MÜNZING

CREATING ADDITIVE VALUE

WAX ADDITIVES

EUROPE
PORTFOLIO

Content

Methods of Measurement

PARTICLE SIZE	PICTURE PARTICLE ANALYZING SYSTEM	= 1
	ISO 13320	= 2
DROP POINT	DGF M-III 3	= 3
MELTING RANGE	DSC (DIN EN ISO 11357-3)	= 4
MELT VISCOSITY	DIN EN ISO 3104	= 5
pH-VALUE	DIN ISO 976	= 6

Wax Additives

CERETAN® LUBA-print®
LUBRANIL® SÜDRANOL®
WÜKONIL® OMBRESEAL®

MÜNZING is a highly regarded, privately owned company for specialty additives with headquarters in Abstatt, Germany. We have a global presence in over 40 countries and are a technology driven organization with an extensive staff of highly experienced R&D and technical service personnel in Europe, America and Asia.

MÜNZING's mission is CREATING ADDITIVE VALUE by solving our customers' formulation problems in various industries and applications like wood coatings, industrial coatings, printing ink, speciality sectors etc. We offer state of the art technical service testing to all customers regardless of company size. Based on our holistic range of specialty wax products, MÜNZING's technical service provides our customers best solutions in technical aspects at great value.

MÜNZING's wax portfolio spans from non-micronized waxes, micronized waxes, coated waxes, wax emulsions to water and solvent based wax dispersions and reflects our broad innovative production capabilities like our unique spraying technology leading to spherical micronized waxes.

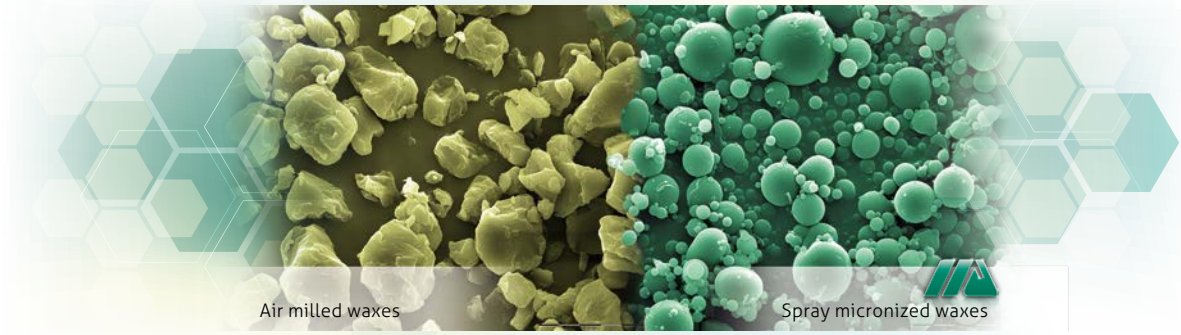
This brochure will provide you an overview of our sophisticated wax portfolio along with product attributes for specific application segments.

MÜNZING – Your Partner for ALL WAX ADDITIVES

CERETAN® – micronized waxes

CERETAN® micronized waxes are predominantly produced using our highly advanced spraying technology leading to spherical particles. The spherical shape and the particles' even surface help the dispersing process, reduce wax usage as well as dust formation. We guarantee D_{99} values to minimize oversized particles in your formulation.

CREATING ADDITIVE VALUE is the MÜNZING way of saying that we are happy to offer customized solutions.



Additive Value Since 1830

1830
Foundation of MÜNZING by Friedrich Michael Münzing, first producer of sulfuric acid in Germany

1947
Build up of a new factory; production and development of fatliquors for the leather industry and auxiliaries for the paper industry

1960
Start of joint venture with DIAMOND SHAMROCK ("NOPCO") for the production and distribution of additives for paints, paper, adhesives and other industries

1980
End of the joint venture with DIAMOND SHAMROCK, investment in new production facilities and a new research and development center

