Main uses/principal characteristics
WorléeAdd 412	Colourless liquid	approx. 65	0.5–1.0	Solvent-free compatibility agent for easier incorporation of driers into water-based alkyd emulsion paints
WorléeAdd 425	Clear, yellowish liquid	approx. 51	0.2–1.5	Silicone-free additive, imparts an equal structure to coil coatings which contains wax, improves degassing, reduces popping, also for clear coats
WorléeAdd 428	Clear, low viscous liquid	approx. 10	3.0–6.0	Silicone-free additive for structured coil coatings without wax addition, for achieving orange peel effect, improves degassing
WorléeAdd 781	Clear, medium viscous liquid	100	0.1–2.0	Silicone-free additive for solvent-based, solvent-free and water-based systems to improve levelling, flexibility and adhesion, two component- PU-coatings of high film thickness show reduced blistering
WorléeAdd 4220	Slightly y ellowish liquid	approx. 50	0.2–0.8	Cationic surface active additive for increasing the conductivity of electrostatic sprayable paint systems, low addition
WorléeAdd 4415	clear to slightly turbid, yellow-brownish tobrown, low viscosity liquid brown, low viscosity liquid	approx. 65 in solvent mixture	0.1–5.0	Oxime-free anti-skin agent with pigment wetting properties for use in solvent-borne air- and oven-drying alkyd systems.
WorléeAdd FR 5000	White powder	min. 98	approx. 10	Halogen free flame retardant based on encapsulated phosphoric compounds for water-based polymer dispersions and solvent-based polymer binders
WorléeAdd 8905	Colourless liquid	15	5	Silicone-free acrylate flow control agent for solventborne systems, prevents surface defects at the same time, especially suitable for coil coatings

A | WorléeAdd
Rheological additives (Bentonite)

Produkt	Composition	Color	Form of delivery	Density [g/cm³] approx. [µm]	Particle size dispersed	Main uses/ principal characteristics
WorléeAdd 810	Organic derivative of a smectite	Light cream	Fine powder	1.8	< 1	Rheology control in systems with low polarity
WorléeAdd 820	Organic derivative of a smectite	Light cream	Fine powder	1.9	< 1	Rheology control in systems with low to medium polarity
WorléeAdd 827	Organic derivative of a smectite	Light cream	Fine powder	1.9	< 1	Rheology control in systems with high polarity
WorléeAdd 830	Organic derivative of a smectite	Light cream	Fine powder	1,8	< 5	Rheology control in water-based systems
WorléeAdd 840	Organic derivative of a smectite	Light cream	Fine powder	1.7	< 1	Rheology control in systems with no polarity to medium polarity
WorléeAdd 850	Organic derivative of a smectite	Light cream	Fine powder	1.7	< 1	Rheology control in systems with low polarity
WorléeAdd 860	Organic derivative of a smectite	Light cream	Fine powder	1.7	< 1	Rheology control in systems with no polarity to medium polarity
WorléeAdd 875	Organically modified smectite clay	Milkwhite	Fine powder	1.8	< 5	Rheology control in water-based systems
WorléeAdd 880	Organic derivative of a smectite	Light cream	Fine powder	1.7	< 5	Rheology control in systems with no polarity to medium polarity
WorléeAdd 885	Organically modified smectite clay	White-light cream	Fine powder	1.9	< 5	Rheology control in water-based systems

Market(s) served: EUROPE

A | WorléeAdd
Additives for powder coatings

Type	Appearance	Addition* [%]	Main uses/principal characteristics
WorléeAdd 902	White powder	0.5–1.5	For reducing the melt viscosity, thus improving deairing and degassing, best results in combination with very low amounts of benzoine (0.1–0.2%), especially suitable for non-yellowing powder coatings, for instance when cured in gas fired ovens
WorléeAdd 904	White granulate	0.5–4.0	For reducing the melt viscosity, thus improving deairing and degassing, best results in combination with very low amounts of benzoine (0.1–0.2%)
WorléeAdd 915	White powder	1.5–2.5	Catalyst for better mechanical properties of GMA acrylic powder systems based e.g. on Isocryl EP570
WorléeAdd 1200	White powder	0.3–6.0	Micronized synthetic wax improving slip properties and mar resistance of powder coatings, excellent deairing effect, at higher concentra- tions it may also function as a flatting agent
WorléeAdd ST-70	White powder	0.1–0.5	Stannous octoate catalyst for PU- powder coatings
Oxymelt A-7	White, crystalline powder	0.5–1.5	Reducing pinholes and melt viscosity; particulary effective in Primid-powder coatings, especially at thicker film build. To be used in conjunction with small amounts of benzoin

A | Isocryl and other
Specialities for powder coatings

Type	Appearance	Addition* [%]	Additional information	Main uses/principal characteristics
Isocryl® GMA-300G	Clear ground flakes	3–5	approx. 300 g/ Equivalent	High reactive acrylic crosslinker for increasing crosslinking density, e.g. in Hybrid-, Primid and PU-systems, also as binder component for UV-systems
Isocryl® GMA-400G	Clear ground flakes	3–5	approx. 400 g/ Equivalent	like Isocryl® GMA-300G only heavier equivalent weight
Isocryl® GMA-500G	Granules	3–5	approx. 500 g/ Equivalent	like Isocryl® GMA-300G only heavier equivalent weight
Isocryl® EP-303	White powder	approx. 16% on polyester with acid number 33	TG: 57–65 °C	Bisphenol-A free epoxy-functional resin with extremely low residual monomer; imparts improved thermal stability to powder coatings; can be used as curing agent for acid-functional polyester resins or as a fortifying additve at low addition levels
Isocryl® EP-540G	Granulate	20–25 to 75–80 polyester with acid value 30–35	120–135 °C softening point	With carboxylic polyesters and Primid XL 552 as Co-hardener silk gloss, outdoor-resistant "one- shot" powder coatings can be formulated with excellent mechanical properties and good chemical resistance
Isocryl® EP-550G	Granulate	approx. 25	10–130 °C softening point	Matting hardener for polyester powder coatings. For 60° gloss units from 5-10
Isocryl® EP-560G	Granulate	approx. 25	110–130 °C softening point	Matting hardener for PE powder coatings. For ultra matt gloss levels
Isocryl® EP-570 G	Flakes	25–30 to 70–75 polyester with acid value 30–35	140–155 °C softening point	GMA-matting resin for one-shoot matt outdoor powder coatings with good abrasion resistance and surface levelling, also suitable for matt clear coats
Isocryl® EP-575 G	Granulate	20–30 to 70–80 polyester with acid value 30–35	120–135 °C softening point	In combination with carboxylic polyesters and Primid XL 552 as Co-hardener dead matt, outdoor-re- sistant "one-shot" powder coatings are obtained, with good impact and chemical resistance
Isocryl® EP-581 LT	Clear ground flakes	25–30 to 75–70 polyester with acid value 30–35	135–145 °C softening point	Glycidyl-functional acrylic matting hardener for exterior-durable polyester powder coatings, key advantage is lower cure capacity, 1% Co-hardener recommended such as Primid XI-552, TGIC or PT 912
Isocryl® G-151	Granulate	2.0–10.0	115–125 °C softening range	Matting agent for epoxy powder coatings, especially in combination with OTB-epoxy hardeners, non-yellowing, also for NIR-application
Isocryl® G-152	Granulate	2.0–10.0	115–125 °C softening range	Matting agent for matt and dead matt epoxy and hybrid powder coatings, matting of low tempera- ture curing epoxy powders in combination with Epoxy Hardner G-91 and of low temperature curing (140 °C) hybride powders with suitable poyester type, also for NIR application
Isocryl® G-154	Clear granulate	approx. 33% on epoxy resin type 3	115–130 °C softening point	Carboxyl-functional, solid acrylic resin for matting standard and low stoving epoxy-polyester hybrid powder coatings; good smoothness, mechanical and chemical resistance
Epoxy Hardener G-91	Granulate	2.0–6.0	92–106 °C softening range	Imidazole adduct for curing epoxy powder coatings at low baking temperature (130 °C) with still good mechanical properties
Epoxy Hardener G-92	Granulate	6.0–24.0	80–100 °C softening point	Catalysed phenolic curing agent for epoxy resins, imparts excellent chemical resistance and mechanical properties at fast cure (200 °C) or low temperature cure (120 °C)
Escat 50	Off-white granulates	0.3–0.6		Substituted Imidazole/wax blend to improve curing of powder coatings; easily dispersible
Escat 60	Powder	0.1–0.3	50% active substance	Imidazole catalyst on a silica carrier. For accelerating the crosslinking reaction in powder coatings. Shortens the curing conditions (temperature and time).
Escat 66	Off-white powder	0.2–0.6		Imidazol catalyst absorbed onto silica, accelerates the cure of powder coatings like epoxy/polyester hybrids or polyester/glycidyl-functional systems
Escat 110	Powder	0.1–0.3	100% active substance	Imidazole catalyst on a silica carrier. For accelerating the crosslinking reaction in powder coatings. Shortens the curing conditions (temperature and time).

*calculated on total formulation

A | Resiflow
Additives for powder coatings

Type	Appearance	Addition* [%]	Main uses/principal characteristics
Resiflow® CP 77	White powder	0.7–1.5	Silicone-free powder anti-cratering agent, also suitable for powder clear coats and UV systems
Resiflow® L 66 F MBP 10	White granulate	5.0–15.0	Flow control agent based on a masterbatch (10% Resiflow L 66F, 90% carboxyl-functional polyester with acid value of approx. 35), excellent clarity in powder clear coats
Resiflow® P 64 F	White powder	0.2–2.0	Powder functional flow control agent for powder clear coats of all types, especially for GMA acrylate systems, due to the compati- bility the transparency is hardly reduced
Resiflow® P 65 F	White powder	0.2–2.0	Powder functional flow control agent for powder clear coats of all types, especially based on epoxy
Resiflow® P 67	White powder	0.7–1.5	Silicone-free powder flow control agent with good allround properties
Resiflow® PH-240	White powder	0.5–2.0	Powder functional flow control agent with excellent flow and substrate wetting properties; especially suitable for PU- powder systems and PUR clear coats
Resiflow® PV 88	White powder	0.5–1.5	Silicone free, powder acrylic flow control agent for powder coatings of all types. Very free flowing and yellowing resistant.
Resiflow® PH-241	White powder	0.5–2.0	Functional, self-crosslinking flow control agent, improved edge coverage due to reduced "pill flow", excellent surface hardness and stain resistance
Resiflow® PL 200	White powder	0.7–1.5	Silicone-free powder flow control agent with good intercoat adhesion when recoated with powder or liquid paints
Resiflow® PL 220	White powder	0.7–1.5	Powdery flow control agent with unique compatibilizing and anti-cratering robustness
Resiflow® PL 330	White powder	0.5–2.0	Powder flow control agent, improved cross product compatibility with powders based on superdurable polyesters, excellent adhesion

*calculated on total formulation

A | Special-Primer
1 component primers for polyolefinic substrates

Type	Appearance	Form of delivery [%]	Application	Main uses/principal characteristics
Special-Primer PP 3200 W	Low viscous, beige cream coloured liquid	approx. 30 in water	Application diluted with water to 10% solids content by spraying, dipping or printing	Aqueous adhesion promoter based on especially modified, low chlorinated polypropylene for PP, polyolefinic blends and with restrictions for PE
Special-Primer PP 5130	Colourless to yellowish, clear	approx. 2.5 in xylene approx. 5 in xylene	Application as 2.5% solution	Adhesion promoter for polypropylene for subsequent painting, printing, sticking, batteries, packaging film, heels, toys, foils etc.
Special-Primer PP 7550	Colourless to yellowish, clear	approx. 5 in xylene	Application as 2.5% solution	Same as PP 5130, with improved adhesion promotion on different PP substrates
Special-Primer PP 7560	Colourless to yellowish, clear	approx. 10 in xylene	Application as 2.5% solution	Same as PP 5130, with improved adhesion promotion on different PP substrates
Special-Primer PP 7580	Colourless to yellowish, clear	approx. 2.5 in xylene	Application as 2.5% solution	Adhesion promoter for untreated polypropylene for subsequent painting, printing, sticking, for batteries, heels, toys, foils, garden furniture etc., best adhesion properties

A | Svenska Aerogel

SVENSKA AEROGEL

High porous aerogels based on silicia

Type	Form of delivery	Particle size [µm]	Pore diameter [nm]	Density [kg/m³]	Thermal conductivity [mW/mK]	surface area [m²/g]	Applications and properties
Quartzene® Z2TP	Powder	1–70	approx.7	80-110	26–30	approx. 309	Amorphous hydrophobic silica aerogel, low thermal conductivity, additive for thermal insulating coatings
Quartzene® Z2H1TP	Powder	1–70	approx.5	approx. 160	26–30	approx. 217	Amorphous hydrophobic silica aerogel, low thermal conductivity, additive for thermal insulating coatings

A | Chemark

Matting hardeners

Type	Chemical name	Appearance	Main uses/principal characteristics
Chemark 1355	Salt of 1, 2, 4, 5-Benzenetetracarboxylic acid & 4, 5-dihydro-2-phenyl-1H-imidazole	White to off-white fine powder	Matting hardener for pure epoxy or epoxy/polyester resins powder coatings
Chemark 1368	Salt of 1, 2, 4, 5-Benzenetetracarboxylic acid & 4, 5-dihydro-2-phenyl-1H-imidazole	White to off-white fine powder	Matting hardener for pure epoxy or epoxy/polyester resins powder coatings

Market(s) served: EUROPE

A | CWK

Colloidal silica dispersions –

Opalescent aqueous dispersions of amorphous silicon dioxide nanoparticles.
Theses colloidal silicas have a negatively charged surface (anionic) which are stabilized by Alkaline (Na^+)**

Type	Appearance	Avg. particle size [nm]	Solid Content [~% m/m]	pH value at 25 °C approx.	Stabilizer	Main uses/principal characteristics
Köstrosol® 0730	Opalescent liquid	7	30	10	Na_2O	Additive to formulate heat and corrosion resistant coatings, improve of scratch resistance, improve of mechanical properties, to keep transparency, for fast curing systems, good green concrete strength
Köstrosol® 1540	Opalescent liquid	15	40	10	Na_2O	Additive to formulate heat and corrosion resistant coatings, improve of scratch resistance, improve of mechanical properties, as filler and matting agent and as derivatisation component
Kö strosol® AD 1530	Opalescent liquid	15	30	6	Na_2O	Additive to formulate heat and corrosion resistant coatings, improve of scratch resistance, improve of mechanical properties, good compatibility with many additives, universal use
Köstrosol® 3550	Milky liquid	45–50	50	10	Na_2O	Additive to formulate heat and corrosion resistant coatings, improve of scratch resistance, improve of mechanical properties, as filler and matting agent, stable against various additaments, turbid effect
Köstrosol® 2040 AS	Opalescent to slight turbid liquid	20	40	9	NH_3	Additive to formulate heat and corrosion resistant coatings, improve of scratch resistance, improve of mechanical properties, as filler and matting agent, as derivatisation component and especially suitable for alkali-sensitive applications, **stabilized by Ammonia (NH^{4+})
Köstrosol® WA 1530	Opalescent liquid	-	30	2		Additive to formulate heat and corrosion resistant coatings, to increase scratch and abrasion resistance, to improve mechanical properties (breaking strength), as filler or matting agent, as derivatisation component; aluminium oxide modified

Depending on application all products are available with different solid content and particle size.
Köstropur® is a registered trademark of Chemiewerk Bad Köstritz GmbH.
Market(s) served: WORLDWIDE

A | CWK

Micronised silica powders –

Non-soluble white powder of amorphous silicon dioxide particles with a hydrophilic surface and a high pore volume

Type	H_20 [%]	Avg. particle size [µm]	BET surface [m²/g]	pH value [10 g/l]	Main uses/principal characteristics
Köstropur® 020408	max. 3	4	300–350	5.5–7.5	Filler for certain plastics (PA6, PA66, PMMA etc.) to improve mechanical properties, anti-blocking agent
Köstropur® 100808	8–12	7	330–390	5.5–7.5	Filler for certain plastics (PA6, PA66, PMMA etc.) to improve mechanical properties , paper finishing, inkjet coating
Köstropur® 020612	max. 3	6	280–350	4.0–7.0	For plastics as an anti-blocking agent (e.g. PE, PP, PVC und PU films)
Köstropur® 021012	max. 3	10	250–400	5.5–7.5	For plastics as an anti-blocking agent (e.g. PE, PP, PVC und PU films), paper finishing
Köstropur® 020812	max. 3	8	300-350	5.5–7.5	For plastics as an anti-blocking agent (e.g. PE, PP, PVC und PU films)
Köstropur® 050612	4-7	6	350-400	5.5–7.5	Matting agent for coatings and paints
Köstropur® 050618	max. 5	6	220–300	4.0–7.0	Matting agent for coatings and paints
Köstropur® 050818	max. 5	9	220–300	4.0–7.0	Matting agent for coatings and paints
Köstropur® W050618	max. 5	6	220–300	4.0–7.0	Matting agent for coatings and paints; organic surface treatment
Köstropur® W050818	max. 5	9	220–300	4.0–7.0	Matting agent for coatings and paints; organic surface treatment

Depending on application all products are available with different water content and particle size.
Köstropur® is a registered trademark of Chemiewerk Bad Köstritz GmbH.
Market(s) served: WORLDWIDE

Binders

For strong cohesion

B as in Binders. Their mission: to form a cohesive whole. As soon as our binders get to work, there is no escape in the truest sense of the word for the other substances involved in your paints, coatings or adhesives. Binders are therefore one of the most important building blocks for your end products.

