



Product Guide L-G 1

Paint Additives

May 2016

Paint Additives

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Wetting and Dispersing Additives (deflocculating)

for Wetting and Stabilization of Pigments and to Avoid Flooding/Floating, Improve Gloss and Transparency

Additive	Composition	Solvents									
			ance			Aque		T	nt-bor	ne	
			Active substance (%) *	Acid value (mg KOH/g)	Amine value (mg KOH/g)	Emulsions	Amine neutralized	Non-polar	Medium- polar	Polar	Solvent-free systems
ANTI-TERRA-U	Salt of polyamine amides and acidic polyesters	Xylene/Isobutanol 8/1	50	24	19	ш	₹ -	Z	2 0	•	N 10.
ANTI-TERRA-U 80	Salt of polyamine amides and acidic polyesters	Butylglycol	80	40	30						
ANTI-TERRA-U 100	Salt of polyamine amides and acidic polyesters	-	100	50	35						
BYK-154	Ammonium salt of an acrylate copolymer	Water	42	-	-						
BYK-220 S	Polycarboxylic acid polyester	Alkylbenzenes	52	100	-						<u> </u>
BYK-9076	Alkylolammonium salt of a copolymer	-	100	38	44						
BYK-9077 DISPERBYK-102	Copolymer with pigment affinic groups Copolymer with acidic groups	-	100	101	48						
DISPERBYK-102	Copolymer Copolymer	Methoxypropylacetate	40	101	-		-				-
DISPERBYK-106	Salt of a polymer with acidic groups	-	100	132	74						
DISPERBYK-107	Hydroxyfunctional carboxylic acid ester	Isoparaffinic hydrocarbons	90	-	64						Ħ
DISPERBYK-108	Hydroxyfunctional carboxylic acid ester	-	100	-	71						
DISPERBYK-109	High molecular weight alkylolamino amide	-	100	-	140						
DISPERBYK-110	Copolymer with acidic groups	Methoxypropylacetate/Alkylbenzenes 1/1	52	53	-						
DISPERBYK-111	Copolymer with acidic groups	-	100	129	-						
DISPERBYK-115	Block copolymer Linear polymer with pigment affinic groups	Xylene/Butylacetate/Methoxypropylacetate 5/1/1	52 80	26	25		-				-
DISPERBYK-118 DISPERBYK-140	Alkylolammonium salt of an acidic polymer	Methoxypropylacetate Methoxypropylacetate	52	36 73	76	\vdash	-				_
DISPERBYK-142	Salt of a copolymer with pigment affinic groups	Methoxypropylacetate	60	46	43						_
DISPERBYK-145	Phosphoric acid ester salt of a copolymer	-	100	76	71						
DISPERBYK-161	Block copolymer with pigment affinic groups	Methoxypropylacetate/Butylacetate 6/1	30	-	11						
DISPERBYK-162	Block copolymer with pigment affinic groups	Methoxypropylacetate/Xylene/Butylacetate 5/4/2	38	-	13						
DISPERBYK-163	Block copolymer with pigment affinic groups	Xyene/Butylacetate/Methoxypropylacetate 3/1/1	45	-	10						
DISPERBYK-164	Block copolymer with pigment affinic groups	Butylacetate	60	-	18						
DISPERBYK-166	Block copolymer with pigment affinic groups	Butylacetate/Methoxypropylacetate 4/1	29.5	-	20						-
DISPERBYK-167	Block copolymer with pigment affinic groups	Methoxypropylacetate/Butylacetate 2/1	52 30	-	13 11						_
DISPERBYK-168 DISPERBYK-170	Block copolymer with pigment affinic groups Block copolymer with pigment affinic groups	Dicarboxylic acid ester Methoxypropylacetate/Butylacetate 6/1	30	11	_						-
DISPERBYK-174	Block copolymer with pigment affinic groups	Xylene/Methoxypropylacetate/Butylacetate 3/2/1	52.5	22	-						_
DISPERBYK-180	Alkylolammonium salt of a copolymer with	-	100	94	94						
DISPERBYK-181	acidic groups Alkylolammonium salt of a polymer	Methoxypropylacetate/Propyleneglycol Methoxypropanol 5/3/2	65	33	33		•				
DISPERBYK-182	Block copolymer with pigment affinic groups	Methoxypropylacetate/Methoxypropoxypropanol/ Butylacetate 7/4/4	43	-	13						
DISPERBYK-184	Block copolymer with pigment affinic groups	Dipropyleneglycolmonomethylether/ Propyleneglycol 2/1	52	-	15		•				
DISPERBYK-185	Block copolymer with pigment affinic groups	-	52	-	17						
DISPERBYK-187	Alkylolammonium salt of a polymer	Propyleneglycol/Methoxypropanol 1/1	70	35	35						
DISPERBYK-190	Block copolymer with pigment affinic groups	Water	40	10	-						
DISPERBYK-191	Copolymer with pigment affinic groups	-	100	30	20						
DISPERBYK-192	Copolymer with pigment affinic groups	-	100	-	-						_
DISPERBYK-194 N	Copolymer with pigment affinic groups	Water	57	75	-	_					-
DISPERBYK-199 DISPERBYK-2000	Copolymer with pigment affinic groups Copolymer with pigment affinic groups	Water Methoxypropylacetate/Butylglycol 1/1	40	1.5	4		•	-			_
DISPERBYK-2001	Acrylate block copolymer	Methoxypropylacetate/Butylglycol/	46	19	29						\vdash
	, , ,	Methoxypropanol 2/2/1									
DISPERBYK-2008	Acrylate block copolymer	Propyleneglycol	60	-	66						
DISPERBYK-2009	Structured acrylate copolymer	Methoxypropylacetate/Butylglycol 1/1	44	-	4	_	_				_
DISPERBYK-2010	Structured acrylate copolymer	Water	40	20	20						-
DISPERBYK-2012 DISPERBYK-2013	Structured acrylate copolymer Structured copolymer with pigment-affinic groups	Water	100	7	7 18						
DISPERBYK-2015	Structured copolymer with pigment-annic groups Structured acrylate copolymer	Water	40	10	-						-
DISPERBYK-2022	Structured acrylate copolymer	Methoxypropylacetate	60	-	61	_	┢				
DISPERBYK-2025	Structured acrylate copolymer	Methoxypropylacetate	70	38	37						
DISPERBYK-2050	Acrylate copolymer with pigment affinic groups	Methoxypropylacetate	52		30						
DISPERBYK-2055	Copolymer with pigment affinic groups	-	100	-	40						
DISPERBYK-2060	Copolymer with pigment affinic groups	Water	100	5	-						<u> </u>
DISPERBYK-2061	Copolymer with pigment affinic groups	-	100	-	3	_					<u> </u>
DISPERBYK-2096	Polar acidic esters and high molecular weight alcohols	-	100	40	7.4		-				_
DISPERBYK-2117 DISPERBYK-2118	Block copolymer with pigment affinic groups Block copolymer with pigment affinic groups	- _	100	-	24 16.5		-				
DISPERBYK-2118	Block copolymer with pigment attinic groups Block copolymer with basic groups	Methoxypropylacetate	52	-	57						_
DISPERBYK-2151	Higher molecular weight polyester	Methoxypropylacetate	80	-	-						
DISPERBYK-2152	Highly branched polyester	- 70 - 107 - 1000	100	-	-			<u> </u>			
DISPERBYK-2155	Block copolymer with pigment affinic groups		100		48						
DISPERBYK-2163	Block copolymer with pigment affinic groups	Xylene/Butylacetate/Methoxypropylacetate 3/1/1	45		10						\perp
DISPERBYK-2164	Block copolymer with pigment affinic groups	Butylacetate/Methoxypropylacetate 2/3	60		14		<u> </u>				<u> </u>
DISPERBYK-2200	Copolymer with pigment affinic groups	- (Pellets)	100	<u> -</u>	<u> -</u>	<u> </u>	<u> </u>				