2000
Expansion to North America, acquisition of ULTRA ADDITIVES, Bloomfield (NJ), USA, today MÜNZING North America

2005
Opening of Office and Technical Service Center in Shanghai, China

2008
Acquisition of liquid defoamer business from HEXION SPECIALTY CHEMICALS, today AGITAN DF series

2009
Acquisition of L.P. BADER, Rottweil, Germany, producer of wax dispersions, today MÜNZING CHEMIE

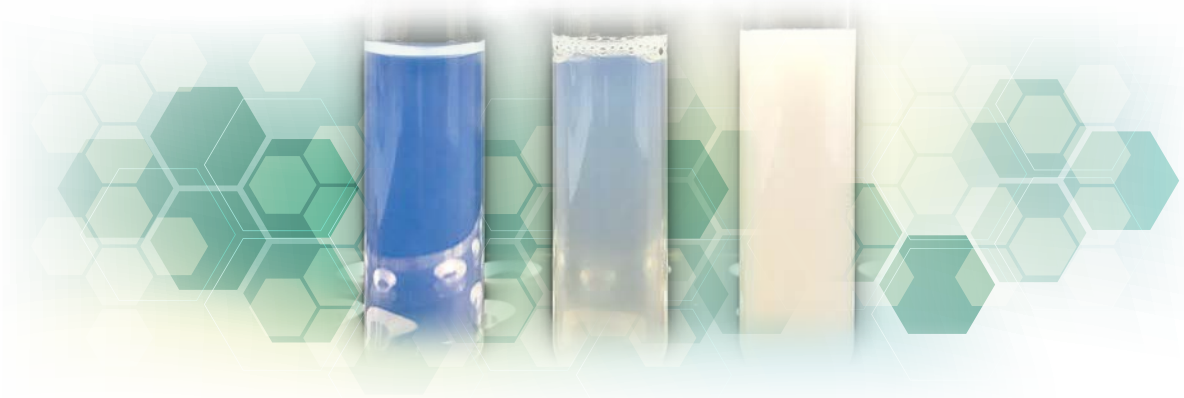
MÜNZING
CREATING ADDITIVE VALUE

LUBA-print®, LUBRANIL®, WÜKONIL®, SÜDRANOL® and OMBRESEAL® – wax emulsions & dispersions

Our high quality wax emulsions and dispersions are a must for all customers who prefer working with ready-made emulsions or dispersions in contrast to a dry wax. The ease of incorporation is the key benefit of liquid products.

In close cooperation with customers our R&D team in their state of the art laboratory is at your disposal to fulfill your specific requirements.

CREATING ADDITIVE VALUE to our customers is our daily passion.



2011

Acquisition of DEUREX Micro Technologies, Elsteraue, Germany, producer of micronized waxes, today MÜNZING Micro Technologies

2013

Acquisition of Magrabar, Morton Grove (IL), USA, manufacturer of additives for the food industry

2014

Opening the new technology and administration center in Abstatt, Germany

2017

New Office in Mumbai, India

2018

Acquisition of Süddeutsche Emulsions-Chemie (SEC), Mannheim, Germany, producer of wax emulsions. Acquisition of wood processing additives ("FENTAK") from HEXION with subsidiaries in Malaysia and Australia

2019

Opening of new subsidiary in Curitiba/PR, Brazil

2020

Acquisition of Interchem, today MÜNZING Poland

2022

Micronized Waxes

MICRONIZED WAXES

Product	Wax type	Neutral ● Fossil ● Renewable ● substances	Particle size [2] D_{99} µm	Particle size [2] D_{50} µm	Drop point [3] °C
CERETAN® **MA 7008**	EBS		8	3	143–151
CERETAN® **MA 7019**	EBS		19	6	143–151
CERETAN® **MA 7020**	EBS		< 20	< 5	143–151
CERETAN® **MA 7050**	EBS		< 50	< 12	143–151
CERETAN® **MA 7080**	EBS		80	25	143–151
CERETAN® **MA 7150**	Erucamide		50	13	80–88
CERETAN® **MA 7250**	Stearamide		50	13	98–108
CERETAN® **MBE 30720**	Biobased Polytehylene		< 20	< 8	115-120
CERETAN® **MBP 00125**	Biopolymer		25	8	n.a.
CERETAN® **MBP 20220**	Biobased waxes		< 20	< 8	70
CERETAN® **MC 6015**	Carnauba		15	6	81–89
CERETAN® **MC 6030**	Carnauba		30	11	81–89
CERETAN® **MCX 60215**	Functional Blend		15	4	136
CERETAN® **MCX 6710**	Functional blend		< 10	< 4	118-128
CERETAN® **ME 0520**	Polyethylene		20	7	109–117
CERETAN® **ME 0825**	Polyethylene		25	8	110–118
CERETAN® **ME 1430**	Polyethylene		30	10	110–118
CERETAN® **ME 1620**	Polyethylene		20	7	122–130
CERETAN® **ME 1715**	Polyethylene		15	6	122–130
CERETAN® **MF 5010**	Polyethylene, PTFE modified		10	4	108–118 (wax)
CERETAN® **MF 5108**	PTFE		8	5	320–340*
CERETAN® **MF 5715**	Polyethylene, PTFE modified		15	6	108–118 (wax)
CERETAN® **MFR 1106**	High performance polymer		< 12	< 5	--
CERETAN® **MO 4715**	Polar Polyolefin		15	6	108–116