Our binders not only cover a wide variety of applications areas, but they also offer great potential for more sustainable chemistry. We are already producing many binders on the basis of renewable raw materials. Indeed, we continually work to keep moving in this direction.

Binders

B | WorléeCryl

Acrylic resins, solvent- or waterbased, containing hydroxyl groups

Type	OH-content on solids [%]	Flash point DIN EN 22719 [°C]	Viscosity 20 °C, del.form, Brookf., ISO 2555 [mPa·s]	Form of delivery [%]	Main uses/principal characteristics
WorléeCryl A 1135	3.5	approx. 23	3,000–4,000 Viscosity, Rheometer, 20 °C, C 35/1°, 250 s^{-1}	60 in xylene	Acrylate copolymer for the manufacture of industrial coatings with very good resistance against water and other agents
WorléeCryl A 1218	1.8	approx. 26	5,000–7,000	50 in BuAc	High reactivity and long pot life, for fast drying wood and furniture lacquers, CAB compatible
WorléeCryl A 1220	2.0	approx. 26	1,000–2,000	60 in BuAc	Acrylate copolymer for the manufacture of high quality plastic coatings
WorléeCryl A 1320	2.0	approx. 26	2,000–3,000	50 in BuAc	For high quality wood and furniture lacquers, good initial drying
WorléeCryl A 2114	1.4	35–40	2,000–4,000	60 in arom. HC 155–180	For quick drying industrial coats with high gloss and good stability
WorléeCryl A 2116	1.6	approx. 47	2,000–2,500	60 in arom. HC 155–180	For fast drying industrial paint with good gloss, also for decorative paint – in combination with WorléeThix A 2125 – for effect finishes
WorléeCryl A 2126	2.6	approx. 23 approx. 25	1,000–3,000	60 in xylene 60 in BuAc	Can be crosslinked with aliphatic polyisocyanates to formulate two component systems for metal, wood and plastics, the aliphatic system shows excellent hardness, good chemical resistance and a good outdoor durability
WorléeCryl A 2130	3.0	approx. 25	3,500–7,000	60 in X/BuAc/ arom. HC 155–180	For two component industrial paints with good mechanical properrties and high gloss with good outdoor durability
WorléeCryl A 2141	4.1	approx. 26	25,000–35,000	70 in BuAc	For high quality air- and forced drying paints on metal, wood and plastics
WorléeCryl A 2210	1.0	approx. 47	17,000–22,000	60 in arom. HC 155–180	For very fast drying primers and fillers with very good adhesion properties on different substates, also usable as a one component system
WorléeCryl A 2230 W	3.0	50–55	Viscosity: max. 6,000 (Rheometer, 20 °C, C 60/2°, 30 s^{-1})	44 in water/ solvent blend	Water emulsified hydroxyacrylate for the production of exterior resistant isocyanate cross-linked two component top coats with outstanding drying properties, film hardness and gloss
WorléeCryl A 2241 W	4.1	50–55	max. 25,000	45 in water/ solvent blend	Water emulsified hydroxyacrylate for the production of isocyanate crosslinked exterior resistant two component top coats which exhibit long potlife, high gloss and good adhesion properties
WorléeCryl A 2313	1.3	approx. 46	80–150 s DIN 53211-4	60 in arom. HC 155–180	For quick drying 2C primars and top coats
WorléeCryl A 2335	3.5	approx. 25	4,000–6,000	60 in X/BuAc/ arom. HC 155-180 (2:1:1)	For formulating high quality air- and forced drying top and clear coats, fast hardness development and very good adhesion for different metals
WorléeCryl A 2445	4.5	approx. 25 approx. 49	3,000–5,000 8,000–12,000	60 in X/BuAc/ arom. HC 155–180 60 in arom. HC 155–180	For high quality industrial and machine paints; also for car repair finishes
WorléeCryl A 3160	6.0	25–30	2,000–3,000	60 in BuAc/MPA	Acrylate copolymer for the manufacture of high quality, especially resistant top coats
WorléeCryl A 5125 W MF	approx. 2.5		max. 2,000 Rheometer, 20 °C, C 60/2°, 5 s^{-1}	42 in water	A water emulsified hydroxyacrylate for the production of isocyanate cross-linked two component top coats which exhibit long pot-life and good adhesion properties; formulated without organic solvents

B | WorléeCryl

Acrylic resins, solvent-based, thermoplastic

Type	Flash point DIN EN 22719 [°C]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeCryl L 241	approx. 60	80–120 (40% in isop. HC 170–200)	60 in isop. HC 170–200	Neutral low odour acrylic resin, mainly for wall and ceiling paints, very good insulating coat for nicotine, chimney and water spots, for chlorine free formulations, without plasticizer
WorléeCryl L 2380	35–40	Viscos. Rheometer, 20 °C, C 35/1°, 500 s^{-1} max. 1.000 mPa·s, de.l form	50 in dearom. HC 160–200	Physically drying thermoplastic acrylic resin for different coating systems improving hardness and gloss
WorléeCryl L 2580	approx. 68	Viscos, Rheometer, 23 °C, C 60/2°, 50 s^{-1} 3.000–7.000 mPa·s	70 in isop. HC 170–200	Neutral, soft, low odour acrylic resin mainly used or wall and ceiling paints, low VOC, very good insulating coat for nicotine, chimney and water spots
WorléeCryl L 2822	approx. 40 approx. 23	Viscos. Rheometer, 23 °C, C60/2°, 50 s^{-1}, DIN EN ISO 3219, 5,000–10,000 mPa·s Viscos. Rheometer, 23 °C, C 60/2°, 50 s^{-1}, del. form DIN EN ISO 3219 8.000–10.000 mPa·s	70 in dearom. HC 160–200 75 in xylene	Self crosslinking thermoplastic acrylic copolymer to be used as resin of addition in low VOC industrial paints to improve drying and film surface hardness

B | WorléeCryl

Acrylic resins, water-based dispersions, solutions

Type	Monomer	Non volat. content DIN EN ISO 3251 [%]	pH value DIN 53785	Density DIN 51757 [g/cm³]	MFT [°C]	Viscosity 20 °C, del. form Brookfield, ISO 2555 [mPa·s]	Main uses/principal characteristics
WorléeCryl 7107	Methacrylic copolymer emulsion	40	7.2–8.0	1.07	> 95	max. 500	As mixing component universally suitable for improving film hardness, sandability, blocking resistance and stackability
WorléeCryl 7120	Styrene acrylic emulsion	49	8.2–9.0	1.09	15	200–800	Corrosion inhibiting primers on different metals (e.g. iron, aluminium), good weather resistance
WorléeCryl 7135	Styrene acrylic emulsion	42	7.5–8.5	1.04	39	max. 1,000	Top coats on metal, wood, plastics (PS, ABS), also for temporary anti-corrosive primers on metal, can be combined with water-thinnable alkyd resins
WorléeCryl 7137	Styrene acrylic emulsion	42	7.5–8.5	1.04	28	max. 200	Allround emulsion for top coats on plastic, metal, wood and for corrosion inhibit- ing primers with very good adhesion on steel and low water absorption
WorléeCryl 7158	Styrene acrylic copolymer emulsion	49	7.5–8.0	1.06	5	max. 500	Self-crosslinking styrene modified acrylic emulsion for primers with excellent results in corrosion protection tests
WorléeCryl 7177	Core-shell-dispersion	45	7.0–8.0	1.06	5	< 500	Core-shell-dispersion for the production of solvent-free decorative paints and glazings
WorléeCryl 7186 MF	Pure acrylic emulsion	46	8.0–9.0	1.06	56	max. 500	Very hard polymer improving the surface properties like hardness, sanding and blocking resistance in water soluble lacquer systems. Very good compatibility with WorléeCryl 7177
WorléeCryl 7189	Methacrylic copolymer emulsion	49	7.0–8.0	1.08	16	max. 200	For the production of primers, flagstone- and building adhesives. High initial adhesion and very fast setting, excellent compatibility with alkali and cement, high flexibility
WorléeCryl 7377	Modified styrene copolymer emulsion	45	7.8–8.9	1.06	0	< 200	Especially suitable for the production of slip-resistant coatings for insulation boards
WorléeCryl 7410	Pure acrylic	45	8.0–9.0	1.06	39	max. 500	Self-crosslinking acrylic polymer for the formulation of aqueous furniture lacquers with good resistance against household chemicals
WorléeCryl 7425	Core-shell-dispersion	45	7,0–8,5	1.06	< 1	max. 500	Self-crosslinking core-shell pure acrylic dispersion for exterior resistant, solvent-free top coats

B | WorléeCryl

Acrylic resins, water-based dispersions, solutions

Type	Monomer	Non volat. content DIN EN ISO 3251 [%]	pH value DIN 53785	Density DIN 51757 [g/cm³]	MFT [°C]	Viscosity 20 °C, del. form Brookfield, ISO 2555 [mPa·s]	Main uses/principal characteristics
WorléeCryl 7450	Pure acrylic emulsion	45	7.0–8.0	1.06	0	max. 500	Good blocking stability, in combination with PU-dispersionn. Parquet lacquers and top coats for wood can be formulated
WorléeCryl 74562	Pure acrylic emulsion	55	7.0–8.0	1.06	0	max. 500	Self-crosslinking pure acrylic emulsion with high solid content for formulating block-resistant, high gloss emulsion paints with very good levelling properties, low VOC value in pigmented top coats, solvent-free formulations are possible for glazings and colourless systems

B | WorléeCryl

Acrylic resins, water-based dispersions, solutions, emulsions

Type	Monomer	Non volat. content DIN EN ISO 3251 [%]	pH value DIN 53785	Density DIN 51757 [g/cm³]	MFT [°C]	Viscosity 20 °C, del. form Brookfield, ISO 2555 [mPa·s]	Main uses/principal characteristics
WorléeCryl 7520	Acrylic emulsion	50	8.5–9.0	1.05	14	1,600–2,400	For manufacturing dispersion paints for indoor and outdoor application and coloured quartz sand plaster
WorléeCryl 7745	Cationic acrylic copolymer emulsion	45	4.0–5.0	1.10	15	< 300	For the production of pigmented sealing primers and topcoats for wood and nicotine isolating paints with high water resistance
WorléeCryl 7712 W	Pure acrylic solution, cationic	26	approx. 5.0	1.04		300–800	Filler and colourless sealants for wood, excellent insulating against bleeding, pigmented and transparent, nicotine insulating paints
WorléeCryl 7940	Acrylate copolymer emulsion	50	8.3–8.7	1.07	0	1,000–2,000	Excellently suitable for the manufacture of dispersion paints for indoor and outdoor application
WorléeCryl 8025	Pure acrylic solution	25	8.0–9.0	1.02		200–800	For production of roller coatings and primers on wood
WorléeCryl CH-X-2158 **WorléeCryl CH-X-2159**	Pure acrylic dispersion Pure acrylic dispersion	~61 ~59	5.5–6.5 5.5–6.5	~1.05 ~1.06	0 0	100–1,500 150–2,500	Special binders for production of thermal insulating coatings based on WorléeShield technology (e.g safe-touch, anti-condensation, insluation), easy incorporation of voluminous insulation fillers such as hydrophobic aerogels, high elasticity (CH-X-2159 > CH-X-2158) even at low temperatures, good water resistance and adhesion to various substrates, combina- tion of both binders with WorléeAdd 8905 allows sprayable coatings, crackfree even in thick films, optional flame retardant properties with WorléeAdd FR 5000 (see page 13)

B | WorléeCryl

Acrylic resins, water-based dispersions and solutions for printing inks and OPV's

Type	Monomer	Non volat. content DIN EN ISO 3251 [%]	pH value DIN 53785	Density DIN 51757 [g/cm³]	MFT [°C]	Viscosity 20 °C, del. form Brookfield, ISO 2555 [mPa·s]	Main uses/principal characteristics
WorléeCryl 8025	Acrylic resin solution	25	8.0–9.0	1.02		200–800	General purpose
WorléeCryl 8025 M	Acrylic resin solution MEA-neutralized	25	8.0–9.0	1.02		200–800	Solvent-free pigment pastes
WorléeCryl 8040	Acrylic resin solution water/IPA 2:1	40	8.0–9.0	1.02		2,500–3,000	General purpose
WorléeCryl 8043	Acrylic resin solution water/IPA 2:1	40	8.0–9.0	1.01		3,000–4,000	For high pigment concentrations
WorléeCryl 8060	Acrylic resin solution	40	8.0–9.0	1.04		max. 2,000	Solvent-free, high solid resin
WorléeCryl 8222	Styrene copolymer dispersion	40	8.0–8.5	1.06	0	3,000–5,000	For matt overprint varnishes
WorléeCryl 8263	Styrene acrylate dispersion DMEA-neutralized	52	8.5–9.5	1.06	0	300–800	Heat resistance, high gloss
WorléeCryl 8273	Styrene acrylate dispersion	45	7.5–8.5	1.06	50	max. 1,000	High gloss OPV´s
WorléeCryl 8290	Styrene acrylate dispersion	45	8.0–8.5	1.07	70	400–600	High gloss, fast drying, excellent block- and water resistance
WorléeCryl 8410	Alkaline soluble acrylic dispersion anionic dispersion system	40	5.0–7.0	1.06	8	max. 100	Low MFT, high flexibility, excellent adhesion
WorléeCryl 8470	Acrylic resin solution, DMEA-neutralized	25	8.0–9.0	1.04		< 500	Cross linkable with melamine resin
WorléeCryl 8545	Acrylate dispersion	50	4.0–6.0	1.06	3	50–300	For blister lacquers
WorléeCryl 8721	Catonic acrylic resin solution	30	5.5	1.05		200–400	Cationic, good adhesion to plastics