^{*} The content of active substance does not necessarily correspond to the non-volatile matter content. Depending on the composition of the product and the analytical method of determination, the non-volatile matter content can be higher or lower. The active substance content serves as the basis for calculating the dosage.

Wetting and Dispersing Additives (controlled flocculating)

for Wetting and Stabilization of Pigments and to Avoid Settling, Sagging, and Flooding/Floating

Additive	Composition	Solvents			Amine	Recommende	ed for							
			substance (%) *	value		Aqueous sys	tems	Solvent-borne systems			Solvent-			
			(%) "	(mg KOH/g)	(mg KOH/g)	Emulsions	Amine neutralized	Non- polar	Medium- polar	Polar	free systems			
ANTI-TERRA-203	Alkylolammonium salt of a polycarboxylic acid	Alkylbenzenes	50	51	51									
ANTI-TERRA-204	Polycarboxylic acid salt of polyamine amides	Methoxypropanol/ Alkylbenzenes 3/2	52	41	37			•	•					
ANTI-TERRA-250	Alkylolammonium salt of an acidic polymer	Water	70	46	41	•	•							
BYK-P 104	Polycarboxylic acid polymer	Xylene/Diisobutylketone 9/1	50	180	-									
BYK-P 104 S	Polycarboxylic acid polymer	Xylene/Diisobutylketone 9/1	50	150	-									

^{*} The content of active substance does not necessarily correspond to the non-volatile matter content. Depending on the composition of the product and the analytical method of determination, the non-volatile matter content can be higher or lower. The active substance content serves as the basis for calculating the dosage.

Pigment Synergists (in powder form)

to Support Pigmentdispersion

Additive	Composition	Properties
BYK-SYNERGIST 2100		For phthalocyanine pigments, organic violet pigments, and carbon black. Use always in combination with high molecular weight wetting and dispersing additives.
BYK-SYNERGIST 2102		For phthalocyanine pigments, organic violet pigments, and carbon black. Polar version of BYK-SYNERGIST 2100. Use always in combination with high molecular weight wetting and dispersing additives.
BYK-SYNERGIST 2105		For organic red, yellow, and orange pigments. Use always in combination with high molecular weight wetting and dispersing additives.