* = Melting Point

Wood coatings	Can coatings	Coil coatings	Powder coatings	Printing inks	Masterbatch
M S	MR				
AB M S SA			D G		●
AB M S SA			D G		●
AB M S SA			D G		●
					●
				AB G S	
				AB S	
AB S SC SG				AB R S SG	●
AB SC SG				AB R SG	
AB S SC SG			D G	AB R S SG	●
S SC SG	G S SC				
AB S SC SG					
	AB MR S SC				
	AB S SC				
AB S SC SG				AB R S SG	
AB S SC SG			D G	AB R S SG	●
AB S SC SG				AB R S SG	
HB S SC SG					
S SC SG	AR SC			AB R S	
CR HB S SC	AR SC			AB R S	
CR G HB MM S SC	AR SC			AB M R S	
MM S SC	AR SC			AB R S SG	
AB SC	AB SC SG				
AB M S SC				M R S	

further Micronized Waxes on Page 8–9

AR = Abrasion Resistance
AB = Anti-Blocking
CR = Chemical Resistance
D = Degassing
G = Gloss
HB = Hot Blocking Resistance
M = Matting
MR = Meat Release
MM = Metal Marking Resistance
R = Rub Resistance
SA = Sandability
SC = Scratch Resistance
SG = Semi-Gloss
S = Slip
● = Recommended *(detailed information to be found in respective application brochure)*

Micronized Waxes

MICRONIZED WAXES

Product	Wax type	Neutral ● Fossil ● Renewable ● substances	Particle size [2]		Drop point [3]
			D_{99} µm	D_{50} µm	°C
CERETAN® **MP 2120**	Polypropylene		20	10	156–164
CERETAN® **MP 2140**	Polypropylene		40	18	156–164
CERETAN® **MT 9010**	Fischer Tropsch		< 10	< 4	112-118
CERETAN® **MT 9015**	Fischer-Tropsch		15	6	110–115
CERETAN® **MT 9120**	Fischer-Tropsch		20	7	112–120
CERETAN® **MT 9220**	Fischer-Tropsch		20	6	108 - 112
CERETAN® **MX 2919**	Functional blend		19	6	140–146
CERETAN® **MX 9510**	Polyolefin		10	4	108–118
CERETAN® **MX 9618**	Functional blend		< 20	< 7	138
CERETAN® **MX 9620**	Functional blend		20	6	139–149
CERETAN® **MX 9720**	Functional blend		20	7	138–146
CERETAN® **MX 9815**	Polyolefin		15	6	111–119
CERETAN® **MX 9820**	Polyolefin		20	7	111–119
CERETAN® **MX 9825**	Polyolefin		25	9	111–119
CERETAN® **MX 50099**	Functional wax blend		< 90	-	70-80
CERETAN® **MXBP 00825**	Functional wax blend & biopolymer	◐	25	7	110–118
CERETAN® **MXBP 60125**	Functional wax blend & biopolymer	●	25	6	81–89
CERETAN® **XT 23099**	Polypropylene-Wax		100	40	160
CERETAN® **XT 23199**	Polyamide		< 55	< 30	175
CERETAN® **XT 23299**	Polyolefin		< 75	< 25	160

SURFACE MODIFIED WAXES

Product	Wax type	Particle size [2]	
		D_{99} µm	D_{50} µm
CERETAN® **MX 9820 WD**	Polyolefin	20	7

Wood coatings	Can coatings	Coil coatings	Powder coatings	Printing inks	Masterbatch
AB AS HB M SC			D SG		
AB AS HB M SC T					●
	AB S SC			AB G R S	
AB S SC SG	S SC		D G	AB R S	
AB S SC SG	S SC		D G	AB R S	
AB S SC SG	S SC		D G	AB R S	
AB CR FE M MM SC					
	S SC			R S SC SG	
AB FE M S SA SC			D G		
AB HB M S SC			D G		●
AB HB M SC					
				R S SG	
AB S SC SG				AB R S	
AB S SC SG			D G		●
			D G	G S	
AB S SC SG				AB R S SG	
AB S SC SG				AB R S SG	
AR SC SG T		AR SG SC T			
AB AR FE M SC T		AB AR FE M SC T			
AB AS FE M SC T		AR AS FE M SC T			

Drop point of the wax [3] °C	Wood coatings	Printing inks
111 – 119	AB S SG SC	AB R S

AR = Abrasion Resistance
AB = Anti-Blocking
AS = Anti-Slip
CR = Chemical Resistance
D = Degassing
FE = Feel
G = Gloss
HB = Hot Blocking Resistance
M = Matting
R = Rub Resistance
S = Slip
SA = Sandability
SC = Scratch Resistance
SG = Semi-Gloss
T = Texture
● = Recommended *(detailed information to be found in respective application brochure)*

Coated & Non-Micronized Waxes

COATED WAXES

Product	Wax type	Coating	Neutral ● Fossil ● Renewable ● substances	Particle size [2] D_{99} µm	D_{50} µm
CERETAN® **MAB 7055**	EBS	Benzoin		55	13
CERETAN® **MCX 6810**	Functional blend	High performance polymer		< 10	< 4
CERETAN® **MCXF 6710**	Functional blend	PTFE		< 10	< 4
CERETAN® **MPF 2520 D**	Polypropylene	PTFE		20	10
CERETAN® **MPS 3120**	Polypropylene	Silica		20	5
CERETAN® **MTZ 9335**	Fischer-Tropsch	Zinc		35	7
CERETAN® **MX 3110**	Polyolefine	High performance polymer		< 10	< 4
CERETAN® **MXD 3920**	Functional blend	Diamond-like hardness		20	4
CERETAN® **MXF 9110**	FT	PTFE		< 10	< 4
CERETAN® **MXF 9510 D**	Polyolefin	PTFE		10	4
CERETAN® **MXF 9820 D**	Polyolefin	PTFE		20	7
CERETAN® **MXF 9899**	Functional blend	PTFE		–	50
CERETAN® **MXF 10325**	Polyethylene	PTFE		25	8
CERETAN® **MXF 10425**	Polyethylene	PTFE		25	8
CERETAN® **MXS 3615**	Functional blend	Silica		15	4
CERETAN® **MXS 3815**	Functional blend	Silica		15	5