Market(s) served: EUROPE

B | WorléeDex

Starch copolymer dispersions for printing inks and OPV´s

Type	Monomer	Non volat. content DIN EN ISO 3251 [%]	pH value DIN 53785	Density DIN 51757 [g/cm³]	MFT [°C]	Viscosity 20 °C, del. form Brookfield, ISO 2555 [mPa·s]	Main uses/principal characteristics
WorléeDex 1177	Starch copolymer dispersion	40	3.0–5.0	1.06	28	< 800	Ammonia and amine free
WorléeDex 1182	Starch copolymer dispersion	50	7.5–9.0	1.04	28	< 300	For thin papers, ammonia and amine free

Market(s) served: EUROPE

B | WorléeKyd

Alkyd resins, solvent-based, short-oil, air-drying

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeKyd AC 2550	25	Drying vegetable fatty acids	17	max. 5 (50% in ws 135–175) max. 5 (50% in dearom. HC 140–165)	max. 10	Viscosity Rheometer, 20 °C, C 35/1°, 250 s^{-1} 3.000–8.000 mPa·s 200–260 (50% in dearom. HC 140–165)	60 in ws 135–175 60 in dearomat. HC 140–165	Is mainly recommended for very fast drying primers and top coats
WorléeKyd AC 2551	25	Drying vegetable fatty acids	17	max. 5 (50% in xylene)	max. 10	90–150 (50% in xylene)	60 in xylene	Is mainly recommended for very fast drying primers and top coats
WorléeKyd AC 2943	29	Drying vegetable fatty acids	approx. 19	max. 5 (50% in xylene) max. 5 (50% in BuAc)	max. 12	30–60 (50% in xylene) 30–60 (50% in BuAc)	75 in xylene 75 in BuAc	Especially suitable for quick-drying low VOC primers, ensures a wide Adhesion on different substrates, a very good recoatability and good anti-corrosive properties.
WorléeKyd L 138	38	Linseed and tung oil	30	max. 10 (50% in xylene)	max. 15	250–300 (50% in xylene)	60 in xylene	Phenolic mod., for fast drying primers and top coats, putties and fillers
WorléeKyd LH 3702	38	Linseed and tung oil	25	max. 10 (40% in dearom. HC 160–200)	max. 20	100–130 (40% in dearom. HC 160–200)	50 in dear-om. HC 160–200	Dearomatic base and top coats, air-drying
WorléeKyd MH 38	39	Mixed fatty acids and tung oil	38	max. 15 (50% in xylene)	max. 25	140–170 (50% in xylene)	60 in xylene	Primers and top coats, good elasticity and resistance properties

B | WorléeKyd

Alkyd resins, solvent-based, short-oil, air-drying

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeKyd MH 42	42	Drying vegetable fatty acids	24	max. 15 (50% in ws 135–175) max. 15 (50% in dearom. HC 140–165)	max. 20	120–150 (50% in ws 135–175) 50–70 (40% in dearom. HC 140–165)	60 in ws 135–175 60 in dear-om. HC 140–165	Primers and topcoats, “Laroflex“ (BASF) compatibility
WorléeKyd MH 439	39	Mixed fatty acids	32	max. 10 (50% in xylene) max. 10 (50% in ws 135–175/ Methoxy propanol)	max. 25	100–130 (50% in xylene) 140–170 (50% in ws 135–175/ Methoxy propanol)	60 in xylene 60 in ws 135–175/ Methoxy propanol	Phenolic-modified, fast drying primers and top coats, “Laroflex“ (BASF) compatibility
WorléeKyd S 3001	30	Drying vegetable fatty acids	35	max. 10 (50% in xylene/ Methoxy propanol) (8:2)	max. 12	max. 12 20–35 (50% in xylene/ Methoxy propanol)	75 in xylene/ Methoxy propanol (8:2)	Low viscous, fast drying alkyd resin for man-ufacturing low VOC industrial primers and top coats
WorléeKyd SM 340	40	Drying vegetable fatty acids	30	max. 10 (50% in xylene)	max. 20	130–170 (50% in xylene)	60 in xylene	Fast drying primers and top coats, good elas-ticity, good resistance properties
WorléeKyd SM 400	34	Drying vegetable fatty acids	30	max. 10 (50% in xylene)	max. 20	90–110 (50% in xylene)	60 in xylene	Fast drying primers and paints with excellent durability, with amino resins reactive stoving eTypels with good stability, “Laroflex“ (BASF) compatibility
WorléeKyd SM 426	26	Drying vegetable fatty acids	40	max. 10 (50% in xylene)	max. 15	90–110 (50% in xylene)	60 in xylene	Very fast drying alkyd resin for air- and forced drying primers and top coats
WorléeKyd SM 433	33	Drying vegetable fatty acids	38	max. 10 (50% in xylene)	max. 15	max. 15 60–80 (50% in xylene)	60 in xylene	Fast drying primers and top coats, high sol-ids, low thermoplasticity, partial “Laroflex“ (BASF) compatibility
WorléeKyd TT 3502	35	Drying vegetable fatty acids	24	max. 15 (60% in xylene)	max. 20	60–70 (60% in xylene)	80 in xylene	Low viscous, fast dryingalkyd resin for low VOC industrial primers
WorléeKyd V 298	38	Linseed oil/ Wood oil	25	max. 10 (40% in ws 135–175)	max. 20	90–130 (40% in ws 135–175)	55 in ws 135–175	Fast drying primers, very good elasticity and durability, dilutable with white spirit
WorléeKyd V 925064	33	Special vegetable fatty acids	38	max. 10 (50% in xylene)	max. 20	55–70 (50% in xylene)	60 in xylene	Suitable for the production of stoving primers and top coats. When using highly reactive amino resins, in order to improve the storage stability of e.g. Alcohols are recommended

B | WorléeKyd

Alkyd resins, solvent-based, medium-oil, air-drying

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeKyd B 845	45	Special fatty acids	25	max. 10 (40% in ws 145–195) max. 10 (del. form)	max. 15	80–100 (40% in ws 145–195) 5,500–8,000 mPa·s (Rheometer 20 °C, C 35/1°, 100 s^{-1})	55 in ws 145–195 70 in xylene	Fast drying radiator paints, automotive and machinery refinishing enamels with good gloss, Laroflex (BASF) compatibility
WorléeKyd B 850 U	45	Special fatty acids	17	max. 10 (40% in ws 145–195)	max. 15	80–120 (40% in ws 145–195)	50 in ws 145–195/ xylene	Extremely fast drying, urethane-modified, for primers and topcoats, good recoatability
WorléeKyd B 4901	49	Cotton oil	24	max. 10 (40% in dearomat. HC 160–200)	max. 12	Viscosity, Rheometer, 20 °C, C 35/1°, 250 s^{-1} 3.500–6.500 mPa·s	50 in dearomat. HC 160–200	Fast drying, for air- and forced drying industrial, vehicle and machine paints as well as dearomat. do-it yourself and radiator paints
WorléeKyd B 4901 nv	49	Cotton oil	24	max. 10 (55% in dearomat. HC 160–200/ methoxy-propanol 3/1)	max. 12	max. 10 (55% in dearomat. HC 160–200/ methoxy-propanol 3/1)	75 in dearomat. HC 160–200/ methoxy-propanol 3/1)	Fast drying, for air- and forced drying industrial, vehicle and machine paints as well as dearomat. do-it yourself and radiator paints
WorléeKyd DS 4005	40	Special vegetable fatty acids	17	max. 5 (60% in dearomat. HC 160–200/ methoxy-propanol 2:1)	max. 15	Viscosity Rheometer, 20 °C, C 35/1°, 50 s^{-1} 16,000–45,000 mPa·s	80 in dearomat. HC 160–200/ methoxy-propanol 2:1	Low viscous, short oil, silicone modified alkyd resin; it is suitable for the production of high quality top- and one layer coats; paints on basis WorléeKyd DS 4005 show good drying and through drying, high permanent elasticity, good adhesion on different substrates and high out-door resistance; in addition these paints enable a good corrosion protection
WorléeKyd BS 830	45	Special fatty acids, silicone modified	17	max. 10 (50% in ws 145–195) max. 10 (50% in isop. HC 170–200) max. 10 (50% in dearomat. HC 160–200)	max. 15	55–70 (50% in ws 145–195) 170–220 (50% in isop. HC 170–200) 120–150 (50% in dearomat. HC 160–200)	60 in ws 145–195 60 in isop. HC 170–200 60 in dearo-mat. HC 160–200	Silicone-modified alkyd resin for high quality industrial and maintenance paints with very good drying properties, high gloss retention and corrosion resistance

B | WorléeKyd

Alkyd resins, solvent-based, medium-oil, air-drying

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeKyd BS 5005	50	Special vegetable fatty acids	15	max. 5 (50% in dearomat. HC 160–200)	max. 15	25–40 (50% in dearomat. HC 160–200)	80 in dearomat. HC 160–200	Low viscous, air-drying, silicone-modified alkyd resin for industrial and house paints, low VOC
WorléeKyd BSA 5015	49	Special vegetable fatty acids		max. 5 (60% in dearomat. HC 160–200)	max. 12	Viscosity, Rheometer, 20 °C, C 35/1°, 1 s-1 8,000–10,000 mPa·s	85 in dearomat. HC 160–200	Low viscous, air-drying, especially modified alkyd resin with good resistance properties for decorative and house paints, low VOC
WorléeKyd BT 5001	50	Special vegetable fatty acids	24	max. 10 (50% in dearomat. HC 160–200)	max. 12	60–70 (50% in dearomat. HC 160–200)	65 in dearomat. HC 160–200	Fast drying alkyd resin for low VOC house paints and dearomatized machine-, industrial and D.I.Y.-paints
WorléeKyd FC 555	55	Special fatty acids	16 18	max. 10 (40% in isop. HC 170–200) max. 10 (40% in dearomat. HC 160–200)	max. 10 max. 10	70–100 (40% in isop. HC 170–200) 35–50 (40% in dearomat. HC 160–200)	50 in isop. HC 170–200 55 in dearomat. HC 160-200	Fast drying, low odour and dearomatized radiator and D.I.Y.-paints with high gloss and good yellowing resistance
WorléeKyd S 351	51	Soya oil	23	max. 10 (40% in dearomat. HC 180–220) max. 10 (40% in dearomat. HC 180–220)	max. 15	130–170 (40% in dearomat. HC 180–220) 25–35 (40% in dearomat. HC 180–220)	50 in dearomat. HC 180–220 60 in dearomat. HC 180–220	White undercoatings, mat and semi gloss enamels with good flow properties
WorléeKyd S 351 nv	51	Soya oil	23	max. 10 (del. form)	max.15	9,000–16,000 mPa·s (Rheometer, 20 °C, C 35/1°, 100 s^{-1})	60 in isop. HC 170–200	Undercoatings, silkgloss and mat enamels with good flow properties
WorléeKyd S 549	50	Soya oil	27	max. 10 (40% in ws 145–195) max. 10 (45% in ws 135–175)	max.15	50–65 (40% in ws 145–195) 100–130 (45% in ws 135–175)	55 in ws 145–195 55 in ws 135–175	Fast drying automotive and machinery refinishing enamels
WorléeKyd SO 554	55	Soya oil	15	max. 10 (40% in isop. HC 170–200)	max.10	max.10 70–100 (40% in isop. HC 170–200)	55 in isop. HC 170–200	Fast drying, low odour, dearomatized machinery ind. and D.I.Y. paints
WorléeKyd V 162	41	Special fatty acids	28	max. 10 (40% in ws 145–195)	max.20	Viscosity: 3,000–7,500 mPa·s (Rheometer, 20 °C, C 35/1°, 250 s^{-1})	55 in ws 145–195/ xylene	Extremely fast drying car refinishing, machinery and industrial paints with high gloss, good through drying
WorléeKyd V 162 nv	43	Special fatty acids	23	max. 10 (50% in ws 135–175)	max.10	130–150 (50% in ws 135–175)	60 in ws 135–175	Extremely fast drying car refinishing, machinery and industrial paints with high gloss, good through drying. High quality industrial, vehicle and car body
WorléeKyd V 543	50	Special fatty acids	24	max. 10 (40% in ws 145–195)	max.15	50–70 (40% in ws 145–195) 80–120 (40% in ws 145–195)	55 in ws 145–195/ xylene 55 in ws 145–195	Fast drying car refinishing, machinery and industrial paints with high gloss, good through-drying

B | WorléeKyd

Alkyd resins, solvent-based, long-oil, air-drying

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeKyd AC 6030	60	Special vegetable fatty acids		max. 5 (70% in dearomat. HC 160–200)	max. 10	65–105 (70% in dearomat. HC 160–200)	85 in dearomat. HC 160–200	Acrylated alkyd resin with good and yellowing resistance, mainly for the use in low VOC house and decorative paints
WorléeKyd B 865	65	Cotton/ Soya	22	max. 10 (50% in ws 145–195)	max. 15	70–90 (50% in ws 145–195)	60 in ws 145–195	High quality house, decorative and D.I.Y.-paints with good flow, high gloss, good outdoor resistance
WorléeKyd B 865 nv	65	Special vegetable fatty acids	22	max. 10 (50% in dearomat. HC 160–200)	max. 15	40–50 (dearomat. HC 160–200)	65 in dearomat. HC 160–200	
WorléeKyd B 868	68	Vegetable fatty acids	21	max. 10 (50% in dearomat. HC 160–200)	max. 15	20–40 (50% in dearomat. HC 160–200)	70 in dearomat. HC 160–200	High quality gloss paints, excellent brushability, gloss retention and good drying properties
WorléeKyd R 6048	68	Vegetable fatty acids		max. 10	max. 15	Viscosity: 2,500–6,500 mPa·s (Rheometer, 20 °C, C 35/1°, 250 s^{-1})	75 in dearomat. HC 160–200	Long-oil low-viscosity drying alkyd based on vegetable fatty acids for high quality air-drying gloss paints
WorléeKyd B 870	69	Vegetable fatty acids	21	max. 10 (60% in isop. HC 170–200) max. 10 (60% in dearomat. HC 160–200) max. 10 (60% in dearomat. HC 180–200)	max. 15	90–130 (60% in isop. HC 170–200) 60–80 (60% in dearomat. HC 160–200) 100–125 (60% in dearomat. HC 180–200)	75 in isop. HC 170–200 75 in dearomat. HC 160–200 75 in dearomat. HC 180–220	House paints with good brushability, high film build, good flow and excellent gloss retention
WorléeKyd E 55	63	Special fatty acids, urethane-modified	17	max. 10 (60% in ws 145–195) max. 10 (55% in dearomat. HC 160–200)	max. 10	200–300 (60% in ws 145–195) 50–80 (55% in dearomat. HC 160–200)	70 in ws 145–195 70 in dearomat. HC 160–200	In comb. with medium-oil alkyds for high quality car repair finishes and industrial paints
WorléeKyd L 7904	79	Linseed oil		max. 10 (del. form)	max. 15	Viscosity: approx. 100% 8,000–10,000 mPa·s (20 °C, Haake Rotovisko, C 35/1, D = 250 s^{-1})	approx. 100	High solid clear lacquers, wood glazings, and high solid primers
WorléeKyd L 8004	80	Linseed oil		max. 10 (del. form)	max. 15	30–40 (70% in dearomat. HC 160–200)	approx. 100	Very low viscous alkyd resin for wood impregnation and wood glazings
WorléeKyd P 151	64	Special fatty acids	22	max. 10 (80% in ws 145–195)	max. 10	130–190 (80% in ws 145–195)	approx. 100	Very low viscous, for high conc. pigment preparations, very good compatibility properties