Silicone Surface Additives

to Reduce Surface Tension

Additive	Composition	Reactive	Solvents		1				Reco	mmen	ded fo	or		
		group							Aque			ent-bo	rne	\Box
				%					syste	ms	syste	ms		1
				Active substance (%)	Surface slip	Substrate wetting	Anti-crater effect	Leveling	Dispersions	Amine neutralized	Non-polar	Medium-polar	Polar	Solvent-free
BYK-300	Polyether modified polydimethylsiloxane		Xylene/Isobutanol 4/1	52										
BYK-302	Polyether modified polydimethylsiloxane		-	100										
BYK-306	Polyether modified polydimethylsiloxane		Xylene/Monophenylglycol 7/2	12.5										
BYK-307	Polyether modified polydimethylsiloxane		-	100										
BYK-310	Polyester modified polydimethylsiloxane		Xylene	25										
BYK-313	Polyester modified polydimethylsiloxane		Methoxypropylacetate	15										
BYK-315 N	Polyester modified polymethylalkylsiloxane		Methoxypropylacetate/ Phenoxyethanol 1/1	25									•	
BYK-320	Polyether modified polymethylalkylsiloxane		White spirit/Methoxypropylacetate 9/1	52									•	
BYK-322	Aralkyl modified polymethylalkylsiloxane		-	100										
BYK-323	Aralkyl modified polymethylalkylsiloxane		-	100										
BYK-325	Polyether modified polymethylalkylsiloxane		Alkylbenzenes/Butyrolactone 1/1	52										
BYK-330	Polyether modified polydimethylsiloxane		Methoxypropylacetate	51										
BYK-331	Polyether modified polydimethylsiloxane		-	100										
BYK-332	Polyether modified polydimethylsiloxane		-	100										
BYK-333	Polyether modified polydimethylsiloxane		-	100										
BYK-342	Polyether modified polydimethylsiloxane		Dipropyleneglycol monomethylether	52										
BYK-345	Silicone surfactant		-	100										
BYK-346	Silicone surfactant		Dipropyleneglycol monomethylether	52										
BYK-347	Silicone surfactant		-	100										
BYK-348	Silicone surfactant		-	100										
BYK-349	Silicone surfactant		-	100										
BYK-370	Polyestermodified polydimethylsiloxane	ОН	Xylene/Alkylbenzenes/ Cyclohexanone/Monophenylglycol 75/11/7/7	25									•	
BYK-375	Polyether-polyester-modified polydimethylsiloxane	ОН	Dipropyleneglycol monomethylether	25		•							•	
BYK-377	Polyether modified polydimethylsiloxane	ОН	-	100										
BYK-378	Polyether modified polydimethylsiloxane		-	100										
BYK-3455	Polyether modified polydimethylsiloxane		-	100										
BYK-3550	Polysiloxane modified polyacrylate		Methoxypropylacetate	52										
BYK-SILCLEAN 3700	Silicone modified polyacrylate	ОН	Methoxypropylacetate	25										
BYK-SILCLEAN 3701	Epoxyfunctional polydimethylsiloxane	Ероху	-	100										
BYK-SILCLEAN 3720	Polyether modified polydimethylsiloxane	ОН	Methoxypropanol	25	İ						İ			\vdash
BYK-UV 3510	Polyether modified polydimethylsiloxane		-	100										

Crosslinkable Surface Additives (Acrylic-functional)

Additive	Composition	Reactive	Active	Recommend	ed for		Properties
		diluent	diluent substance (%)		Solvent- borne systems	Solvent- free systems	
BYK-UV 3500	Polyethermodified polydimethylsiloxane	-	100	•	•		High surface slip
BYK-UV 3505	Modified polydimethylsiloxane	TPGDA	40	•			High surface slip
BYK-UV 3530	Polyethermodified, acrylic-functional siloxane	-	100	•	•	•	
BYK-UV 3535	Modified polyether	-	100				Anti-slip effect, silicone-free
BYK-UV 3570	Polyestermodified polydimethylsiloxane	PONPGDA	70		•	•	Medium surface slip
BYK-UV 3575	Modified polydimethylsiloxane	TPGDA	40				Medium surface slip
BYK-UV 3576	Modified polydimethylsiloxane	TPGDA	40				Low surface slip

TPGDA = Tripropyleneglycoldiacrylate

Surface Additives, silicone-free

Additive	Composition	Solvents						Recomi	nended f	or				
	Polysodato				Active substance (%)	Leveling	Air release, defoaming	Anti-popping	Substrate wetting, anti-crater effect	Aqueous systems	Solvent-borne systems	Solvent-free systems	Masterbatch resins for powder coatings	Remarks
BYK-350	Polyacrylate	-	100											
BYK-352	Polyacrylate	Methoxypropanol	80					Ì						
BYK-354	Polyacrylate	Solvent Naphtha/ Diisobutylketone 9/1	51											
BYK-355	Polyacrylate	Methoxypropylacetate	52											
BYK-356	Polyacrylate	-	100											
BYK-358 N	Polyacrylate	Alkylbenzenes	52											
BYK-359	Polyacrylate	-	100											
BYK-361 N	Polyacrylate	-	100	•					•	•	•	Solvent-free version of BYK-358 N		
BYK-381	Polyacrylate, ionic	Dipropyleneglycol- monomethylether	52	•				•						
BYK-390	Polyacrylate	Xylene	50		•	•			•					
BYK-392	Polyacrylate	Methoxypropylacetate	52											
BYK-394	Polyacrylate	Dipropyleneglycol- monomethylether	80	•					•	•		Reduced foil adhesion		
BYK-399	Surface active polymer	-	100											
BYK-3410	Alcohol alkoxylates		100											
BYK-3440	Polyacrylate	Dipropyleneglycol- monomethylether	10	•			•	•	•	•				
BYK-3441	Polyacrylate	Dipropyleneglycol- monomethylether	52	•				•		•				
BYK-3560	Polyether macromer- modified polyacrylate	-	100					•				Increases surface energy of the cured paint film		
BYK-DYNWET 800 N	Alcohol alkoxylates	-	100											
BYKETOL-AQ	Surface active low molecular weight polymers	Methoxypropanol	100	•	-	•	-	•						
BYKETOL-OK	Combination of high- boiling aromatics, ketones and esters	Alkylbenzenes/ Diisobutylketone/ Dipentene 14/5/1	100	•	•	•	•							
BYKETOL-PC	Composition of a modified urea	Water	90					•				Delays the drying of aqueous pigment concentrates		
BYKETOL-WS	Surface active low molecular weight polymers	Butylglycol	100	•	-	•	-	•						

PONPGDA = Propoxylated Neopentylglycoldiacrylate

Acrylate Leveling Additives, in powder form

Additive	Composition	Residue after calcining (%)	Acrylate content (%)	Leveling	Anti-crater effect	Pigment wetting	Recommended for powder coatings	Remarks
BYK-360 P	Polyacrylate, adsorbed on silicon dioxide	39	57				•	
BYK-364 P	Polyacrylate, adsorbed on silicon dioxide	37	60				•	OH reactive
BYK-366 P	Polyacrylate, adsorbed on silicon dioxide	34	63				•	
BYK-368 P	Polyacrylate, adsorbed on silicon dioxide	34	63				•	
BYK-3900 P	Polyacrylate, adsorbed on silicon dioxide	34	63				•	Enhanced acceptance of impurities
BYK-3902 P	Polyacrylate, adsorbed on silicon dioxide	32	63					For thin layer powder coatings
BYK-3931 P	Polyacrylate, adsorbed on silicon dioxide	34	63		•		•	Synergist; used in combination with standard leveling additives
BYK-3932 P	Polymer, adsorbed on silicon dioxide	32	63					High surface slip
BYK-3933 P	Polyacrylate, adsorbed on silicon dioxide	32	63					High transparency, increases surface tension