NON-MICRONIZED WAXES

Product	Wax type	Neutral ● Fossil ● Renewable ● substances	Drop point [3] °C
CERETAN® **A 70**	EBS		143–151
CERETAN® **A 71**	Erucamide		80–88
CERETAN® **A 72**	Stearamide		98–108
CERETAN® **A 73**	Oleamide		70–78
CERETAN® **BP 20**	Biobased waxes		71
CERETAN® **O 32**	Oxidized Polyethylene		105–111
CERETAN® **P 21**	Polypropylene		156–164
CERETAN® **T 91**	Fischer-Tropsch		112–120

* = Melting Point ** = at 130°C *** = at 150°C **** = at 170°C

Drop point of the wax [3] °C	Wood coatings	Can coatings	Powder coatings	Printing inks
135–145			D G	
120–130		AB S SC		
118–128		AB S SC		
156–164	AB HB M S SC			
156–164	AB HB M SC			
108–116			D M	
110-116		AB S SC		AB G R S
138–146	AR M SC		AR D SC	
101–108		AB S SC		AB G R S
108–118		AR S SC		AB G R S
111–119	AB FE HB S SC		AR D G SC	AB M R S
108–118			AR D M S SC T	
110–118	AB FE HB S SC			AB M R S
110–118	AB FE HB S SC			AB M R S
81–89	AB M SC	AB M S SC		AB M R
105–120	AB M SC			AB M R

Viscosity of the wax [5] at 140°C mPas	Printing inks	Masterbatch
20–40***		●
8–12	G S	●
8–12	S SG	●
7–11**	G S	
		●
150–300		●
100–200****		●
10–20		●

AB = Anti-Blocking
AR = Abrasion Resistance
D = Degassing
FE = Feel
G = Gloss
HB = Hot Blocking Resistance
M = Matting
R = Rub Resistance
S = Slip
SC = Scratch Resistance
T = Texture
● = Recommended *(detailed information to be found in respective application brochure)*

Waterbased Dispersions & Emulsions

WATERBASED DISPERSIONS & EMULSIONS

Product	Wax type	Neutral / Fossil / Renewable substances	Solid content in %	Particle size [1,2] D_{98} µm	Particle size [1,2] D_{50} µm	Melting range [4] °C	pH-Value [6]
LUBA-print® **154/S**	Polyethylene		60	24	5.5	115–121	8.5
LUBA-print® **164/G**	Amide		32	30	9	143–151	8.5
LUBA-print® **184/W**	Polyethylene / PTFE		50	18	6.5	104–114	8.0
LUBA-print® **184/W-35F**	Polyethylene / PTFE		35	18	6.5	104-114	8.0
LUBA-print® **280/F**	Hydrocarbon blend		40	–	–	81*	9.5
LUBA-print® **280/W**	Hydrocarbon blend		50	5	–	82*	9.5
LUBA-print® **333/B**	Carnauba		30	3	–	87–93	7.5
LUBA-print® **333/X**	Carnauba		31	5	–	87–93	8.0
LUBA-print® **338**	Polyethylene		41	22	8	124–130	4.5
LUBA-print® **434/F**	Carnauba blend		40	10	–	–	5.5
LUBA-print® **445/W**	Paraffin		50	–	–	59–69	7.5
LUBA-print® **499**	Polyethylene		40	9	4	125–135	4.0
LUBA-print® **539/S**	Functional blend		35	–	–	54–64	7.5–9.5
LUBA-print® **551/2**	Polyethylene		45	25	8	130–136	3.5
LUBA-print® **552/A**	Polyethylene / Organic matting agent		41	22	6	130–136	5.0
LUBA-print® **559/G**	Paraffin combination		26	–	–	78*	–
LUBA-print® **645/A**	Polymers		41	17	8	172-182	8.5
LUBA-print® **725**	Functional blend		–	–	–	–	3.0
LUBA-print® **760/D**	Polyethylene		64	20	6	124–134	4.0
LUBA-print® **914/A**	Functional blend		38	20	6	136–146	7.0
LUBA-print® **942**	Polyethylene		39	3	–	–	7.5
LUBA-print® **965/A**	Carnauba		30	5	–	87–93	7.0
LUBA-print® **965/K**	Shellac		20	–	–	–	7.3