B | WorléeKyd

Alkyd resins, solvent-based, long-oil, air-drying

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeKyd RL 1290	90	Linseed oil		max. 15	max. 15	Viscosity: 500 mPa·s (Rheometer, 20 °C, C 35/1°, 250 s^{-1})	approx. 100	Extremely low viscous alkyd resin, especially suitable for the manufacture of low VOC and VOC-free parquet-, terrace- and maintenance oils and also of wood stains and glazings; it shows especially very good penetration, permanent elasticity and weather resistance
WorléeKyd RS 2174	74	Special fatty acids		< 10	max. 6	Viscosity: < 750 mPa·s (Rheometer, 20 °C, C 35/1°, 250 s^{-1})	solvent-free	Combination resin for other alkyd resins, improving penetration, decreasing viscosity, VOC reduction, sole binder for wood care and coating products
WorléeKyd S 6400 hv	63	Soya oil	26	max. 10 (50% in dearomat. HC 160–200) max. 10 (50% in dearomat. HC 180–220)	max.12	120–150 (50% in dearomat. HC 160– 200) 120–150 (50% in dearomat. HC 180–220)	60 in dearomat. HC 160–200 60 in dearomat. HC 180–220	Consumer, decorative, D.I.Y.- and anti-corrosive paints
WorléeKyd S 7304	73	Soya oil		max. 8 (del. form)	max.11	Viscosity: 47,000–55,000 mPa·s (20 °C, Haake Rotovisko, C 35/1°, D = 50 s -1)	approx. 100	Low viscous, air-drying, long-oil alkyd resin for decorative and house paints, low VOC
WorléeKyd SB 6401	64	Special fatty acids		max. 10 (70% in dearomat. HC 180–220	max.18	80–120 (70% in dearomat. HC 180–220)	90 in dearomat. HC 180–220	Low viscous, air-drying, long-oil alkyd resin for decorative and house paints, low VOC
WorléeKyd SC 965	65	Special vegetable fatty acids	22	max. 10 (50% in dearomat. HC 180–220)	max.15	35–50 (50% in dearomat. HC 180–220)	70 in dearomat. HC 180–220	High quality house paints, very good brushability, flow and levelling, high gloss
WorléeKyd SD 7003	70	Special vegetable fatty acids		max. 10 (60% in dearomat. HC 160–200)	max.15	Viscosity: 2.000–4.000 mPa·s (20°C, Rheometer, C 35/1°, 250 s^{-1})	85 in dearomat. HC 160–200	Low viscous, air-drying, long-oil alkyd resin for decorative and house paints, low VOC
WorléeKyd SD 8300	83	Special fatty acids		max. 10 (del. form)	max.15	Viscosity, Rheometer, 20 °C, C 35/1°, 100 s^{-1}: 3.000–6.000 mPa·s	approx. 100	Low viscous, air-drying, long-oil alkyd resin for decorative and house paints, low VOC, especially suitable as combination partner for other alkyd resins
WorléeKyd T 7800	78	Special vegetable fatty acids		< 10 (del. form)	max.15	Viscosity, Rheometer, 20 °C, C 35/1°, 100 s^{-1}: 6,500–12,000 mPa·s	approx. 100	Low viscous, air-drying, long-oil alkyd resin for house paints, glazings, D.I.Y.- and anticorrosive-paints

B | WorléeKyd

Alkyd resins, solvent-based, long-oil, urethane-modified

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeKyd B 865 U	62	Vegetable fatty acids	16 15	max. 10 (50% in ws 145–195) max. 10 (50% in isop. HC 170–200) max. 10 (50% in dearomat. HC 180–220) max. 10 (50% in dearomat. HC 160–200)	max. 10	70–100 (50% in ws 145–195) 80–100 (50% in isop. HC 170–200) 80–100 (50% in dearomat. HC 180–220) 70–90 (50% in dearomat. HC 160–200)	55 in ws 145–195 55 in isop. HC 170–200 55 in dearomat. HC 180–220 55 in dearomat. HC 160–200	Urethane-modified, for wood varnishes, floor coatings and industrial primers and top coats
WorléeKyd B 865 U nv	62	Vegetable fatty acids	17	max. 8 (50% in dearomat. HC 180–220)	max. 10	45–60 (50% in dearomat. HC 180–220)	60 in dearomat. HC 180–220	Urethane-modified, for wood varnishes, floor coatings and industrial primers and top coats
WorléeKyd S 5703	57	Soya oil fatty acids	21	max. 5 (45% in ws 145–195) max. 8 (50% in dearomat. HC 160–200) max. 10 (del. form)	max. 10	Viscosity: 5,000–7,000 mPa·s (Lff.,20 °C, DIN 53015) 40–55 (45% in dearomat. HC 160–200) Viscosity, Rheometer, 50% in dearomat. HC 180–220, 20 °C, C 35/1°, 250 s^{-1}, 2,000–5,000 mPa·s	55 in ws 145–195 55 in dearomat. HC 160–200 55 in dearomat. HC 180–220	Aliphatic urethane-modified alkyd resin, use as B 865 U with better yellowing resistance
WorléeKyd S 6003	60 59	Soya oil fatty acids	19 16 18	max. 10 (del. form) max. 10 (del. form) max. 10 (40% in dearomat. HC 180–220)	max. 5	Viscosity, Rheometer, 20°C, C 35/1°, 500/s^{-1}, 1,500–6,000 mPa·s Viscosity, Rheometer, 20°C, C 20/2°, 80/s^{-1}, 1,700–3,500 mPa·s 30–50 (40% in dearomat. HC 180–220)	51 in dearomat. HC 160–200 50 in isop. HC 150–180 50 in dearomat. HC 180–220	Use as B 865 U with faster drying and harder film properties
WorléeKyd S 6003 hv	59	Soya oil fatty acids	18	max. 10 (40% in dearomat. HC 160–200)	max. 5	30–40 (40% in dearomat. HC 160–200)	50 in dearomat. HC 160–200	Use as S 6003 with even faster drying
WorléeKyd SD 6403	64	Soya oil fatty acids	12	max. 6 (del. form)	max. 10		55 in dearomat. HC 160–200	Special urethane-modified alkyd resin with good adhesion properties e.g. for renovation coatings on UV parquet sealers

B | WorléeKyd

Alkyd resins, solvent-based, long-oil, urethane-modified

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeKyd SD 6803	68	Special vegetbale fatty acids		max. 10 (60% in dearomat. HC 160–200) max. 10 (60% in dearomat. HC 180-220)	max. 15	Viscosity, Rheometer, 20 °C, C 35/1°, 250 s^{-1}, 7000–10,000 mPa·s Viscosity, Rheometer, 20 °C, C 35/1°, 250 s^{-1}, 7,000–10,000 mPa·s	75 in dearomat. HC 160–200 75 in dearomat. HC 180–220	Low viscous, urethane alkyd resin for decorative and house paints, low VOC, especially suitable as combination partner to improve drying, through drying and hardness
WorléeKyd V 5241 U	81	Linseed oil		max. 6 (del. form)	max. 3	Viscosity: 10,000–15,000 mPa·s (Lff., 20 °C, DIN 53015)	approx. 100	Low viscous, oil-modified polyethane for high-solid environmentally friendly coating systems

B | WorléeKyd

Alkyd resins, solvent-based, stoving/reactive/NC-combination

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeKyd C 628	28	Saturated fatty acids	47	max. 10 (50% in xylene)	max. 15	40–60 (50% in xylene)	70 in xylene	High quality non yellowing stoving enamels, NC-and PU-coatings, colourless and pigmented, OH-content (on solids) 2.0–2.4%
WorléeKyd C 632 M	32	Specially modified fatty acids	37	max. 10 (50% in BuAc)	max. 18	40–60 (50% in BuAc)	65 in BuAc	NC-lacquers with properties as acid curing systems but without formaldehyde, aromatic free, hydroxyl-content (on solids) 2.7–3.3%
WorléeKyd C 640	38	Saturated fatty acids	37	max. 10 (50% in xylene)	max. 15	40–60 (50% in xylene)	60 in xylene	NC-lacquers with fast solvent release, good yellowing resistance and recoatability for paper and wood
WorléeKyd C 641	42	Saturated fatty acids	32	max. 10 (60% in BuAc)	max. 15	60–80 (50% in BuAc)	80 in BuAc	High quality NC-lacquers and one compo- nent acid curing finishes with high film build and fast solvent release, forwood, foil and paper
WorléeKyd CD 32	32	Special fatty acids	48	max. 8 (45% in xylene)	25–40	80–130 (45% in xylene)	60 in xylene	In combination with suitable amino resins for very reactive primers and top coats with good storage stability, crosslinking with isocyanate is also possible, OH-content (on solids) 2.6–3.0%
WorléeKyd M 932	32	Vegetable fatty acids	38	max. 10 (40% in xylene)	max. 18	40–60 (40% in xylene)	60 in xylene	Stoving primers and topcoats with high reactivity and good mechanical properties. Excellent viscosity stability, stoving cond. 100–140 °C
WorléeKyd RM 232	32	Conjug. and saturated fatty acids	37	max. 10 (50% in xylene)	max. 15	100–120 (50% in xylene)	60 in xylene	Enamel basecoats and topcoats with medium reactivity and good mechanical properties, curing conditions: 30 min/ 130 °C or 10min/160 °C
WorléeKyd SH 380	38	Special fatty acids	34	max. 10 (60% in BuAc)	max. 15	90–110 (60% in BuAc)	70 in BuAc	Highly reactive SH lacquers, good elasticity, durability and sufficient pot life, NC-compatible, NCO-crosslinkable
WorléeKyd SM 400	34	Drying vegetable fatty acids	30	max. 10 (50% in xylene)	max. 20	90–110 (50% in xylene)	60 in xylene	In combination with amino resins for high reactive stoving primers and top coats

B | WorléeKyd

Alkyd resins, solvent-based, stoving/reactive/NC-combination

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeKyd SM 426	26	Drying vegetable fatty acids	40	max. 10 (50% in xylene)	max. 15	90–110 (50% in xylene)	60 in xylene	In combination with amino resins for high reactive stoving primers and top coats
WorléeKyd T 735	36	Tall oil	35	max. 10 (50% in xylene)	max. 15	60–70 (50% in xylene)	60 in xylene	Stoving primers and topcoats with medium reactivity and good mechanical properties, curing conditions: 10 min/160 °C or 30 min/130 °C

B | WorléeThix

Alkyd resins, acrylic resins, solvent- or water based, thixotropic

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Viscosity, optical	Form of delivery [%]
WorléeThix A 1420		2.0% OH-content		approx. 1 (del. form)	max. 12	Thixotropic soft gel	50 in BuAc
WorléeThix A 2125		2.5% OH-content		max. 1 (del. form)		Thixotropic gel	50 in xylene
WorléeThix A 2126		approx. 2.3% OH-content approx. 2.6% OH-content		approx. 1		Thixotropic gel	60 in xylene 60 in 1-met oxy-2-propyl acetate 60 in BuAc
WorléeThix A 2242 W		4.2% OH-content		max. 1 (del. form)		Thixotropic gel	58 in water/BuAc/ EEP
WorléeThix A 2313		1.3% OH-content		approx. 1 (del. form)		Thixotropic soft gel	60 in aromat. HC 155–180
WorléeThix D 46	40			max. 10 (del. form)	max. 4	Thixotropic soft gel	50 in xylene
WorléeThix L 7904	79	Linseed oil	18	max. 10 (del. form)	max. 15	Thixotropic strong gel	94 in xylene
WorléeThix L 8050	80	Linseed oil fatty acids		max. 10 (del. form)	max. 15	Thixotropic soft gel	100
WorléeThix MH 439	39	Special fatty acids	32	max. 10 (del. form)	max. 25	Thixotropic strong gel	60 in xylene
WorléeThix S 2655	26	Special vegetable fatty acids	40	max. 6 (del. form)	max. 15	Thixotropic gel	60 in xylene
WorléeThix S 6357	64	Soya oil	24	max. 6 (del. form)	max. 15	Thixotropic gel	40 in ws 180–210 40 in dearomat. HC 180–220
WorléeThix S 6358	64	Soya oil	24	max. 6 (del. form)	max. 15	Thixotropic gel	50 in dearomat. HC 180–220

B | WorléeThix

Alkyd resins, solvent based, thixotropic

Type	Oil [%] in approx.	Oil type	Phth. anhyd. [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Viscosity, optical	Form of delivery [%]	Main uses/principal characteristics
WorléeThix S 6455	64	Soya oil fatty acids	25	max. 6 (del. form)	max. 15	Thixotropic strong gel	50 in ws 145–195	Strong thixotropic long-oil alkyd for thick layer coatings, wood glazings and clear coatings, temperature stable and resistant against polar solvents
WorléeThix S 6657	63	Soya oil fatty acids	19	max. 10	max. 15	Thixotropic soft gel	60 in dearomat. HC 180–220	Thixotropic long oil alkyd is especially suitable for the manufacture of anticorrosive primers, decorative and building paints as well as for thick layer wood glazings
WorléeThix S 6658	66	Special fatty acids	20	max. 10	max. 15	Thixotropic soft gel	70 in dearomat. HC 180–220	Thixotropic long oil alkyd alkyd for the manufacture of anticorrosive primers, decorative and building paints as well as especially wood glazings
WorléeThix SD 6051	60	Special fatty acids	23	max. 10 (del. form)	max. 15	Thixotropic gel Thixotropic gel	55 in dearomat. HC 160–200 55 in dearomat. HC 180–220	As V 747, but with improved resistance against polar substances
WorléeThix 670 hs	61	Special mixed fatty acids	21	max. 10 (del. form)	max. 15	Thixotropic gel	70 in dearomat. HC 160–200 70 in dearomat. HC 180–220	Thixotropic long-oil alkyd for primers, fillers, gloss and silk gloss coatings, low VOC
WorléeThix V 727	63	Special mixed fatty acids	23	max. 10 (del. form)	max. 15	Thixotropic gel	52 in ws 180–210 52 in isop. HC 170–200 52 in dearomat. HC 180–220	Thixotropic long oil alkyd for undercoats, gloss and silk gloss paints, wall paints, as well as wood stain and rust protection paints
WorléeThix V 747	64	Special fatty acids	23	max. 7 (del. form)	max. 15	Thixotropic gel	52 in isop. HC 170–200 52 in dearomat. HC 180–220	Thixotropic long-oil alkyd for primers, mat wall and silk gloss paints and thixotropic glossy decorative and protective house paints
WorléeThix V 800	62	Special mixed fatty acids	18	max. 10 (del. form) max. 6 (del. form)	max. 10	Thixotropic gel Thixotropic soft gel	50 in dearomat. HC 160–200 40 in isop. HC 170–200	Thixotropic, urethane-modified long-oil alkyd for thick layer coatings, wood glazings and lacquers, temperaturestable and resistant against polar solvents

B | WorléeSoft

Polyurethane dispersion for soft touch coatings

Type	pH value	Density, 25 °C [g/cm³]	Viscosity, 25 °C	Form of delivery [%]	Main uses/principal characteristics
WorléeSoft 1035	7.0–9.0	approx. 1,02	150–650	approx. 35 in water	Polyurethane dispersion especially developed to formulate a matt soft touch effect coating. It can be used as sole binder or in combination with acrylate and polyurethane dispersions. W'Soft 1035 has very good properties in abrasion resistance, flexibility and water resistance