Nano Surface Additives

for Improved Scratch Resistance

Additive	Composition	Particle	Carrier	Partic-	Recomme	nded for			Application areas
		content (%)		le size D50	UV systen	ns	Convention	nal	
				(nm)	Aqueous	Solvent- free	Aqueous	Solvent- borne	
NANOBYK-3600*	Aluminum oxide nanoparticles	50	Water	40					Parquet and furniture coatings
NANOBYK-3601*	Aluminum oxide nanoparticles	30	TPGDA	40		•			Parquet/furniture and industrial coatings
NANOBYK-3602*	Aluminum oxide nanoparticles	30	HDDA	40		•			Parquet/furniture and industrial coatings
NANOBYK-3603	Aluminum oxide nanoparticles	40	Water	25	•		•		Wood and furniture coatings, industrial, architectural coatings
NANOBYK-3605	Silica nanoparticles, surface-modified	50	HDDA	20		•			Parquet/furniture and industrial coatings
NANOBYK-3610	Aluminum oxide nanoparticles, surface-modified with polysiloxane	30	Methoxypropylacetate	20		•			Wood and furniture coatings, industrial coatings, plastic coatings
NANOBYK-3620	Silica nanoparticles, surface-modified	30	Water	< 100	•				Wood and furniture coatings, industrial, architectural coatings
NANOBYK-3630	Boehmite nanoparticles, surface-modified	30	Aromatic-free white spirits	< 30					Architectural coatings
NANOBYK-3650	Silica nanoparticles, surface- modified with polysiloxane	25	Methoxypropylacetate/ Methoxypropanol 6/1	20					Wood and furniture coatings, industrial coatings, automotive refinish coatings
NANOBYK-3651	Silica nanoparticles, surface- modified with polysiloxane	20	Methoxypropylacetate/ Methoxypropanol 6/1	20					Wood and furniture coatings, industrial coatings, automotive coatings
NANOBYK-3652	Silica nanoparticles, surface- modified with polysiloxane	25	Methoxypropylacetate/ Methoxypropanol 6/1	20					Wood and furniture coatings, industrial coatings, automotive coatings

^{*}For enhanced effectivity the combination with standard silicone surface additives is recommended.

 $^{{\}sf TPGDA} = {\sf Tripropylenegly coldiacrylate}$

HDDA = Hexanedioldiacrylate

Silicone Defoamers

Additive	Composition		Recom	mended	for				Properties/Application areas						
				Solvents/Carrier	Aqueo system		Solve	nt-born	systems	tems]				
	Polysiloxane	Hydro-phobic particles	Polymers		Emulsions	Emulsions Amine neutralized		Emulsions Amine neutralized		Emulsions Amine neutralized		Medium-polar	Polar	Solvent-free systems	
BYK-017	•			-		•					Millbase defoamer for glycol pastes and aqueous pigment concentrates				
BYK-018				Polyglycol							PVC 18-25, highly effective against micro foam				
BYK-019	•			Dipropyleneglycolmono- methylether	•						For PU and PU/acrylate systems				
BYK-021				Polyglycol							PVC 18-25, also for airless application				
BYK-022				Polyglycol							PVC 18-25, highly effective against micro foam				
BYK-023				Water							PVC 30-50				
BYK-024				Polyglycol							PVC 0-25				
BYK-025				Dipropyleneglycolmono- methylether							Very easy incorporation (specifically for curtain coaters)				
BYK-028				Polyglycol							Standard silicone defoamer for aqueous systems				
BYK-044											Millbase defoamer for glycol pastes and aqueous pigment concentrates				
BYK-065				Cyclohexanone											
BYK-066 N				Diisobutylketone							Standard silicone defoamer for solvent-borne systems				
BYK-067 A				Propylene glycol							Solvent-free version of BYK-066 N				
BYK-072				Xylene/Butanol/ Methylisobutylketone 2/1/1				•							
BYK-077				Alkylbenzenes											
BYK-081				Propylene glycol											
BYK-085				-											
BYK-088				Isoparaffin							Compliant with FDA § 175.300				
BYK-093				Polyglycol							Excellent effectivity and broad compatibility				
BYK-094				Polyglycol											
BYK-141				Alkylbenzenes/Isobutanol 11/2											
BYK-1610				Water							Emulsion paints with medium PVC, also emulsion plasters				
BYK-1611				Water							PVK 35-70				
BYK-1615				Water							Highly filled emulsion paints				
BYK-1617			1	Water							PVK 60-85				
BYK-1650				Water							PVK 18-35				
BYK-1719			1				<u> </u>			1	Glycol-free and VOC-free				
BYK-1723			-	Water	_			_		-	PVK 60-85				
BYK-1724			-	Water	+-		ļ	+		-	PVK 0-25				
BYK-1730			-	Polyglycol			<u> </u>		+		land of the second				
BYK-1770		!	1	-			<u> </u>		-	1	Airless/airmix				
BYK-1780				- NA/-4			-				Airless/airmix				
BYK-1785			-	Water	+-		<u> </u>	-		-	Airless/airmix, PVC 18-25				
BYK-1798	•		<u> </u>	Butylglycol/Ethylhexanol/ White spirit 6/2/1	•			_							
BYK-A 530				Mixture of hydrocarbons	1						Specifically for epoxy systems				

Polymer Defoamers (silicone-free)