* = Drop Point

Wood coatings	Can coatings	Printing inks	Industrial coatings	Leather finishing	Deco wax	Care products
AB S SG SC			AB SC SG	M R S		
AB M SA SC			AB M SC			
		AB R S SG	AB SC SG			
	AR S SC	AB R S SG				
AB CR G HP S			HP S	HP S		HP S
AB CR HP MM S			HP MM S	G HP S		HP S
AB G S SC	G S SC					G SC
AB G S SC	G S SC					G SC
		AB G R S		M R S		
AB G HP S			G HP S	G HP S		S SG
AB HP MM S			AB HP MM S	G HP S		HP S
AB G S SC		AB G R S	G S SC			
			AG CR HP S	G HP S		
		AB G R S		M R S		
FE M S SC			M S SC	M R S		
					B HP	
HB M SC			M SC			
B G PS			B G PS			
AB S SC SG		AB G R S	AB S SC SG			
AB CR FE M MM S SC			AB CR FE M MM S SC			
AB G HP S			AB G HP S	HP SC		
AB G S SC	G S SC			G HP SC		G SC
AB CR G SC		AB G R S		G HP SC		CR G SC

... further Waterbased Dispersions & Emulsions on Page 14–15 ▶

AB = Anti-Blocking
AG = Anti-Graffiti
AR = Abrasion Resistance
B = Brilliance
CR = Chemical Resistance
FE = Feel
G = Gloss
HB = Hot Blocking Resistance
HP = Hydrophobicity
M = Matting
MM = Metal Marking Resistance
PS = Pigment stabilisation
R = Rub Resistance
S = Slip
SC = Scratch Resistance
SG = Semi-Gloss

Waterbased Dispersions & Emulsions

WATERBASED DISPERSIONS & EMULSIONS

Product	Wax type	Neutral / Fossil / Renewable substances	Solid content in %	Particle size [1,2] D_{98} µm	Particle size [1,2] D_{50} µm	Melting range [4] °C	pH-Value [6]
LUBA-print® **967/A**	Functional blend		12	–	–	–	8.5
LUBA-print® **3520**	Polyethylene		35	–	–	120–130	10.0
LUBA-print® **5500**	Polyethylene		50	6	3.5	125–133	7.0
LUBA-print® **CA 30**	Carnauba blend		30	3	–	72–80	6.5
LUBA-print® **KL 30**	Ester wax		30	5	–	72–80	6.5
LUBA-print® **W 5700**	Polyethylene		47	7.5	3.5	108–118	5.0–7.0
LUBA-print® **SC 5700****	Polyethylene		47	7.5	3.5	108–118	8.0
LUBA-print® **W 5725**	Polyethylene		58	25 bi	3 bi	–	5.0–7.0
LUBA-print® **W 5800**	Fischer-Tropsch		47	2	–	–	5.0
LUBA-print® **WBP 00125**	Biopolymer		20	< 25	< 8	n.a.	8
LUBA-print® **WBP 2700**	Biobased waxes		47	< 5	–	74–84	6
LUBA-print® **WC 6015**	Carnauba		45	15	5	81–89*	6.0
LUBA-print® **WE 0520**	Polyethylene		57.5	20	5	109–117*	7.0
LUBA-print® **WE 1620**	Polyethylene		45	20	6	122–130*	7.0
LUBA-print® **WEF 1617**	Polyethylene / PTFE		54	17	6	122–130*	7.4
LUBA-print® **WP 2120**	Polypropylene		45	21	7.5	156–164*	7.5
LUBA-print® **WXF 9510**	Polyolefin / PTFE		45	18	6	108–118*	5.5

Product	Wax type	Neutral / Fossil / Renewable substances	Melting range [4] °C	Solid content in %	Ionic	pH-Value [6]
WÜKONIL® **FC 950**	Paraffin		58	51	ai	9.0
WÜKONIL® **FC 960**	Paraffin		60		ai	9.0
WÜKONIL® **FC 960 eco****	Paraffin		58	60	ai	9.0
WÜKONIL® **HB 3000 eco**	Paraffin		60		ai	9.0
WÜKONIL® **HB 4000**	Functional blend		–	40	ai	8.0
WÜKONIL® **HS**	Functional blend		–	30	ni	7.0
WÜKONIL® **KN 40**	Paraffin		62–68	40	ca	4.0

** = only available for NAFTA

* = Drop Point

bi = bi-modal particle size distribution

AB = Anti-Blocking
AR = Abrasion Resistance
AS = Anti-Slip
CR = Chemical Resistance
G = Gloss
HB = Hot Blocking Resistance
HP = Hydrophobicity
M = Matting