B | WorléeSol E

PU-modified alkyd emulsions, water-thinnable

Type	Oil [%]	Acid value DIN EN ISO 3682 [mgKOH/g]	pH value DIN 53785	Viscosity, Rheometer, 20 °C, C 60/2°, 5 s^{-1} [mPa·s]	Form of delivery [%]	Main uses/principal characteristics
WorléeSol E 150 W	44	max. 30	7.0–8.0	50–1,500	40 in water	Medium-oil alkyd emulsion for high gloss decorative, D.I.Y.- and industrial-paints, most versatile type
WorléeSol E 330 W	33	15–20	7.5–8.5	max. 10,000	40 in water	Short-oil alkyd emulsion for (drier-free based) anticorrosive primers and top coats
WorléeSol E 530 W	53	max. 38	7.0–8.5	max. 10,000	40 in water	Medium-oil alkyd emulsion for fast drying wood paints and lacquers
WorléeSol E 927 W	27	max. 30	6.8–7.5	max. 10,000	40 in water	Short-oil alkyd emulsion for fast curing wood coatings of all types (also drier-free)
WorléeSol SE 420 W	42	max. 30	7.0–8.5	max. 5,000	40 in water	Medium-oil silicone modified alkyd emulsion for high gloss paint systems (also decorative) with excellent outdoor resistance

B | WorléeSol NW

Alkyd emulsions, water-thinnable

Type	Oil [%]	Density DIN 51757 [g/cm³]	Viscosity Rheometer, 20 °C, C 60/2°, 5 s^{-1} [mPa·s]	Form of delivery [%]	Main uses/principal characteristics
WorléeSol NW 410	40	1.050	max. 3,000	46 in water	Solvent-free medium-oil special modified alkyd emulsion for water-thinnable decorative and D.I.Y. paints with good brushability, flow and filling properties, for high gloss top coats and wood protection stains
WorléeSol NW 474	74	1.013	max. 1,500	60 in water	Amine and co-solvent-free alkyd emulsion for wood impregnations and wood protecting paints, also suitable as a co-binder to improve open time and filling properties of decorative paints
WorléeSol NW 521	26	1.040	max. 1,000	40 in water/ propylenglycol/ Dowanol PnB	Short-oil alkyd emulsion for the production of air-drying, cobalt free decorative paints

B | WorléeSol

Alkyd resins, water-thinnable, air-drying and low bake

Type	Oil [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Density DIN 51757 [g/cm³]	Viscosity, Rheometer, 20 °C, C 60/2°, 200 s⁻¹	Form of delivery [%]	Main uses/principal characteristics
WorléeSol 07 A	37	max. 10	35–45 (50% in BG)	1.03	18,000–35,000* mPa·s	75 in BG/sec. butanol 1:1	Air-drying and low bake industrial primers and top coats, low viscous, very fast dust free drying, early water resistance
WorléeSol 30		max. 15	max. 20 (pH 4–5) (50% in water)	1.02	500–1,200 mPas	100	Water-soluble modified linseed oil type, readily reducible with water, for printing inks, as additive for latex paints, tinting and artist colours and pigment pastes
WorléeSol 31 A	90	max. 10 (del. form)	85–115	0.99	350–900 mPas	45 in water/ BG 80:20	Water-dispersible linseed oil polymer, readily reducible with water for in- and outdoor stains and wood preservatives, extremely good penetration and outdoor resistance
WorléeSol 31 C	90	10	90–140	1.0	1,000–2,000 mPas	45 in water/ PnB 8:2	Water-dispersible linseed oil polymer, readily reducible with water for in- and outdoor stains and wood preservatives, extremely good penetration and outdoor resistance
WorléeSol 37	90	max. 15	55–80	0.998	230**	59 in water/ BG	Modified linseed oil polymer for wood protection systems, excellent penetration and weather resistance on different woods and long term elasticity
WorléeSol 61 A	30	max. 10 (50% in BG)	35–45	1.06	70–90** (50% in BG)	75 in BG/sec. butanol 1:1	Air-drying and low bake industrial primers and top coats, very fast drying, excellent corrosion resistance

* Rheometer, 20 °C, C35/1°, 50 s⁻¹ **Flow time 20°C DIN 53211-4 [s]

B | WorléeSol

Alkyd resins, water-thinnable, air-drying and low bake

Type	Oil [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Density DIN 51757 [g/cm³]	Flow time 20°C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeSol 61 E	30	max. 10 (50% in BG)	35–50	1.07	50–70 (50% in BG)	75 in ethoxy propanol	Air-drying and low bake industrial primers and top coats, very fast drying, excellent corrosion resistance
WorléeSol 61 F	30	max. 10 (50% in PnB)	40–50	1.05	70–90 (50% in PnB)	70 in Dowanol PnB	Air-drying and low bake industrial primers and top coats, very fast drying, excellent corrosion resistance
WorléeSol 61 P	30	max. 10 (del. form)	35–45	1.06	6,000-20,000** mPa·s (23 °C)	60 in water/ BG/sec. butanol	61 version fully neutralized with ammonia
WorléeSol 65 A	30	max. 10 (45% in BG)	30–40	1.05	50–70 (45% in BG)	70 in solvent mix: BG/ sec. butanol/ Dowanol PnB	Air-drying and low bake industrial primers and top coats, very fast drying, early water resistance, suitable for agricultural machinery paints
WorléeSol 68 A	32	max. 10 (50% in BG)	35–45	1.07	50–100 (50% in BG)	75 in BG	Silicone-modified alkyd resin for air-drying and stoving systems with excellent weather, heat and humidity resistance
WorléeSol 84 C	30	max. 10 (del. form)	6.7–8.5	1.06	1,000–20,000*	44 in water/ BG (1,0%) (DMEA neutr.)	For waterborne stoving systems, high gloss, good mechanical properties, total cosolvent content < 1%
WorléeSol 85 A	30	max. 10 (del. form)	6.7–8.5	1.06	6,000–20,000***	43 in water/ BG (5,5%) (DMEA neutr.)	As WorléeSol 84, but more reactive

*Rheometer, 20 °C, C 60/2°, 30 s⁻¹ **Brookfield ISO 2555 ***Rheometer, 20 °C, C 60/2°, 5 s⁻¹

B | WorléePol

Polyester, water-thinnable, oil-free, saturated

Type	Acid value DIN EN ISO 3682 [mgKOH/g	Color DIN ISO 4630, Gardner	OH content on solids [%]	Density DIN 51757 [g/cm³]	Viscosity 20 °C, del. form [mPa·s]	Form of delivery [%]	Main uses/principal characteristics
WorléePol 191	45–60	max. 10 (50% in BG)	approx. 4.3	1.10	45–70 (50% in BG, DIN 53211-4/ 20 °C	80 in BG	Branched saturated polyester resin for water-borne industrial stoving systems
WorléePol 194	48–58	clear to slightly opaque	approx. 3.7	1.075	< 20,000**	40 in water + BG (2,1%)	Branched saturated polyester resin for water-borne stoving primers, fillers and top coats with low voc. pH =7.5–8.5, very reactive
WorléePol 808	max. 25	max. 3 (del. form)	approx. 7.0	1.20	15,000–25,000* (25 °C)	100	Low viscous, with high reactivity, for amine free water-based stoving paints on metal, aluminium foil, paper and plastics, also suitable for printing inks
WorléePol V 450	max. 15	max. 3 (del. form)	approx. 8.5	1.18	500–700* (25 °C)	90 in water	Similar to WorléePol 808 but higher reactivity, better stability, higher water tolerance and lower viscosity, also suitable for printing inks

*DIN 53015 **Rheometer, 20 °C, C 35/1°, 25 s⁻¹

B | WorléePol

Polyester/ether-polyols, solvent-free, saturated

Type	Viscosity 23 °C, del. form. DIN 53015 [mPa·s]	OH value DIN EN ISO 4629 [mgKOH/g]	Acid value EN ISO 3682 [mgKOH/g]	Water content DIN 51777, Teil 1, Karl Fischer [%]	Main uses/principal characteristics
WorléePol 165	3,000–4,000	150–170	max. 2	max. 0.2	WorléePol 165 is a low viscous and solvent-free branched polyol with ester and ether groups and is mainly used for the formulation of solvent-free coatings, sealings and adhesives in combination with modified polyisocyanates
WorléePol 230	2,500–3,500	220–240	max. 2	max. 0.2	WorléePol 165 is a low viscous and solvent-free branched polyol with ester and ether groups and is mainly used for the formulation of solvent-free coatings, sealings and adhesives in combination with modified polyisocyanates
WorléePol 1181/03	1,700–2,700 (25 °C)	310–350	max. 2	max. 0.1	Saturated low viscous polyester resin, due to its wide compatibility suitable for various systems, e.g. as modifying component for solvent and water-based isocyanate and amino resin crosslinking coatings to improve flexibility, flow, chemical and mechanical resistance and to increase solids content, corresponds to FDA § 175.300
WorléePol 1181/09	1,500–3,000 (25 °C)	310–350	max. 2	max. 0.1	Saturated low viscous polyester resin, due to its wide compatibility suitable for various systems, e.g. as modifying component for solvent and water-based isocyanate and amino resin crosslinking coatings to improve flexibility, flow, chemical and mechanical resistance and to increase solids content, excellent weather resistance

B | WorléePol

Polyester, solvent-based, saturated

Type	OH value DIN EN ISO 4629 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Acid value EN ISO 3682 [mgKOH/g]	Color DIN ISO 4630, Gardner	Form of delivery [%]	Main uses/principal characteristics
WorléePol 6631	8.0	20,000–30,000 mPa·s (Lff, Brookfield, ISO 2555)	max. 3	max. 3	67 in methoxy propylacetate	Saturated type for air-drying two pack PU-coatings
WorléePol 6741	4.1	10,000–20,000 mPa·s (Lff, Brookfield, ISO 2555)		max. 2	80 in BuAc	Saturated, hydroxy functional polyester resin for the manufacture of solvent-based "ultra high solids" two component PUR systems
WorléePol 6756	5.6	20,000–50,000 mPa·s (Lff, Brookfield, ISO 2555)		max. 2	78 in BuAc	Saturated, hydroxy functional polyester resin for the manufacture of solvent-based "ultra high solids" two component PUR systems for industrial and car repair coatings with good mechanical properties and excellent chemical and weather resistance

B | WorléeDur

Epoxy esters, solvent-based drying

Type	Oil [%] in approx.	Oil type	EP-resin [%]	Color DIN ISO 4630, Gardner	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Form of delivery [%]	Main uses/principal characteristics
WorléeDur D 46	40	Conj. fatty acids	60	max. 10 (50% in xylene)	max. 4	200–250 (50% in xylene)	60 in xylene	High quality zinc rich and anti corrosive paints, air-drying and stoving primers and top coats, fast air-drying and excellent water resistance
WorléeDur MF 45	40	Tall oil/ tung oil	60	max. 20 (50% in xylene)	max. 6	200–250 (50% in xylene)	60 in xylene	Zinc rich and anti corrosive paints with excellent water resistant and rust preventing, good brushability
WorléeDur D 6311	63	specially modified		max. 10 (Delivery form)	max. 2	3.000–4.000 mPa·s Viscosity, Rheometer 20 °C, C 35/1°, 100 s^{-1} 3.000–4.000 mPa·s Viscosity, Rheometer 20 °C, C 35/1°, 100 s^{1} 3.500–5.000 mPa·s Viscosity, Rheometer 20 °C, C 35/1°, 500 s^{1}	60 in entaromat. KW 140–165 Viscosity 60 in ws 145–195 60 in dearomat. KW 160–200	Universal anti-corrosion primers, adhesion primers and one-coat paints, very good adhesion on problematic substrates

B | WorléeFen

Rosin-based hard resins, phenol-modified

Type	Melting point Capillary method [°C]	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Color DIN ISO 4630, Gardner	M.O.T. [%]	Main uses/principal characteristics
WorléeFen F 105	90–110	15–25	20–30 (50% in ws 145–195)	max. 10 (50% in ws 145–195)	300	General purpose type for alkyd-based paints and primers, low viscous resin giving excellent gloss and rub resistance on cold set inks
WorléeFen F 120	110–130	10–20	80–120 (50% in ws 145–195)	max. 10 (50% in ws 145–195)	225	General purpose type for alkyd-based paints and primers and for cooking with alkyds, fast setting, high gloss resin for sheetfed inks, compatible with alkyds and natural inks
WorléeFen F 130	120–140	15–25	120–170 (60% in xylene)	max. 10 (60% in xylene)		Cold cut modifying resin for paints with good drying properties and high gloss

B | WorléeSin

Rosin-based maleic resins and rosin esters

Type	Melting point Capillary method [°C]	Acid value DIN EN ISO 3682 [mgKOH/g]	Flow time 20 °C DIN 53211-4 [s]	Color DIN ISO 4630, Gardner	Main uses/principal characteristics
WorléeSin GM 201	95–120	20–25	25–50 (50% in ws 145–195)	max. 8 (50% in ws 145–195)	General purpose resin for modification of oil, alkyds and paints based up on them, as a cold cut or to be polymerised with oils and alkyds
WorléeSin GM 203	100–125	20–25	25–50 (50% in ws 145–195)	max. 8 (50% in ws 145–195)	General purpose resin for modification of oil, alkyds and paints based up on them, as a cold cut or to be polymerised with oils and alkyds
WorléeSin PM 200	95–115	15–25	20–40 (50% in ws 145–195)	max. 8 (50% in ws 145–195)	Low viscosity penta esterified resin for gloss improvement for house and industrial paints and dispersing media for pigment pastes and preparations
WorléeSin PM 202	100–125	15–20	30–60 (50% in ws 145–195)	max. 8 (50% in ws 145–195)	Penta esterified general purpose resin for decorative, do-it-yourself and industrial paints, also used for furniture adhesives
WorléeSin MK 223	90–110	40–50	80–120 (60% in BuAc)	max. 8 (60% in BuAc)	With castor oil plasticized, for NC-lacquers with very good solvent release and sandability
WorléeSin MS 235	125–155	180–200	10–20 (50% in ethanol)	max. 15 (50% in ethanol)	For alcohol and water-based paints and lacquers, flexo and gravure inks, overprint varnishes, compatible with acrylic polymers and NC, soluble in water after neutralisation, FDA 175.105, 175.300
WorléeSin MS 265	155–190	190–220	15–25 (50% in ethanol)	max. 8	For alcohol and water-based paints and lacquers, flexo and gravure inks, overprint varnishes, compatible with acrylic polymers and NC, soluble in water after neutralization, FDA 175.105, 175.300

B | WorléeGilsol

Natural asphaltum solution

Type	Non volatile content DIN EN ISO 3251 [%]	Solvent	Viscosity Brookfield-Rheometer, Spindel CP52 (Kegel-Platte) 25 °C, 75rpm [mPa·s]	Main uses/principal characteristics
Gilsol 27 TD	approx. 27	dearomatized white spirit/ DPM	200–500	Wood protection and black paints

B | WorléeGum

Natural resins

Type	Softening Point [°C]	Acid value DIN EN ISO 3682 [mgKOH/g]	Saponification DIN EN Iso 3681 [mgKOH/g]	Color DIN Iso 4630, Gardner	Form of delivery	Main uses/principal characteristics
Dammar white A Type 5200	approx. 75	25–35	35–60	3–5	big lumps	In combination with oils and alkyds for for solvent-based roto- gravure inks with high gloss and good adhesion on plastic films
Copal 5001	100–120	100–120	145–190	3–6	big lumps	In combination with other binders for food and paper fishing, floor lacquers and adhesives