Additive	Composit	ion		Recommen	ded for					Properties/Application areas
	Hydro-	Polymers	Solvents	Aqueous s	ystems	Solvent-	borne systen	ns	Solvent-	1
	phobic particles			Emulsions	Amine neutra- lized	Non- polar	Medium- polar	Polar	free systems	
BYK-011			Hydrocarbons/Ethylhexanol 21/1		•					Especially effective in aqueous two-pack PU systems
BYK-012			-							Emulsion paints and plasters with a PVC of 30-85
BYK-014			-	•						Emulsion paints and plasters with a PVC of 30-85
BYK-015			-							Anti-popping effect
BYK-016			-							FDA §175.300
BYK-051 N		•	White spirits					•		Better compatibility than BYK-052, reduced effectivity
BYK-052 N			White spirits							Standard defoamer for industrial and architectural coatings
BYK-054			Isoparaffin							Especially for 2-pack PU and epoxy systems
BYK-055		•	Alkylbenzenes/ Methoxypropylacetate 12/1							Especially for polyester systems (wood and furniture coatings)
BYK-057			Alkylbenzenes/ Methoxypropylacetate 8/1							Also for air release and better leveling
BYK-1640		•	Water	•	•					Emulsion paints and plasters (PVC 30-85); suitable for food contact applications
BYK-1710	•	•		•	•					Emission-free, for aqueous two-pack systems and alkyd emulsions
BYK-1711										Polymer defoamer for aqueous systems
BYK-1740			-	•	•					"Green" defoamer based on environmentally friendly und sustainable raw materials for emulsion paints
BYK-1752		•	Isoparaffins			•			•	Polymer defoamer for solvent-based and solvent-free systems
BYK-1790		•	-						•	Specifically for solvent-free radiation curing systems
BYK-1791		•	Isoparaffins							Polymer defoamer for UV and unsaturated polyester systems
BYK-1794		•	-							Emission-free, for two-pack PU systems and epoxides
BYK-A 505			-			•			•	"Green" defoamer based und sustainable raw materials
BYK-A 535			-							Especially for 2-pack PU and epoxy systems

Mineral Oil Defoamers (without alkylphenolethoxylates)

Additive	Additive Composition						Recommended for										
	Paraffin- based mineral oils	Hydropho- bic particles	Water	Polysiloxane	Alkylpheno- lethoxylate		Emulsion plasters	Dispersion adhesives	Industrial dispersions	Industrial emulsions	Production of emulsion binders	PVC range					
BYK-035												20-40					
BYK-037												50-85					
BYK-038												20-70					
BYK-039												35-70					

Rheology Additives

		Supply form/Solvent	Rec	omm	ende	d for		Inco	orpor	ation			osity ease		Resu flow beha		Properties/Application areas
					ent-k	orne					ngs)		5				
	Non-volatile matter (%)		Aqueous systems	Polar	Medium polar	Non-polar	Powder coatings	Post-addition	With high shear	Premix in water	Extruder (powder coatings)	Low shear rates	Medium shear rates (KU)	High shear rates (ICI)	Pseudoplastic	Thixotropic	
lodified Ureas																	
YK-410	52	N-Methylpyrrolidone															Anti-settling, anti-sagging, elasticity,
YK-7410 ET	40	Amide ether															universal use
YK-D 410	52	Dimethylsulfoxide															
YK-411	25	N-Methylpyrrolidone	_														Anti-settling, anti-sagging, elasticity, use in non-polar binders
YK-7411 ES	25	Amide ester									-						·
YK-415 YK-420	30	Dimethylsulfoxide													•		Temperature-stable viscosity; excellent anti-sagging in force-dried systems
YK-420 YK-7420 ES	52 40	N-Methylpyrrolidone Amide ester															Anti-settling, anti-sagging, elasticity, universal use
3YK-7420 ES 3YK-D 420	45	Dimethylsulfoxide	1														
						1		1	1	1				1		1	<u>I</u>
olyurethane Thicke YK-425	ners/Asso 50	Polypropylene glycol 600	1	1	1		1		1	1	1						VOC-free associative thickener, viscosity
1 K-425	50	готургоругене діусог 600	•					•				•					increase already at low dosage, very universal use, urea-modified polyurethar
PTIFLO-H 370 VF	17.5	Water	•					•					•		•		VOC-free associative thickener (HEAT), universal use
PTIFLO-H 600 VF	15	Water	•									•			•		VOC-free associative thickener (HEAT), universal use
	17.5	Water	•														VOC-free associative thickener (HEUR), very universal use
PTIFLO-H 6500 VF1		Water	•												•		VOC-free associative thickener (HEUR), broad application in emulsion paints
PTIFLO-H 7500 VF ¹	17.5	Water	•					•							•		VOC-free associative thickener (HEUR), especially for architectural paints and wood stains
PTIFLO-L 150	20	Water	•					•						•	•		Associative thickener (HEAT), especially f the use in acrylate and styrene/acrylate dispersions, very effective against synere newtonian flow behaviour
PTIFLO-L 1400	20	Water															Associative thickener (HEUR), especially tacrylate and styrene/acrylate emulsions, very hydrophobic
PTIFLO-M 2600 VF	20	Water	•												•		VOC-free associative thickener (HEUR), especially for colloidal emulsions (VAE)
PTIFLO-T 1000 ²	22.5	Water													•		VOC-free associative thickener (HEUR), very newtonian flow, highest ICI values
PTIFLO-TVS VF	12.5	Water															Associative thickener (HEAT), especially for tinting paste systems
Acrylate Thickeners																	
OPTIFLO-HV 80	30	Water															Associative thickener (HASE)
mides and Organic		· · · · · · · · · · · · · · · · · · ·			1					1					1		
DJUST-4⁴	70	Water/hydrogencarbon mixture					L										Anti-settling in pigmented solvent-borne systems
DVITROL-100⁴	100	Powder			•				•				•		•		To adjust in-can viscosity in medium polar systems, temperature control required
YK-405	50	Xylol/Alkylbenzole/Isobutanol 5/4/1			•	•		•								•	Enhances thixotropy in systems with pyrogenic silica
YK-430	30	Isobutanol/Solventnaphtha 9/1		<u> </u>							-						Liquid alternative to amide thickeners in paste or powder form for universal use
YK-431	30	Isobutanol/Monophenylglykol 4/1															(e.g. heavy duty and marine coatings)
HEOCIN	100	Powder				•							•		•		To adjust in-can viscosity in non-polar systems, temperature control required
HEOTIX-2403	100	Powder	1	1		1	1	1		1	1	1		1		1	To adjust in-can viscosity in medium pola