MÜNZING
CREATING ADDITIVE VALUE

Wood coatings	Can coatings	Printing inks	Industrial coatings	Leather finishing	Care products
					AS SG
		AB G R S	G S SC	G R S	G S SC
AB G S SC		AB G R S	AB G S SC		
AB G S SC		R S SC	AB G S SC	G S	G S
AB S SC			S SC		G S
AB S SC		AB G R S	G S SC		
AB S SC		AB G R S	G S SC		
AB S SC		AB R S SG	S SC SG		
AB S SC		AB G R S	G S SC		
AB AR AS HB M SA	AB AR AS M	AB AR M	AB AR AS HB M		
AB S SC		AB G R S	G S SC		
AB S SC SG		AB R S SG	S SC SG		
AB S SC		AB G R S	S SC		
AB S SC					
AB S SC	AR S SR		AB S SC		
AS M MM SC			AB AS M SC		
S SG SC		AB G R S	AB S SC		

Deco Wax	Wood Coatings	Printing Inks	Dispersion Paints & Plasters	Care Products	Paper & Foil Coatings, Cardboards	Leather	Concrete Curing
			AB HP				
	AB HP S		AB HP				
	HP S		AB HP			HP S	
	AB HP S		AB HP				
	AB CR HP MM S		HP OT	HP S			
			HP OT				
							HP WR

further Waterbased Dispersions & Emulsions on Page 16–17

MM = Metal Marking Resistance
R = Rub Resistance
S = Slip
SA = Sandability
SC = Scratch Resistance
SG = Semi-Gloss

Waterbased Dispersions & Emulsions

WATERBASED DISPERSIONS & EMULSIONS

Product	Wax type	Neutral / Fossil / Renewable substances	Melting range [4] °C	Solid content in %	Ionic	pH-Value [6]
WÜKONIL® **KN 50**	Paraffin		60	50	ca	7.0
WÜKONIL® **KN 50 HN**	Paraffin		60	50	ca	7.0
WÜKONIL® **LP 35**	Paraffin		55	35	ai	7.0
WÜKONIL® **NAT 1000**	Biobased waxes		75–85	33	ai	9.0
WÜKONIL® **O-33 A/N**	Paraffin		–	25	ki	5.0
WÜKONIL® **PW**	Polyethylene, Paraffin		90	30	ni	9.0
WÜKONIL® **RT 50**	Paraffin		54	50	ni	7.0
WÜKONIL® **RT 50 F**	Paraffin		56–58	50	ni	7.0
SÜDRANOL® **135**	Polyethylene (HDPE)		120–130	35	ai/ni	9.0
SÜDRANOL® **200**	Polyethylene		110	30	ni/ai	9.0
SÜDRANOL® **250 CR**	Polyethylene blend		115	30	ni/ai	9.5
SÜDRANOL® **340**	Functional blend		95	30	ni/ai	9.0
SÜDRANOL® **670**	Functional blend		95	35	ai	9.5
SÜDRANOL® **CAR 20**	Carnauba		80	20	ni	6.5
SÜDRANOL® **CAR 30**	Carnauba		85	30	ni	7.0
SÜDRANOL® **HD 35**	Polyethylene (HDPE)		128–137	35	ni	9.0
SÜDRANOL® **NAT 30**	Natural wax blend		–	30	ai	9.0
LUBRANIL® **DEKO 600/A**	Functional blend		–	10	ni	10.5
LUBRANIL® **DF 45**	Functional blend		–	45	ai	7.0
LUBRANIL® **MA 1**	Functional blend		–	30	ni	7.5
LUBRANIL® **N 20**	Functional blend		–	20	ni	7.0
LUBRANIL® **RN 20** SVOC free	Functional blend		–	20	ni	7.5
LUBRANIL® **X 4000**	Functional blend		–	31	ni	7.5
LUBRANIL® **X 9030**	Functional blend		–	30	–	7.5

** = EU Ecolabel suitability

MÜNZING
CREATING ADDITIVE VALUE

Deco Wax	Wood Coatings	Printing Inks	Dispersion Paints & Plasters	Care Products	Paper & Foil Coatings, Cardboards	Leather	Concrete Curing
							RA HP WR
							HP WR
	AB HP S		HP	HP S			
	AB G HP S		AB DPR HP S	HP S			
					HP S	HP S	
	AB G HP S		HP			HP SC	
	AB G HP S		HP		HP	HP SC	AB HP WR
					AB HP S		
				G GP S SC			
	AB G S			G S SC			
	AB AR G S SC				AB AR G S SC		
	AB G HP S		HP			HP SC	
	AB G HP S SC		HP R				
	G HP S SC			G HP S		HP S SC	
	G HP S SC			G HP S		HP S SC	
G S SC		AB G R S		G S SC		G R S	
				HP S SC			
B G HP							
	AB HP S		HP OT				
			OT				
			OT RP				
			OT RP				
			OT RP				
			OT RP				

AB = Anti-Blocking
AR = Abrasion Resistance
B = Brilliance
CR = Chemical Resistance
DPR = Dirt Pick-Up Resistance
G = Gloss
HP = Hydrophobicity
MM = Metal Marking Resistance
OT = Open Time Extender
R = Rub Resistance
RP = Reduction & Prevention of Cracks & Pinnholes
S = Slip
SC = Scratch Resistance
WR = Water Retention