Market(s) served: EUROPE

B | WorléeGum
Natural resins

Type	Wax [%]	Melting Point [°C]	Acid value DIN EN ISO 3682 [mgKOH/g]	Saponification DIN EN Iso 3681 [mgKOH/g]	Color Gardner 20% in ethanol	Form of delivery	Main uses/ principal characteristics
Shellac 4621 dewaxed	≤ 0.2	65–85	65–80	190–230	max. 10	Flakes	For wood and paper finishing, French polish, coatings and adhesives, excellent binder for packing material printing inks with good adhesion on plastic
Shellac 4625 DO dewaxed	≤ 0.2	65–85	65–80	190–230	max. 16	Flakes	
Shellac 4504 lemon 1 m.m. waxed	≤ 5.5	70–90	65–76	185–200	max. 16	Flakes	For wood and paper finishing, French polish, coatings and adhesives, makes it possible to produce high solid, quick drying, waterproof printing inks and overprint varnish
Shellac 4505 TN waxed	≤ 4.5	70–90	60–80	185–200	max. 18	Flakes	

Market(s) served: EUROPE

B | WorléeGum
Shellac solutions

	Type	Solid Content [%] approx.	pH value	Viscosity [mPa·s] max.	Form of delivery
YELLOW-ORANGE COLOURED SOLUTION	**Worlée7730 SOLW**	25–27	7.5–8.5	1,000	approx. 25% white bleached shellac in aqueous potassium hydroxide solution
	Worlée7730 SOLL	49		390	approx. 49% white bleached shellac (dewaxed) in ethanol
DARK SOLUTION	**Worlée4505 SOLW**	29–31	7.0–7.5	200	approx. 30% Shellac (wax containing) dissolved in aqueous potassium hydroxide solution

Market(s) served: WORLDWIDE

B | WorléeCop
Styrene-butadienecopolymer

Type	Solids	Viscosity [mPas]	pH value [mPa·s]	Main uses/principal characteristics
WorléeCop 100	50.0 ± 1.0	50–400	8.0–8.6	Binding agent in aqueous anticorrosive automotive coatings where resistance against pebble/gravel is required, often in combination with water soluble or water-thinnable resins

B | Zinpol
Acrylic resins, water-based dispersions and solutions for printing inks and OPV´s

Type	Monomer	Non volat. content DIN EN ISO 3251 [%]	pH value DIN 53785	Density DIN 51757 [g/cm³]	MFT [°C]	Viscosity 20°C, del. form Brookfield, ISO 2555 [mPa·s]	Main uses and principal characteristics
Zinpol 132	Styrene acrylate dispersion	40	8.0–9.0	1.05	56	5,000–6,000	Metallic printing inks
Zinpol 146	Acrylic solution	35	7.0–7.5	1.06	< 0	2,500–3,000	Metallic printing inks, excellent ink stability
Zinpol 259 S	Shellac supported polystyrene dispersion	49	8.0–8.5	1.05	> 100	200–800	High gloss
Zinpol 280	Styrene acrylate dispersion	47	8.5–9.0	1.04	< 0	800–1500	Good adhesion on nonporous substrates, paper, paperboard and foils
Zinpol 295	Acrylate dispersion	49	8.0–9.0	1.05	5	1,250–2,750	Ice water crinkle resistance
Zinpol 330	Styrene acrylate dispersion	46	8.0–8.5	1.04	12	1,500–2,500	Excellent grease and oil resistance
Zinpol 340	Styrene acrylate dispersion	44	8.0–9.0	1.08	75	500–1,000	High gloss, heat resistance
Zinpol 350	Styrene acrylate dispersion	45	8.0–9.0	1.06	0	300–800	Excellent high gloss dispersion
Zinpol 387	Styrene acrylate dispersion	50	8.0–9.0	1.04	65	300–700	No crinkles on thin paper
Zinpol 460	Styrene acrylate dispersion	50	8.0–8.5	1.06	75	200–600	Fast drying, high film hardness
Zinpol 520 AS-D	Colloidal pure acrylic solution	20	9.5–10.0	1.05	_	2,000–3,000	For carbon black pigments
Zinpol 755	Styrene acrylate dispersion	41	8.0–9.0	1.06	0	200–600	Heat resistance up to 240 °C
Zinpol 790	Styrene acrylate dispersion	45	7.5–8.5	1.15	5	1,500–2,500	Fast drying, ice water resistance, flexible

Market(s) served: EUROPE

B | Polyols & Polymers
Ketone aldehyde resins

Type	Melting Point [°C]	Viscosity at 25 °C; 50% solution alcohol; B-4 FC in sec. [cPs]	Acid Value max.	Hydroxyl Value [mg Koh/g resin]	Iodin No. of 50% solution alcohol max.	Main uses and principal characteristics
Polytone K-93	98–103	15–17	≤ 1	265–285	1	Lamination inks, lacquers and paper coatings
Polytone K-94	90–95	17–19	≤ 1	200–220	1	Flexo- and gravure printing inks, ball point inks
Polytone K-95	100–105	19–21	≤ 1	230–250	1	Flexo- and gravure printing inks, ball point inks
Polytone K-96	105–110	20–23	≤ 0.5	230–250	1	Flexo- and gravure printing inks, ball point inks
Polytone K-97	110–120	22–25	≤ 0.5	230–250	1	Flexo- and gravure printing inks, ball point inks

Market(s) served: WORLDWIDE, EXCEPT MIDDLE EAST AND INDIA

B | Bruno Bock

VOC-free Polythiols – multifunctional esters of mercaptocarboxylic acids

Type	SH-functionality	Molecular weight [g/mol]	H-active Equivalent [g/mol]	SH-content [%]	Viscosity [mPa·s]	Applications/characteristics
Thiocure® 360	6	783.1	135–140	24.1	~2,500	Hexafunctional Polythiol, higher crosslink density, harder and higher glass transition temper- atures
Thiocure® 340	4	488.6	125–128	26	~500	Tetrafunctional polythiol, Standard grade for solvent and solvent-free systems, reacts with Epoxy and unsaturated compounds, useable as a high reactive hardener for Epoxy-systems to enhance the curing speed even at low temperatures, additive for fast curing in high-solid PU-systems, binder for Thiourethane-systems and Thiolene systems (thermal or UV-curing), additive for radiation curing systems
Thiocure® 340 L	4	488.6	125–128	26	~500	Odor-optimized version of the standard grade Thiocure® 340
Thiocure® 340 SL	4	488.6	125–128	26	~500	Controlled reactivity, recommended for Isocyanate curing systems
Thiocure® UV340-1	4	488.6	125-128	26	~500	Tetrafunctional polythiol, especially developed for the use in radiation curing systems, exceptional stability, high crosslinking density, reduc- tion of oxygen inhibition as well as volume shrinkage, improvement of mechanical properties and chemical resistance, curing of very thick layers and also highly pigmented or highly filled systems.
Thiocure® 330	3	398.6	136–140	24	~150	Trifunctional Polythiol, more flexible than Thiocure® 340 because of lower crosslink density
Thiocure® 331	3	525.6	180–184	18.4	~10,000	Trifunctional Polythiol based on isocyanurate structure, improved adhesion to metallic substrates and excellent reactivity in Thiolene systems and extremely high Thiolene systems UV-resistance
Thiocure® 320	2	238.3	122–125	26.8	~10	Difunctional Polythiol, more flexible than Thiocure® 340 and Thiocure® 330 because of lower crosslink density
Thiocure® 341	4	~1.350	348–375	9.1	~1,500	Polymer-Thiol based on Polycaprolactone, compared to Thiocure® 332 more reactive and flexible, better moisture- and UV-resistance
Thiocure® 333	3	1.300	435–448	7.1	~400	Polymer-Polythiol, compared to Thiocure® 340/330/320 soft and flexible but less reactive
Thiocure® 332	3	700	236–262	13.5	~200	Polymer-Polythiol, compared to Thiocure® 333 less flexible but higher mechanical strength

Market(s) served: AUSTRIA, CHINA, CZECH REPUBLIC, FRANCE, GERMANY, HUNGARY, INDONESIA, ITALY, MALAYSIA, POLAND, ROMANIA, SINGAPORE, SLOVENIA, SLOWAKIA, SPAIN, SWITZERLAND, THAILAND, VIETNAM

B | Hobum

Adduct hardeners for epoxy resins, aqueous

Type	Viscosity at 25 °C [mPa·s]	Amine Value [mg KOH/g]	Solid Content [%]	H-Equivalent Weight [g/Eq]	Gel Time 250g/23°C approx.	Biobased Carbon Content [3] [%]	Main uses/principal characteristics
Merginamid A 154	18000 - 30000	105 - 125	39 - 41	260	2,5 [2] > 6 h [1]	34	Modified polyaminoamide-adduct dissolved in water; production of self-emulsifying aqueous primers, coat- ings and adhesives to be used on mineral and metal substrates; good corrosion protection properties
Merginamid A 155/2	13000 - 23000	155 - 175	49 - 51	210	2,5 h [2] > 6 h [1]	34	Modified polyaminoamide-adduct dissolved in water; dilutable down to 20% solid content; corrosion protec- tor with very fast physical drying, very long potlife, good mechanical and chemical resistance; excellent adhesion to metals, mineral substrates and plastics; excellent and tackfree hardening even on wet surfac- es; as hardener for flexible coatings; in the construction sector and corrosion protection
Merginamid A 160	30000 - 50000	135 - 155	49 - 51	210	2,5 h [2] > 6 h [1]	34	See A 155/2, in addition suitable for paving joint mortar und vertical coatings
Merginamid A 210/5	18000 - 28000	170 - 200	54 - 56	230	1 h [2] > 6 h [1]	0	Modified polyamine-adduct; self-emulsifying aqueous curing agent for self-leveling of thick floor coatings up to 4 mm; rapid water release, after 30 h walkable; fast-curing coatings with good flow and excellent adhe- sion to metals and mineral substrates as well as high chemical resistance; for corrosion protection coatings, concrete primers, floor and wall paints, epoxy cement mortars, industrial coatings; preferable used with reac- tive diluted resins
Merginamid A 211	7000 - 10000	170 – 200	54 - 56	225	1 h [2] > 6 h [1]	0	Modified polyamine-adduct; self-emulsifying aqueous curing agent for self-leveling of thick floor coatings; ap- plication/properties as A 210/5, due to lower viscosity vs. A 210/5 to be used with standard liquid resins
Merginamid A 212	15000 - 35000	95 – 120	39 - 41	415	1 h [2] 2 h [1]	0	Production of water reducible epoxy coatings on miner- al and metal substrates; light inherent colour and low yellowing
Merginamid A 213	18000 - 24000	220 – 250	79 - 81	145	1,5 h [2] > 6 h [1]	0	Polyaminoamide-adduct; for water reducible epoxy coatings; outstanding water and salt spray resistance for corrosion protection of metal substrates
Merginamid A 226	5000 - 13000	120 – 135	54 - 56	380	2,5 h [2] 3 h [1]	0	Polyamine-adduct; for water reducible coatings (primer and top coats up to 150 µm) on metal surfaces; very good wet adhesion also on not carefully treated sub- strates
Merginamid A 227	25000 - 40000	210 - 235	69 - 71	166	1,5 h [2] 2,5 h [1]	0	Self-emulsifying polyamine-adduct; for primers and top coats to be used on mineral and metal surfaces; very light inherent color and low yellowing; also suitable for epoxy cement concrete (ECC)

[1] Dispersion of a solid epoxy resin (as delivered), epoxy equivalent weight approx. 890 g/Eq
[2] Liquid epoxy resins, epoxy equivalent weight approx. 190 g/Eq
[3] Measure of the amount of biomass-derived carbon in a product compared to its total carbon content

Market(s) served: BELGIUM, FRANCE, LUXEMBURG, NETHERLAND, NORDIC, POLAND

B | Hobum
Adduct hardeners for epoxy resins, solvent-free

Type	Viscosity at 25 °C [mPa·s]	Amine Value [mg KOH/g]	Solid Content [%]	H-Equivalent Weight [g/Eq] approx.	Gel Time[1] 250g/23°C approx.	Biobased Carbon Content[2] [%]	Main uses/principal characteristics
Merginamid A 256	300 - 700	400 - 450	-	75	15 min	0	Very reactive polyaminoamide-adduct that accelerate the curing of liquid epoxy resins with Merginamids L and allows application at temperatures around 0 °C and 95 % humidity; clear and tack-free films with high gloss
Merginamid A 260	8000 – 12000 (40 °C)	265 - 295	100	170	100 min.	59	Polyaminoamide-adduct, especially suited for coatings on difficult concrete surfaces, for sticking together concrete parts and for corrosion protection, tack free hardening even at extremely high air humidity (underwater painting is possible); antifouling paints, adhesives
Merginamid A 280	1000 - 2000	250 - 290	100	115	80 min.	40	Low-viscous polyaminoamide-adduct, production of primers and coatings with outstanding adhesion on wet concrete; high quality high solid coatings for corrosion protection and marine applications
Merginamid A 282	1000 - 2000	340 - 380	100	115	120 min.	59	Low-viscous polyaminoamide-adduct; a benzyl alcohol free version of Merginamid A 280
Merginamid A 296	3700 - 4700	235 - 242	100	135	> 800 min.	67	Polyaminoamide-adduct with especially long gel time (> 12 h at RT); for sealings and adhesives
Merginamid A 380	300 - 500	380 - 400	100	115	35 min.	31	Modified polyaminoamide-adduct, for primers and coatings with outstanding adhesion on wet concrete and on other substrates with damp surfaces and poor wettability; preferably it is applied in high quality high solid coatings for corrosion protection and marine applications

[1] Liquid epoxy resins, epoxy equivalent weight approx. 190 g/Eq
[2] Measure of the amount of biomass-derived carbon in a product compared to its total carbon content

Market(s) served: BELGIUM, FRANCE, LUXEMBURG, NETHERLAND, NORDIC, POLAND

B | Hobum
Adduct hardeners for epoxy resins, solvent-based

Type	Viscosity at 25 °C [mPa·s]	Amine Value [mg KOH/g]	Solid Content [%]	H-Equivalent Weight [g/Eq] approx.	Gel Time[1] 250g/23°C approx.	Biobased Carbon Content [2] [%]	Main uses/principal characteristics
Merginamid A 105	600 - 2 400	80 - 110	49 - 51	785	> 24 h	17	Modified polyaminoamide-adduct; for corrosion protecting (shipbuilding), mineral substrates (building industry), clear and pigmented lacquers, graining and rust-preventing primers, tar-epoxy combinations and others; tack free film forming even at high air humidity (up to 95 %) and temperatures about 10 °C; long pot-life; high gloss; short drying time, outstanding mechanical and chemical properties
Merginamid A 112	1400 – 2200 (20 °C)	130 - 145	59 - 61	520	> 12 h	38	Modified polyaminoamide-adduct, tackfree films at high air-humidity (approx. 80%) and temperatures about 10°C; excellent flow properties, short drying time, high gloss and outstanding mechanical and chemical properties; paint- and building protection industry, for clear and pigmented lacquers, graining and rust-prevention primers, tar epoxy combinations and others
Merginamid A 130	1400 – 2200 (20 °C)	145 - 165	60 - 63	520	> 12 h	43	Modified polyaminoamide-adduct, accelerated version of Merginamid A 112
Merginamid A 140	7000 - 9000	140 - 160	69 - 71	340	> 12 h	50	Modified polyaminoamide-adduct; to be used on steel and mineral substrates, long potlife, excellent flow properties, short drying time, high gloss, applicable even at high air-humidity (up to 70%) and at temperatures about 10°C; for clear and pigmented lacquers, graining and rust-prevention primers
Merginamid A 220	3000 - 6000	210 - 230	57 - 61	160	> 12 h	40	Modified polyaminoamide-adduct; for solvent based coatings with fast physical drying, tack free curing up to approx. 80 % relative air humidity; high chemical resistance, especially against hydraulic and brake fluids; excellent adhesion to Aluminium
Merginamid A 240	3000 - 6000	125 - 140	58 - 62	400	> 12 h	29	Modified polyaminoamide-adduct; for solvent based coatings and high solids for primers and top coats with extremely fast surface drying; tack-free films even at high air-humidity and temperatures about 5 °C