HASE = Hydrophobic modified Alkali-Swellable Emulsion HEAT = Hydrophobic Ethoxylated Aminoplast Technology HEUR = Hydrophobic Ethoxylated Urethane

Only available: $^1\mbox{NAFTA}$ and Europe, $^2\mbox{USA}$ and Europe, $^3\mbox{Europe}$, $^4\mbox{NAFTA}$

Rheology Additives

		Supply form/Solvent R		Recommended for								Viscosity Resulting flow behavio					Properties/Application areas
				Solv		orne											
	Non-volatile matter (%)		Aqueous systems	Polar	Medium polar	Non-polar	Powder coatings	Post-addition	With high shear	Premix in water	Extruder (powder coatings)	Low shear rates	Medium shear rates (KU)	High shear rates (ICI)	Pseudoplastic	Thixotropic	
Synthetic Layered Sil LAPONITE-EP	100	Danielas			1	1	1		1	ı	1	1		1	1	ı	Oursels are difficult are distantial in account
LAPONITE-EP	100	Powder	•										•				Organic-modified product with increased effectivity at medium shear
	100	Powder	_									_					Standard recommendation for universal use
	100	Powder Powder	-														Easier to disperse than LAPONITE-RD For individual premix production; for direct
			•														use; for high-solid slurries
LAPONITE-SL 25	25	Water															Ready-to-use dispersion with high solids
Hydroclays																	
OPTIGEL-CK	100	Powder															Standard recommendation for universal use
	100	Powder															Sterilized version of OPTIGEL-CK
OPTIGEL-CG	100	Powder															For cost-optimized highly filled systems without special requirements for whiteness
OPTIGEL-CMO	100	Powder															Especially for highly filled thick-layer systems
	100	Powder															For cosolvent-free emulsion paints
OPTIGEL-W 724	100	Powder															Organic-modified, high water-resistance (e.g. heavy duty coatings)
OPTIGEL-WA	100	Powder															Organic-modified, to increase in-can viscosit
OPTIGEL-WH	100	Powder															Organically modified, strongly shear
OPTIGEL-WM	100	Powder															thinning Organic-modified, increases water retention and thus the open-time
OPTIGEL-WX	100	Powder	•										•				Organic-modified, for universal use; excellent anti-settling
OPTIGEL-WX XR	100	Powder															Sterilized version of OPTIGEL-WX
Organoclays CLAYTONE-40	100	Powder															Standard recommendation for non-polar systems
CLAYTONE-AF	100	Powder															Self-activating, for non-polar systems
CLAYTONE-APA	100	Powder														•	Self-activating, for medium polar/ polar systems
	100	Powder															For non-polar/medium polar systems
	100	Powder				•	•				•	•				•	Self-activating, for non-polar/ medium polar systems
	100	Powder				_						-					Especially for non-polar solvents
	100	Powder Powder															For non-polar/medium polar systems Optimized clay for non-polar/
TIXOGEL-MP 100	100	Powder											\vdash	\vdash			medium polar systems Self-activating, for non-polar systems
	100	Powder				_	_										Self-activating, for medium polar/ polar systems
TIXOGEL-MPI ⁵	100	Powder															Self-activating, for non-polar/ medium polar systems
	100	Powder															Optimized clay for universal use
TIXOGEL-VP	100	Powder															Standard recommendation for non-polar systems
TIXOGEL-VZ	100	Powder															Self-activating, for polar systems
Mixed Minerals																	
	100	Powder															Standard recommendation for universal use
	100	Powder									<u> </u>	_					Preferred for high-gloss systems
	100	Powder		_			_		-		-			_		-	For more non-polar systems
	100	Powder	<u> </u>			<u> </u>											For more polar systems
Thixotropy-booster BYK-R 605	50	Xylene/Alkylbenzenes/Isobutanol															Enhances the rheology effect in combination
BYK-R 607	77	5/4/1 Shellsol A/Benzyl alcohol 2/1															with GARAMITE (or pyrogenic silica) Enhances the rheology effect in combination with pyrogenic silica, preferred for solvent-

lacksquare First recommendation lacksquare Second recommendation

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Wax Emulsions and Dispersions in Water