Solvent Based Dispersions

SOLVENT BASED DISPERSIONS

Product	Wax type	Solvent	Solid content in %
LUBA-print® **103/A-neu**	Zinc stearate	Butyl acetate	24
LUBA-print® **121/C**	Hydrocarbon	Ethyl acetate	10
LUBA-print® **121/F (ND)**	Hydrocarbon	Solvent naphtha (ND), Methoxy propyl acetate	10
LUBA-print® **161/T**	Amide	Ethanol	40
LUBA-print® **246/D3**	EVA-Copolymer	Butyl acetate, Isobutanol	11
LUBA-print® **246/D8**	EVA-Copolymer	Xylene, Butyl acetate, Isobutanol	10
LUBA-print® **276/A (ND)**	Polyethylene / PTFE	Solvent naphtha (ND)	12
LUBA-print® **301/C**	Polyethylene	Ethanol	30
LUBA-print® **301/K-2**	Polyethylene	Butyl acetate	40
LUBA-print® **346/F**	EVA-Copolymer	Hydrocarbon, Butyl acetate, Isobutanol	15
LUBA-print® **351/G**	Functional blend	Solvent naphtha (ND), Isobutanol	18
LUBA-print® **352**	Functional blend	Butyl glycol	20
LUBA-print® **420**	Functional blend	Butyl glycol, Water	30
LUBA-print® **436 (ND)**	Synthetic wax	Solvent naphtha (ND), 1-Methoxy-2-Propanol, Butyl glycol acetate	15
LUBA-print® **447/A (ND)**	Polyethylene / Carnauba	Solvent naphtha (ND), Butyl acetate	10
LUBA-print® **459/H-2**	Paraffin	Isoparaffin, Water	28
LUBA-print® **490/S**	Functional blend	Solvent naphtha (ND), Methoxy propyl acetate	18
LUBA-print® **501/S (ND)**	Polyethylene	Solvent naphtha (ND)	10
LUBA-print® **501/S-100**	Polyethylene	Solvent naphtha	10
LUBA-print® **501/XB**	Polyethylene	Xylene, Butyl acetate	10
LUBA-print® **502**	Polyethylene / PTFE	Butyl glycol	20
LUBA-print® **582/E**	Functional blend	Butyl acetate	12
LUBA-print® **654/D**	Polyethylene	Ethanol	40

* = Drop Point

MÜNZING
CREATING ADDITIVE VALUE

Particle size [1]		Melting range [4]	Wood coatings	Can coatings	Printing inks	Industrial coatings	Deco wax
D_{98} µm	D_{50} µm	°C					
10	4	121–127	AB R SA SG				
20	8	71–82 *			AB HP S SG		
18	7	71–82 *		S SZ			
–	–	86–92			AB G S		
–	–	88–98	B G PS TT			B G PS TT	
–	–	93–103	B G PS TT			B G PS TT	
8	2.5	109–115		AR G S SC			
18	6.5	103–114			R S SG		
20	6.5	103–114	AB FE S SG SC M				
–	–	93–105	B G PS TT			B G PS TT	
5	2.5	87–93		B S SC			
7	3	71–82 *		G S SC			
12	4.5	117–127		AR G S SC			
6	3	101–107		G S SC			
5	2.5	87–93		G S SC			
–	–	–					B HP
< 5	2	90		G S SR			
6	2.5	109–115		G S SC			
6	2.5	109–115		G S SC		S SC	
9	3.5	109–115	AB PS S SC				
13	4.5	102–112		AR S SC			
–	–	113	AB HP MM S SC			AR MM S SC	
25	9.5	130–136			AB R S SG		

further Solvent Based Dispersions on Page 20–21

AB = Anti-Blocking
AR = Abrasion Resistance
B = Brilliance
FE = Feel
G = Gloss
M = Matting
PS = Pigment stabilisation
R = Rub Resistance
S = Slip
SA = Sandability
SC = Scratch Resistance
SG = Semi-Gloss
SR = Shrinkage Reduction
SZ = Sterilization Resistance
TT = Thixotropic