[1] Dispersion of a solid epoxy resin (as delivered), epoxy equivalent weight approx. 890 g/Eq
[2] Measure of the amount of biomass-derived carbon in a product compared to its total carbon content

Market(s) served: BELGIUM, FRANCE, LUXEMBURG, NETHERLAND, NORDIC, POLAND

B | Hobum
Polyaminoamid hardeners for epoxy resins, solvent-free

Type	Viscosity at 25 °C [mPa·s]	Amine Value [mg KOH/g]	H-Equivalent Weight [g/Eq]	Gel Time [1] 250g/23°C approx.	Biobased Carbon Content [2] [%]	Main uses/principal characteristics
Merginamid L 190	22000 – 35000 (40°C)	240 – 260	240	140 min.	88	High viscosity polyaminoamide; for solvent-based coatings; corrosion protection (direct-to-metal), industrial floor coatings, mortars, casting resins, mould making and reaction adhesives; ; excellent adhesion to metals and concrete, excellent flexibility and impact strength, low heat generation and shrinkage during curing
Merginamid L 250	5000 – 7000 (40°C)	290 – 360	145	130 min.	77	Reactive polyaminoamide; production of solvent based coatings
Merginamid L 275	1600 - 2400	265 – 290	130	130 min.	87	Reactive polyaminoamide; for high solid coatings, self-levelling floorings, adhesives, putties, mortars, casting resin, laminated materials, mould making; KTW conformity (drinking water ordinance); excellent adhesion to metals and concrete, good mechanical properties
Merginamid L 295	0 - 400	240 - 310	76	> 18 h	81	Polyaminoamide-adduct; slow reacting epoxy resin hardener with a long open time and very low reaction temperature, no shrink during curing, for casting and sealing applications
Merginamid L 375	4000 - 5700	360 – 390	110	100 min.	77	Reactive polyaminoamide; production of coatings, putties, mortars, adhesives and casting resins
Merginamid L 390	100 - 400	370 – 410	95	180 min.	75	Very low viscosity polyaminoimidazoline; long potlife, good mechanical properties, excellent adhesion to metals, concrete, glass, paper, plastics, high flexibility; for solvent free paints, sealings, industrial floor coatings, mortars, molding as well as casting resins, adhesives; lower viscosity and slower reactivity than polyaminoamides
Merginamid L 410	2400 - 4000	380 – 420	95	140 min.	75	Reactive polyaminoamide; production of coatings, putties, mortars, adhesives and casting resins
Merginamid L 445	1000 – 3000 (40°C)	370 – 400	95	140 min.	75	Reactive polyaminoamide; for corrosion protection, solvent-based coatings, adhesives, casting resins, synthetic resin cements with thermal stress, repair compounds, electric isolating cements, molding resins, heat resistant mortars and marine coatings; excellent adhesion to metals, concrete, glass, paper, plastics, good mechanical properties, long processing time
Merginamid L 450	200 - 500	425 – 460	90	95 min.	73	Reactive polyaminoamide; production of coatings, sealings, industrial floor coatings, artificial resin cements, casting resins, moulding compounds, reactive adhesives, putties, mortars; excellent adhesion to metals and concrete, high flexibility and impact strength, low cure heating and shrinkage, excellent water and chemical resistance
Merginamid L 500	150 - 350	480 – 520	95	90 min.	69	Reactive polyaminoamide; for coatings, sealings, industrial floor coatings, artificial resin cements, casting resins, moulding compounds, model making and reactive adhesives; excellent adhesion to metals and concrete, high flexibility and impact strength, low cure heating and shrinkage, excellent water and chemical resistance

[1] Liquid epoxy resins, epoxy equivalent weight approx. 190 g/Eq
[2] Measure of the amount of biomass-derived carbon in a product compared to its total carbon content

Market(s) served: BELGIUM, FRANCE, LUXEMBURG, NETHERLAND, NORDIC, POLAND

B | Hobum
Polyaminoamid hardeners for epoxy resins, solvent-based (xylene)

Type	Viscosity at 25 °C [mPa·s]	Amine Value [mg KOH/g]	Solid Content [%]	H-Equivalent Weight [g/Eq]	Gel Time [1] 250g/23°C approx.	Biobased Carbon Content [2] [%]	Main uses/principal characteristics
Merginamid 190/70	440 – 1250	155 – 185	69 - 71	340	> 12 h	55	Solvent-based polyaminoamide with rapid physical drying, dissolved in xylene; high chemical resistance, very good adhesion; for corrosion protection, direct to metal, surface protection of wood, concrete and plastics, adhesives

[1] Dispersion of a solid epoxy resin (as delivered), epoxy equivalent weight approx. 890 g/Eq
[2] Measure of the amount of biomass-derived carbon in a product compared to its total carbon content

Market(s) served: BELGIUM, FRANCE, LUXEMBURG, NETHERLAND, NORDIC, POLAND

B | Hobum
Polyols from renewable resources

Type	Hydroxyl Value Hydroxyl Content [%] [1]	Acid Value [mg KOH/g]	Viscosity at 25 °C [mPa·s]	Average Functionality Calculated	Biobased Carbon Content [2] [%]	Main uses/principal characteristics
Merginol 207	65 – 90 2.0 – 2.7	≤ 1	2500 – 4500	3.1	98	Basic polyol, branched NOP[3] with primary and secondary hydroxyl groups; gloss improvement, high ethanol resistance, hydrophobicity, flexible foam texture, long pot life; for flexible foams, PU dispersions, casting resins
Merginol 208	40-60 1.2 – 1.8	≤ 1	500 - 1500	1.2	99	Additive polyol, branched NOP[3] with primary and secondary hydroxyl groups; gloss improvement, high ethanol resistance, hydrophobic, adjustment of hydroxyl value and viscosity; for PU dispersions
Merginol 240	150 – 180 4.5 – 5.5	≤ 1	500 - 1500	5.1	94	Basic and additive polyol, branched NOP[3] with primary and secondary hydroxyl groups; toughness, wear resistance, good chemicals resistance; for casting resins, floorings, 2K coatings, foams, adhesives, sealants
Merginol 901	290 – 330 8.8 - 10	≤ 2	700 – 1200	3.0	80	Basic and additive polyol, branched NOP[3] with primary and secondary hydroxyl groups; aromatic-free; highly hydrophobic, good chemical resistance and hardness, low color; for casting resins, self-levelling floorings, 2K coatings, foams, adhesives, sealants, UV stable coatings
Merginol 903	220 – 270 6.7 – 7.9	≤ 3	80 – 300	2.1	92	Basic and additive polyol, branched NOP[3] with primary and secondary hydroxyl groups; aromatic-free; extremely high hydrophobicity (hardening under water is possible), flexibility, long pot life, low viscosity; for casting resins, 2K coatings, sealants, primers, adhesives
Merginol 904	220 – 270 6.7 – 8.2	≤ 3	2000– 3000	3.4	54	Branched Polyester/-etherpolyol; aromatic-free; preferred are viscoplastic to hard coatings requiring high wear and chemical resistance; high toughness; for casting resins, 2K coatings, floorings, adhesives and many more areas
Merginol 905	155 – 180 4.7 – 5.5	≤ 2	2600 – 3800	3.2	74	Branched Polyester/-etherpolyol; aromatic-free; hydrophobic, high wear resistance; for casting resins, 2K coatings, sealants, floorings, adhesives
Merginol 908	190 – 215 5.8 – 6.5	≤ 3	1100 – 1800	3.4	80	Base polyol, branched NOP[3] with primary and secondary hydroxyl groups; hydrophobic, good chemical resistance, pigment wetting; for casting resins, floorings, 2K coatings, adhesives, sealants
Merginol 909	210 – 250 6.4 – 7.6	≤ 3	700 – 1200	3.3	93	Branched Polyester/-etherpolyol based on vegetable oil; aromatic-free; hydrophobic, good resistance against hydrolysis; for casting resins – especially for electronics –, floorings, 2K coatings, adhesives, sealants
Merginol 910	370 – 430 11.2 – 13.0	≤ 2	1500 – 3000	3.5	74	Branched Polyester/-etherpolyol; high hydrophobicity, exceptional wear resistance, high hardness; aromatic-free; for casting resins, 2K coatings, floorings and other areas – especially for hard systems
Merginol 1021	210 – 240 6.4 – 7.3	≤ 2	400 - 700	2.9	80	Polyol based on vegetable oil with primary and secondary hydroxyl groups; hydrophobic, good chemical resistance; for casting resins, pigment pastes and 2K coatings especially floorings
Merginol 1060	160 – 180 4.8 – 5.5	≤ 3	200 - 500	2.3	72	Polyol based on vegetable oil with primary and secondary hydroxyl groups; hydrophobic, good chemical resistance, flexibility at low temperatures; for casting resins, 2K coatings, sealants, primers

[1] Average OH equivalent [g] = 1700 / hydroxyl content [%]
[2] Measure of the amount of biomass-derived carbon in a product compared to its total carbon content
[3] Natural Oil Polyol (NOP)

Market(s) served: BELGIUM, FRANCE, LUXEMBURG, NETHERLAND, NORDIC, POLAND

B | Hobum
Epoxidized esters and oils from renewable resources

Type	Oxirane Content [%]	Acid Value [mg KOH/g]	Viscosity at 20 °C [mPa·s]	Iodine Value [g I_2/100 g]	Biobased Carbon Content [1] [%]	Main uses/principal characteristics
Merginat ESBO	6,5 - 7,5	max. 0,5	400 - 600	max. 3,5	100	Epoxidized vegetable oil based on soya. High oxirane content, low emission; plasticiser for PVC und nitrocellulose, co-stabilizer for PVC (plastisols)
Merginat ESBO 02	6,5 - 7,5	max. 0,3	500 - 600	max. 2,5	100	Epoxidized vegetable oil based on soya, low acid value, low iodine value, low emission; plasticiser for PVC und nitrocellulose, co-stabilizer for PVC (plastisols)
Merginat ELO	8,5 - 9,5	max. 1	800 - 1300	max. 7	100	Oleochemical epoxy compound based on linseed oil, with a very high epoxy oxygen content; plasticiser for PVC and nitrocellulose, co-stabilizer for PVC (plastisols), cross linking agent

[1] Measure of the amount of biomass-derived carbon in a product compared to its total carbon content

Market(s) served: BELGIUM, FRANCE, LUXEMBURG, NETHERLAND, NORDIC, POLAND

B | Hobum
Modified vegetable oils for curing by UV-radiation, solvent-free

Type	Viscosity at 25 °C [mPa·s]	Acid Value [mg KOH/g]	Biobased Carbon Content [1] [%]	Main uses/principal characteristics
Merginat UV 8107	700 – 1.300	max. 1	98	Radiation-curable binder based on vegetable oil; no inhibiting by oxygen occurs during hardening; flexible and scratch resistant films, good adhesion on wood, paper, leather, cork and foils (PVC, PE, polyester), good chemical resistance; for radiation curing coatings, lacquers, adhesives and printing inks
Merginat UV T	150 – 300	max. 1	71	Reactive diluent modified, radiation-curable and solvent-free binder based on vegetable oil; no inhibiting by oxygen occurs during hardening; flexible and scratch resistant films, good adhesion on wood, paper, leather, cork and foils (PVC, PE, polyester), good chemical resistance; for radiation curing coatings, lacquers, adhesives and printing inks

[1] Measure of the amount of biomass-derived carbon in a product compared to its total carbon content

Market(s) served: BELGIUM, FRANCE, LUXEMBURG, NETHERLAND, NORDIC, POLAND

B | Vencorex
Monomeric Isocyanates

Type	Colour [Hazen]	Hydrolysable chlorine [ppm]	Total chlorine [ppm]	Assay [%]	Applications
IPDI	≤ 30	< 200	< 400	99.5	Used in the chemical synthesis of aliphatic polyisocyanates and polyurethanes, such as aqueous dispersible polyurethane polymers (PUD) showing exceptional weathering resistance
HDI	≤ 15	< 350	< 1,000	99.5	Used in the chemical synthesis of aliphatic polyisocyanates and polyurethanes, such as aqueous dispersible polyurethane polymers (PUD) showing exceptional weathering resistance and flexibility

Tolonate™ and Easaqua™ are trademarks of Vencorex
Market(s) served: AUSTRIA, GERMANY, SCANDINAVIA, SWITZERLAND

B | Vencorex
Aliphatic Polyisocyanates for waterborne systems

Type	Colour [Hazen]	Viscosity at 25°C [mPa.s]	NCO (on delivery form) [%]	HDI Monomer [%]	Solids content average [%]	Applications
Easaqua™ M 502 LM	≤ 60	2.300–4.900	16.8–19.8	0.1	≥ 97	Aliphatic Polyisocyanate for 2k systems, aqueous, APEO free
Easaqua™ L 600 LM	≤ 100	1.400–2.200	19.7–21.3	0.1	≥ 97	Aliphatic Polyisocyanate for 2k systems, aqueous, APEO free
Easaqua™ XM 505 LM	≤ 60	1.100-1.900	20.7–22.7	0.1	≥ 98	Aliphatic Polyisocyanate for 2k systems, aqueous, APEO free
Easaqua™ XD 401	≤ 100	450–1.650	13.8–17.8	< 0.5	82–88	Aliphatic Polyisocyanate,fast drying
Easaqua™ XD 803	≤ 100	100–300	11.2–13.2	< 0.5	66–72	Aliphatic Polyisocyanate, fast drying
Easaqua™ XD 870	≤ 100	230–530	11.4–13.4	< 0.5	66–72	Aliphatic Polyisocyanate, fast drying, AgBB compliant

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B | Vencorex
Aliphatic Polyisocyanates