Additive	Wax base	Carrier	Emulsifier system	Active substance (%)	Melting point wax component (°C)	Mechanical resistance	Surface slip	Anti-slip	Anti-blocking, water repellency	Soft-feel effect	Gloss reduction	Orientation of effect pigments	Application areas
AQUACER 497	Paraffin wax	Water	Non-ionic	50	60								Architectural coatings
AQUACER 501	Oxidized HDPE wax	Water	Non-ionic	35	130								Leather finishes
AQUACER 507	Oxidized HDPE wax	Water	Anionic	35	130								Automotive and industrial coatings
AQUACER 513	Oxidized HDPE wax	Water	Non-ionic	35	135								Wood, architectural and industrial coatings
AQUACER 517	Oxidized HDPE wax	Water	Non-ionic	35	120								Leather finishes
AQUACER 526	Modified EVA copolymer wax	Water	Anionic	30	105								Automotive coatings
AQUACER 527	Modified EVA copolymer wax	Water	Non-ionic	35	105								Effect coatings, overprint varnishes
AQUACER 530	Oxidized wax	Water	Non-ionic	32	130								Wood coatings, printing inks and overprint varnishes
AQUACER 531	Modified PE wax	Water	Non-ionic	45	130								Architectural coatings, printing inks and overprint varnishes
AQUACER 532	Modified HDPE wax	Water	Non-ionic	40	130								Aqueous coatings, printing inks and overprint varnishes
AQUACER 533	Modified paraffin wax	Water	Anionic	40	95				•				Architectural coatings, leather finishes and overprint varnishes
AQUACER 537	Modified paraffin wax	Water	Anionic	30	110								Wood, architectural and industrial coatings
AQUACER 539	Modified paraffin wax	Water	Non-ionic	35	90								Wood, architectural and industrial coatings
AQUACER 541	Montan ester wax	Water	Non-ionic	30	80								Leather finishes, can coatings
AQUACER 552	Oxidized HDPE wax	Water	Non-ionic	35	130								Aqueous coatings, printing inks
AQUACER 561	Bees wax	Water	Non-ionic	25	65								Aqueous coatings
AQUACER 565	Carnauba wax	Water	Non-ionic	30	85								Leather finishes
AQUACER 593	Modified PP wax	Water	Non-ionic	30	160								Aqueous coatings, wood coatings, printing inks and overprint varnishes
AQUACER 595	Modified PP wax	Water	Non-ionic	40	140								Leather finishes
AQUACER 1547	Oxidized HDPE wax	Water	Anionic	35	125								Can coatings
AQUACER 2650	Carnauba wax	Water	Non-ionic	30	85								Leather finishes
AQUAMAT 208	Oxidized HDPE wax	Water	-	35	135					•			Wood and architectural coatings
AQUAMAT 263	Oxidized HDPE wax	Water/Propyleneglycol- n-butylether 12/1	-	35	130				•	•			Architectural coatings
AQUAMAT 272	Modified PE wax	Water	-	55	125				•				Wood, architectural and industrial coatings
AQUATIX 8421	Modified EVA copolymer wax	Water	Non-ionic	20	105								Automotive and industrial coatings
HORDAMER PE 35	Modified PE primary dispersion	Water	Anionic/ non-ionic	37.5	125								Printing inks and overprint varnishes

PE = Polyethylene

PP = Polypropylene

HDPE = High Density Polyethylene

EVA = Ethylene-Vinylacetate

Wax Dispersions in Organic Solvents

Additive	Wax base	Carrier	Active substance (%)	Melting point wax component (°C)	Mechanical resistance	Surface slip	Anti-blocking, water repellency	Anti-settling	Soft-feel effect	Gloss reduction	Orientation of effect pigments	Application areas
CERACOL 79	Carnauba wax	Dipropyleneglycolmonomethylether	20	85								Can coatings
CERACOL 601	Carnauba wax	Dipropyleneglycolmonomethylether	20	85								Can/coil coatings
CERACOL 604	Carnauba wax	Butylglycol	11.5	85								Can coatings
CERACOL 607	PTFE-modified PE wax	Butyl diglycol acetate/butyl diglycol/ aromatic hydrocarbons 1/1/1	35	115	•							Can/coil coatings
CERACOL 609 N	Wax modified Lanolin	Aromatic hydrocarbons/Isopropanol 1/1	20	85								Can/coil coatings
CERAFAK 100	EVA copolymer wax	Xylene/Butylacetate 1/1	10	105								Industrial coatings
CERAFAK 103	EAA copolymer wax	Xylene/Butylacetate/Butanol 7/8/1	6	110								Automotive coatings
CERAFAK 106	EVA copolymer wax	Xylene/Butylacetate/Butanol 7/8/1	6	105								Automotive coatings
CERAFAK 110	EVA copolymer wax	Butylacetate/Butanol 15/1	6	100								Automotive and industrial coatings
CERAFAK 111	PE wax	Butylacetate	12.5	110								Automotive and industrial coatings
CERAFAK 117	Modified FT wax	Aromatic-free white spirits	25	110								Architectural coatings, protective coatings
CERAFAK 127 N	Modified FT wax	Naphthalene-depleted aromatic hydrocarbons	15	120	•							Architectural coatings, coil coatings
CERAFAK 140 N	Carnauba wax	Isobutanol/Aromatic hydrocarbons 13/4	15	90								Can coatings
CERAMAT 248	PE wax	Aromatic-free white spirits	20	110	•							Leather finishes, architectural coatings
CERAMAT 250	PE wax	Butylacetate	40	120								Wood and industrial coatings
CERAMAT 258	Oxidized HDPE wax	Butylacetate	17.5	135	•							Can coatings, wood and industrial coatings
CERATIX 8461	EVA copolymer wax	Xylene/Butylacetate/Butanol 3/6/1	4.7	105								Automotive and industrial coatings
CERATIX 8463	EVA/EAA copolymer wax mixture	Xylene/Butylacetate/Butanol 3/6/1	4.4	110								Automotive and industrial coatings
CERATIX 8466	EVA copolymer wax	Butylacetate/Butanol 9/1	4.7	100								Automotive and industrial coatings