Solvent Based Dispersions

SOLVENT BASED DISPERSIONS

Product	Wax type	Solvent	Solid content in %
LUBA-print® **654/S**	Polyethylene	2-Propanol (IPA)	33
LUBA-print® **660**	Polyethylene	2-Propanol (IPA)	20
LUBA-print® **693/M**	Functional blend	Butyl glycol	21
LUBA-print® **694/R**	Polypropylene, MSA modified	Isoparaffin, 1- Methoxy-2-Propanol	15
LUBA-print® **706/F**	Polyethylene / Silica	Butyl acetate	18
LUBA-print® **709/A**	Ester-wax / PTFE	Oligotriacrylate	15
LUBA-print® **715/A**	EAA-Copolymer	Xylene, Butyl acetate, Isobutanol	11
LUBA-print® **749/PM**	Amide	Xylene, 1- Methoxy-2-Propanol	15
LUBA-print® **754**	Polyethylene	Ethanol	40
LUBA-print® **887/C**	Carnauba	Dipropylene glycol methyl ether	20
LUBA-print® **887/H**	Carnauba	Ethanol	25
LUBA-print® **887/K**	Carnauba	Hydrocarbon	20
LUBA-print® **897/PM (ND)**	Carnauba	Solvent naphtha (ND), 2-Propanol (IPA)	10
LUBA-print® **911**	Functional blend	Solvent naphtha	30
LUBA-print® **934/G (ND)**	Polyethylene / PTFE	Solvent naphtha (ND)	14
LUBA-print® **2036/A**	Polyethylene	Ethanol	20
LUBA-print® **3036/A**	Polyethylene	Ethanol, 2-Propanol (IPA)	30
LUBA-print® **A 620**	Polyethylene	Xylene, Isobutanol	20
LUBA-print® **B 15/XB**	Polyethylene	Xylene, Butyl acetate	15
LUBA-print® **C 10/XB**	Amide	Xylene, Butyl acetate	10
LUBA-print® **SEB 0820 ET**	Biopolymer, Polyethylene	Ethanol	40
LUBA-print® **SXF 9510 BG**	Functional blend	Butyl glycol	50
LUBA-print® **T-152/35%-D30**	Functional blend	Hydrocarbon	35
LUBA-print® **T-152/D30**	Functional blend	Hydrocarbon	20

* = Drop Point

MÜNZING
CREATING ADDITIVE VALUE

Particle size [1] D_{98} µm	Particle size [1] D_{50} µm	Melting range [4] °C	Wood coatings	Can coatings	Printing inks	Industrial coatings	Deco wax
13	4.0–6.0	105–115			AR R S SG		
10	5	103–114		G S SC	AB G R S		
10	4.5	87–93		AR G S SC			
23	8.5	141–151		AP			
30	9	105–111	AB M R SC				
< 14	5	85	AR G S SR			AR G S SR	
–	–	102–108				G PS S	
8	3	147–153	R S SC	MR S SC			
20	7	103–114			AB R S SG		
11	4.5	87–93		G S SC			
10	4.5	81–87			AB G R S		
12	5.5	87–93	AB S SG SC			AB S SG SC	
7	3	87–93		G S SC			
–	–	n.a.		G S			
6	2.5	109–115		AR G R S			
18	6	130–136			AB R S SG		
18	6	130–136			AB R S		
25	9	104–110				R S SC	
13	5	105–115	AB M R S SC				
21	9	143–151	AB M SC				
20	5	110–118 *			AB G R S		
18	6	108–119		AR G S SC			
–	–	102					B HP
–	–	102	G HP MM S SC			G HP MM S SC	

AB = Anti-Blocking
AP = Adhesion Promoter
AR = Abrasion Resistance
B = Brilliance
G = Gloss
HP = Hydrophobicity
M = Matting
MM = Metal Marking Resistance
PS = Pigment stabilisation
R = Rub Resistance
S = Slip
SC = Scratch Resistance
SG = Semi-Gloss
SR = Shrinkage Reduction

Solvent Based Dispersions

Oil Based Dispersions

OIL BASED DISPERSIONS

Product	Wax type	Solvent	Solid content in %
LUBA-print® **OF 5108**	PTFE	Linseed oil	47
LUBA-print® **OX 9815**	Polyolefin	Linseed oil	35
LUBA-print® **OXF 9120**	Polyolefin / PTFE	Linseed oil	50
LUBA-print® **OXF 9510**	Polyolefin / PTFE	Linseed oil	35

Radiation Curing Dispersions

RADIATION CURING DISPERSIONS

Product	Wax type	Solvent	Solid content in %
LUBA-print® **309/C**	Polyethylene	Oligotriacrylate	30
LUBA-print® **709/P**	Functional blend	Tripropylenglycol-diacrylate, Oligotriacrylate	18

Compatibility Agents

COMPATIBILITY AGENTS

Product	Amine Value in mgKOH/g	pH-Value	Active Content in %
STABI **95 P**	600	11.0	90–97

Particle size [2]		Drop point of the wax [3]	Printing Inks
D_{98} µm	D_{50} µm	°C	
8	3	–	AB G HB R S
12	5	–	AB R S
20	5	108 – 112	AB R S
17	4	–	AB G R S

Particle size [1]		Drop point of the wax [3]	Wood coatings	Printing inks	Industrial coatings
D_{98} µm	D_{50} µm	°C			
22	8	130– 136	S SC SG	R S	R S SC SG
10	5	71–82	G S SC		G S SC

Waterborne Paints, Plasters & Lacquers
pH

AB = Anti-Blocking
G = Gloss
HB = Hot Blocking Resistance
pH = pH Stabilizer
R = Rub Resistance
S = Slip
SC = Scratch Resistance
SG = Semi-Gloss

MÜNZING

CREATING ADDITIVE VALUE

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