	Type	Colour [Hazen]	Viscosity at 25°C [mPa.s]	NCO (on delivery form) [%]	HDI Monomer [%]	Solids content average [%]	Applications
HDI BIURET	**Tolonate™ HDB**	≤ 40	9,000 ± 2,000	22 ± 1	< 0.3	100	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ HDB 75 B	≤ 40	150 ± 100	16.5 ± 0.5	< 0.3	75% solids in butylacetate	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ HDB 75 M	≤40	250 ± 100	16.5 ± 0,5	< 0,3	75% solids in methoxypropyl acetate	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ HDB 75 MX	≤ 40	250 ± 100	16.5 ± 0.5	< 0.3	75% solids in a blend of methoxypropyl acetate and xylene	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ HDB-LV	≤ 40	2,000 ± 500	23.5 ± 1	< 0.3	100	Aliphatic Polyisocyanate for 2-k systems
HDI TRIMER	**Tolonate™ HDT LM**	≤ 40	2,400 ± 400	22 ± 0.5	< 0.1	100	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ HDT 90 LM	≤ 40	500 ± 100	19.8 ± 0.7	< 0.1	90% solids in a blend of butyl acetate and aromatic hydrocarbon (1 for 1 in weight)	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ HDT 90 B LM	≤ 40	450 ± 100	20 ± 1	< 0.1	90% solids in butyl acetate	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ HDT-LV LM	≤ 40	1,200 ± 300	23 ± 1	< 0.1	100	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ HDT-LV 2	≤ 40	600 ± 150	23 ± 1	< 0.5	100	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ X FD 90 B	≤ 60	2,000 ± 1,000	17.4 ± 0.6	< 0.5	90% solids in butyl acetate	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ D2	≤ 40	2,500 - 4,000	11.2 ± 0.5	< 0.05	75% solids in aromatic hydrocarbon	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ IDT 70 B	≤ 60	600 ± 300	12.3 ± 1	< 0.5	70% solids in butylacetate	Aliphatic Polyisocyanate for 2-k systems
	Tolonate™ X FLO 100	approx. 80	140 ± 80	12.3 ± 1	< 0.5	100	Partially bio-based, solvent-free, extremely low viscosity aliphatic isocyanate polymer, based on Hexamethylene Diisocyanate (HDI)
	Tolonate™ X F 800	≤ 80	800 ± 200	20.1 ± 1	< 0.3	100	Low viscosity solvent-free aliphatic polyisocyanate based on Hexamethylene Diisocyanate (HDI)
	Tolonate™ X F 450	≤ 80	450 ± 250	16,3 ± 1	< 0.3	100	Low viscosity solvent-free aliphatic polyisocyanate based on Hexamethylene Diisocyanate (HDI)

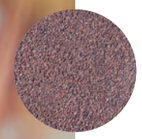
Tolonate™ and Easaqua™are trademarks of Vencorex. Market(s) served: AUSTRIA, GERMANY, SCANDINAVIA, SWITZERLAND

B | AGC
Natural asphaltum

Type	Softening point ASTM E28-92 [°C]	Ash [%]	Color	Form of delivery	Main uses and principal characteristics
Gilsonite® Selects 347	154–180	max. 1.0	Dark brown to black	Small lumps	Grinding resin for carbon black based news and heatset inks

Market(s) served: AUSTRIA, CENTRAL, EASTERN AND SOUTHEASTERN EUROPE, FINLAND, GERMANY, SWEDEN

Color



For a world filled with color

C as in Color. What would the world be without color? Since time immemorial, pigments of all sorts have helped shape our lives and our culture. Color often fulfils particular functions, but above all, they affect us humans on an emotional level that would be unimaginable for other chemical raw materials. Color can enhance the essential nature of your end products in many ways. Along with wood shades and fluorescent colors, we offer a comprehensive range of colouring products from masterbatch granulates to colored carbon blacks to colorful glass flakes for a wide variety of applications.

Color

C | WorléeTransoxid W

Water-based transparent iron oxide and carbon black preparations

Type	C.I.	Pigment content [%] approx.	pH value approx.	VOC [g/l] approx.	Density [g/cm³] approx.	Viscosity [mPa·s]	Applications/Properties
WorléeTransoxid W red	PR 101	40	8–10	< 50	1.45	approx. 600	Transparent, water-based iron oxide preparations and carbon black pastes for wood stains
WorléeTransoxid W yellow	PY 42	40	8–10	< 50	1.43	400–800	
WorléeBlackpaste W	PBI 7	40	7.5–9	< 5	1.21	approx. 1,500	

C | WorléeTransoxid S

Solvent-based transparent iron oxide, carbon black and titanium dioxide preparations

Type	C.I.	Pigment content [%] approx.	VOC [g/l] approx.	Density [g/cm³] approx.	Viscosity [mPa·s]	Applications/Properties
WorléeTransoxid S red	PR 101	39.0 ± 1	430–450	1.31	400–800	Transparent, solvent-based iron oxide and carbon black preparations for wood stains, MeKo-free
WorléeTransoxid S yellow	PY 42	39.0 ± 1	430–450	1.27	300–800	
WorléeBlackpaste S	PBI 7	25.0 ± 2	420–440	1.01	500–1,500	
WorléeWhitepaste S	PW 6	65.0 ± 2	approx. 430	1.7	approx. 1,000	

C | WorléeTransoxid SF-AK

Solvent-free transparent iron oxide, carbon black and titanium dioxide preparations

Type	C.I.	Pigment content [%] approx.	Density [g/cm³] approx.	Viscosity [mPa·s]	Applications/Properties
WorléeTransoxid SF-AK Red	PR 101	30	1.06	1,200	Transparent iron oxide and carbon black preparations based on solvent-free binders for wood stains, MeKo-free
WorléeTransoxid SF-AK Yellow	PY 42	30	1.06	2,800	
WorléeBlackpaste SF-AK	PG 7	15	1	1,500	

C | WorléePaste S-AK

Solvent-based pigment preparations for wood stains

Type	C.I.	Pigment content [%] approx.	VOC [g/l] approx.	Density [g/cm³] approx.	Viscosity [mPa·s]	Applications/Properties
WorléePaste S-AK 412	PV 23	20.0 ± 1	510	0.91	1,500	Solvent-based pigment preparations for the wood stain area, MeKo-free
WorléePaste S-AK 512	PB 15:2	20.0 ± 1	512	0.91	1,500	
WorléePaste S-AK 610	PG 7	20.0 ± 2	475	0.96	1,800	

C | WorléeQuarzsand AS

Electroconductive quartz

Type	Color	Electrical resistance [ohm]	Particle size [mm]
WorléeQuarzsand AS 0104	Black	< 500	0.1–0.4
WorléeQuarzsand AS 0408	Black	< 500	0.4–0.8

Market(s) served: WORLDWIDE

C | Sinloihi

Daylight fluorescent pigments

Type	Range	Form of delivery	Particle size [µm]	Main uses/principal characteristics
FZ 5000/6000	Various colours	Powder	3.5–4.5	Standard powder pigment, softening point 130–140 °C, suitable for various applications such as solvent-based and water-based paints and lacquers, silk screen ink and paper coating
FA 40	Various colours	Powder	3.5–4.5	Powder pigment with good stability against various solvents (such as esters and ketones), suitable for applications such as paints and lacquers, gravure inks and screen inks
F 10	Various colours	Powder	3–4	Powder pigment with best lightfastness (addition of UV-Absorber)
FR 50	Various colours	Powder	3.5–4	Powder pigment for plasticized PVC, where resistance to heat and no colour migration are required
FX 300	Various colours	Powder	2–4	Powder pigment providing excellent heat stability and and good solvent resistance, temperature stable up to 260 °C, suiatble for plastics/masterbatch
SX 100	Various colours	Powder	3–5	Formaldehyde-free, softening point > 200 °C, suitable for solvent-based and water-based paints and lacquers, printing inks and paper coatings
FM 10	Various colours	Soluble toner	max. 3	Soluble toner for solvent-based flexo printing inks and inks as well as coating inks for polyester film
SW 100	Various colours	Dispersion	< 1	Formaldehyde-free pigment dispersion, having very fine particles, in water, good lightfastness, heat stability, chemical resistance and washability in textile uses, suitable for textile printing
SP 10	Various colours	Dispersion	0.5–1.0	Formaldehyde-free pigment dispersion, having very fine particles, in water, good lightfastness, heat stability and chemical resistance suitable for inks and paper coatings, without defoamer
SF 3000N	Various colours	Dispersion	< 0.2	Formaldehyde-free pigment dispersion, having very fine particles, suitable for water-based flexo- and gravure inks marker inks, water-based flexo- and gravure inks
SF 5000	Various colours	Dispersion	< 0.1	Formaldehyde-free pigment dispersion, having very fine particles, suitable for water-based flexo- and gravure inks as well as for (textmarker-)inks
SF 8000	Various colours	Dispersion	< 0.4	Formaldehyde-free pigment dispersion with high viscosity, having very fine particles, suitable for water-based flexo- and graphic inks, gel ink and other water-based inks
MLCB	Green, red, blue	Dispersion	< 0.1	Formaldehyde-free pigment dispersion free, having very fine particles, suitable for aqueous systems in indoor-application; under normal light these dispersions are invisible, only visible under ultraviolet light in Color, green, red or blue
FA 200LF	Various colours	Powder	3.5–4.5	Powder pigment with good stability against various solvents (such as esters and ketones), suitable for applications such as paints and lacquers, gravure inks and screen inks; formaldehyde < 300ppm

Market(s) served: EUROPE

Since 1851, the year our company was founded, the principle of sustainability including its three core themes of economy, ecology and social issues has been at the centre of our corporate philosophy. As a family company, Worlée-Chemie is dedicated to social and societal responsibility as well as fair treatment of its business partners and employees.

We are committed to forward-looking and prudent environmental protection and to preventive and comprehensive occupational health and safety as a corporate goal.

We are convinced that the natural goods water, air and soil must be treated carefully as a part of our responsible business practices. In this way, the ecosystem in which we live can be preserved as the basis of life for future generations as well. This particularly applies to the economical and efficient use of energy and natural resources.

We stand by our responsibility to provide safe and secure production, storage and transport. We ensure that our products are handled conscientiously along the entire value-added chain.

We are mindful that our corporate mission statement is both a commitment and a responsibility. All Worlée-Chemie employees are obliged to observe our principles of conduct and management. With their own objectives and personal practices, our managers and employees all work equally to implement our mission statement into their everyday work and to further develop our company.

Compliance with human rights due diligence is a matter of course for our company. We believe that integrity, fairness, responsibility and a high level of transparency form the basis for a trustful and long-term business relationship.

Our suppliers further down the supply chain are expected to adhere to these principles as well and to accept our code of conduct for suppliers or to present equivalent guidelines.

The sustainability factors that guide our product evaluations and development

Sustainable product development has been with us for a very long time. Even without legal or social pressure, we have always felt driven to be able to offer better and more durable products and solutions for a wide range of applications. The development of high-quality products in cooperation with our customers remains our top priority.

Over the decades, with the development of different resin technologies based on a variety of raw materials, we have been able to gather a great deal of experience regarding how to increase product sustainability from different perspectives. Sustainable product development must ultimately benefit the environment and society, but economic aspects also have to be considered. The entire supply chain must benefit. Our established development processes already take many of these aspects into consideration and are effective in making resins and additives increasingly sustainable. For example, we can take factors into account such as the renewable raw material content, the proportion of secondary raw materials, regionality and longevity, the hazard potential of our products and the competition of our raw materials with the food industry.

With our creative departments in research, development and application technology, we are technologically well positioned for further orientation toward more sustainable products in cooperation with our customers and partners. Every new development is related to sustainability factors such as climate change and resource conservation.

The integrated management systems that guide our work

MANAGEMENT SYSTEM CERTIFICATION
DNV·GL
ISM = ISO 9001 = ISO 14001
OHSAS 18001 = ISO 50001

ISO 9001: Quality management system
ISO 45001: Occupational health and safety managment system
ISO 14001: Environment managemnt system
ISO 50001: Energy managment system

Partners

We would like to thank our business partners in Germany and abroad for their cooperation. We greatly value these trust-based and often long-standing relationships.

Additives

CWK Chemie
ESTRON CHEMICAL
THE EDGE OF INNOVATION
SVENSKA AEROGEL

Binders

AMERICAN GILSONITE COMPANY
polvos polymers
HOBUM OLEOCHEMICALS
BRUNO BOCK
Vencorex CHEMICALS

Colors

SINLOIHI CO.,LTD.

Sales

We are there for you around the world

Global distribution network. Our trade in coating resins goes all the way back to the origins of the Worlée Group. To this day, the area of trade and distribution, in addition to the development and manufacture of our own products, remains an essential part of our company. With subsidiaries and sales partners on all five continents, we are a market presence around the world.

No matter what your location or whether you order our own raw materials or trade products, the sophisticated transport and logistics processes of our international delivery network ensure that your products always reach their destination punctually and dependably.

Sales territories DACH

DACH

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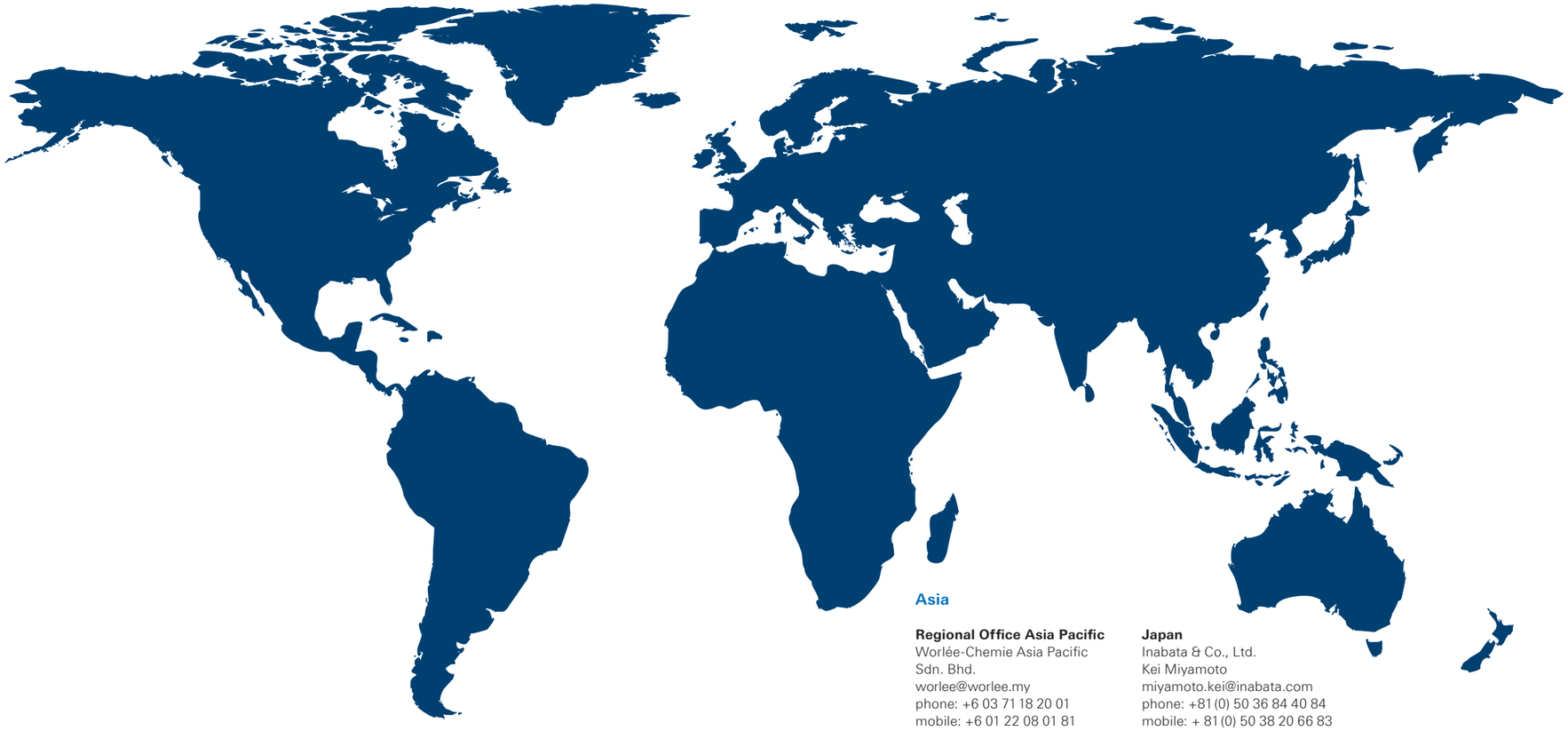

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