PE = Polyethylene

PTFE = Polytetrafluoroethylene

DPE = High Density Polyethylene

EVA = Ethylene-Vinylacetate

EAA = Ethylene-Acrylic Acid

FT = Fischer-Tropsch

Micronized Wax Additives

Additive	Wax base	Parti		Melting									ع.	Coating	systems		Application areas
		size	(µm)	point (°C)							ي ا	Sc	ig ir		Liquid coa	tings	
		D50	D90		Mechanical resistance	Surface slip	Anti-slip	Soft-feel effect	Gloss reduction	Sandability	Structure/texture	Outgassing of powder coatings	Pigment wetting powder coatings	Powder coating	Organic solvents	Water	
CERAFLOUR 913	PP wax	18	31	160											-	•	Wood and industrial coatings
CERAFLOUR 914	Modified PP wax	24	36	160												•	Wood and industrial coatings
CERAFLOUR 915	Modified PP wax	44	70	160												•	Wood and industrial coatings
CERAFLOUR 916	Modified HDPE wax/polymer mixture	46	82	135							•				•	•	Wood and industrial coatings
CERAFLOUR 917	Organic polymer	42	64	135													Coil coatings, industrial and wood coatings
CERAFLOUR 920	Organic polymer	5	16	-												•	Wood, architectural and industrial coatings
CERAFLOUR 925	Modified PE wax	6	10	115													Can/Coil coatings, industrial coatings
CERAFLOUR 927	Modified PE wax	9	15	125	•											•	Wood, architectural, industrial coatings, overprint varnishes and leather finishes
CERAFLOUR 929	Modified PE wax	8	15	115													Wood, architectural and industrial coatings
CERAFLOUR 932 G	Modified LDPE wax	-	-	105													Industrial coatings
CERAFLOUR 932 P	Modified LDPE wax	-	-	105					•								Industrial coatings
CERAFLOUR 950	Modified HDPE wax	9	15	135				•									Wood and industrial coatings
CERAFLOUR 960	Modified amide wax	4	11	145													Industrial coatings
CERAFLOUR 961	Modified PE wax	5	11	140													Industrial coatings
CERAFLOUR 962	Modified PE wax	9	21	140													Industrial coatings
CERAFLOUR 964	Amide wax	20	50	75						1							Industrial coatings
CERAFLOUR 965	PTFE	31	80	-													Industrial coatings
CERAFLOUR 967	Synthetic polymer	-	-	-						1							Industrial coatings
CERAFLOUR 968	PTFE-modified PE wax	6	11	115													Industrial coatings
CERAFLOUR 969	PTFE-modified PE wax	6	14	115													Industrial coatings
CERAFLOUR 970	PP wax	9	14	160													Wood and industrial coatings
CERAFLOUR 981	PTFE	3	8	-													Can/coil coatings, wood and industrial coatings
CERAFLOUR 988	Amide-modified PE wax	6	13	140													Wood, architectural and industrial coatings
CERAFLOUR 991	PE wax	5	9	115				•									Can/coil coatings, wood and industrial coatings
CERAFLOUR 993	Amide wax	13	31	145													Can coatings, wood and industrial coatings
CERAFLOUR 994	Amide wax	5	10	145						•							Can coatings, wood and industrial coatings
CERAFLOUR 996	PTFE-modified PE wax	6	11	115	•	•			•					•	•		Can/coil coatings wood, architectural and industria coatings
CERAFLOUR 997	PTFE-modified PE wax	7	13	115	•	•			•					•			Can/coil coatings, wood, architectural and industria coatings
CERAFLOUR 998	PTFE-modified PE wax	5	9	115	•	•			•					•	•		Can/coil coatings, wood, architectural and industria coatings
CERAFLOUR 1000	Organic polymer	5	13	175													Wood and industrial coatings

PE = Polyethylene

HDPE = High Density Polyethylene

LDPE = Low Density Polyethylene

PP = Polypropylene

PTFE = Polytetrafluoroethylene

Adhesion Promoters

Additive	Composition	Acid value	Amine	Solvents	Recommen	ded for	Recommended binder systems	Recommended	
		(mg KOH/g)	value (mg KOH/g)		Aqueous systems	Solvent- borne systems		substrates	
BYK-4500	High molecular weight block copolymer	-	28	2,2,4-Trimethyl-1,3- pentanediol monoisobutyrate	•	•	Particularly for aqueous epoxy esters, alkyds, hybrids, and solvent-borne TPA and 2-pack PU	Aged coatings, metal (zinc, brass, copper), polar plastics	
BYK-4509	Salt of a polymer with acidic groups	29	29	Methoxypropanol			Particularly for baking systems and 2-pack PU	Metal, glass	
BYK-4510	Hydroxyfunctional copolymer with acidic groups	30	-	Methoxypropanol		•	Particularly for baking systems and 2-pack PU	Metal, glass	
BYK-4511	Copolymer with functional groups	-	136	Methoxypropylacetate			Particularly for 2-pack epoxies and baking systems	Metal, glass	
BYK-4512	Polymer with functional groups	-	56			•	Particularly for baking systems and 2-pack PU	Chromium-free pretreated metal, steel, zinc, glass	
BYK-4513	Polymer with functional groups	-	60	Dipropyleneglycol monomethylether	•		Two-pack epoxides	Metal	

Dispersion of Multi-walled Carbon Nanotubes (CNT)

Additive	Carrier	Particle content (%)	Properties	Recommended for
CARBOBYK-9810	Water	8	Improves electrical and thermal conductivity, antistatic and mechanical properties, electromagnetic shielding	Aqueous coatings and printing inks

Other Additives

Additive	Composition	Acid	Solvents	Acid value	Amine value	Recomme	nded for		Properties	
		content (%)		(mg KOH/g)	(mg KOH/g)	Aqueous systems	Solvent-borne systems	Powder coatings		
BYK-3950 P	Modified wax	-	-	-	-			•	Processing additive in powder form for inorganic pigments and fillers; used in combination with standard leveling additives	
BYK-3951 P	Copolymer with pigment affinic groups, adsorbed on silicon dioxide	-	-	-	-				Processing additive in powder form for inorganic pigments and fillers; used in combination with standard leveling additives	
BYK-3955 P	Copolymer with pigment affinic groups, adsorbed on silicon dioxide	-	-	-	-			•	Processing additive in powder form for carbon blacks; used in combination with standard leveling additives	
BYK-CATALYST 450	Amine salt of p-Toluenesulfonic acid	20	Methoxypropanol/ Propyleneglycol/ Water 64/5/3	60	10	•	•		Blocked acid catalyst	
BYK-ES 80	Alkylolammonium salt of an unsaturated acidic carboxylic acid ester	-	Isobutanol	140	140		•		Increases conductivity for electrostatic application	

For more information about our additives and instruments, as well as our additive sample orders please visit:

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