

PRODUCT GUIDE PAINT ADDITIVES

SURFACE ADDITIVES

RHEOLOGY ADDITIVES

WETTING AND DISPERSING ADDITIVES



DEFOAMERS

WAX ADDITIVES



All products in
this brochure
are PFAS-free.

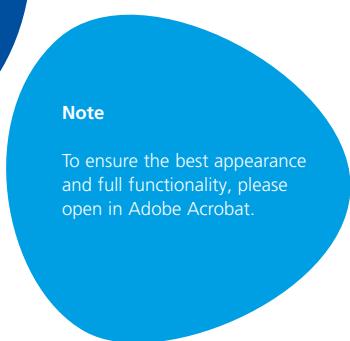


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You can find more information about the product groups on our website and in our product group-specific [ebooks](#).



Note

To ensure the best appearance and full functionality, please open in Adobe Acrobat.

Abbreviations

BG	Butylglycol
BuAc	Butyl acetate
DIBK	Diisobutyl ketone
DMSO	Dimethyl sulfoxide
DPGDA	Dipropylene glycol diacrylate
DPM	Dipropylene glycol monomethyl ether
EAA	Ethylene acrylic acid
EOTMPTA	Ethoxylated trimethylolpropane triacrylate
EVA	Ethylene vinylacetate
HASE	Hydrophobic modified polyacrylate
HDDA	Hexanediol diacrylate
HDPE	High density polyethylene
NMP	N-Methyl pyrrolidone
PEG	Polyethylene glycol
PG	Propylene glycol
PM	Methoxypropanol
PMA	Methoxypropyl acetate
PNB	Propylene glycol n-butyl ether
PONPGDA	Propoxylated neopentyl glycol diacrylate
PPG	Polypropylene glycol
SMA	Styrene maleic anhydride
TMBP-MIB	2,2,4-Trimethyl-1,3-pantanediol monoisobutyrate
TPGDA	Tripropylene glycol diacrylate

The values indicated on
the following pages
describe typical properties
and do not constitute
specification limits.

Wetting and dispersing additives

BYK's wetting and dispersing additives result in a fine and homogeneous distribution of solid particles in liquid media and ensure the long-term stability of such systems. The additives stabilize pigments (inorganic, organic, and also effect pigments) and fillers. The liquid phase can comprise water and the entire range of organic solvents of varying polarity as well as different binders.

Wetting agents are surface-active substances and improve the wetting of solids. Dispersing agents prevent particle flocculating by various mechanisms (electrostatic and/or steric effects). Wetting and dispersing additives unite both mechanisms of action in one product, i.e. they are both wetting and stabilizing.

Deflocculating wetting and dispersing additives are used for the wetting and stabilization of pigments and to avoid flooding/floating as well as to improve gloss and transparency. Controlled flocculating wetting and dispersing additives, however, also have a wetting and stabilizing effect and additionally have a positive effect on the settling and sagging behavior as well as on flooding and floating. Pigment synergists are delivered in powder form and support pigment dispersion.



Deflocculating wetting and dispersing additives (1/7)

Product	Chemistry						Product data			Systems			Pigments						
	Fatty acids	Phosphoric acid esters	Hyperbranched polyamines	Polyurethanes	Polyacrylates/ SMA-based	Other													
							Active substance (%)* ¹	Solvent	Acid value (mg KOH/g)	Amine value (mg KOH/g)	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Inorganic	Organic	Effect	Carbon blacks	Matting agents
ANTI-TERRA-U	■						50	Xylene/isobutanol 8/1	24	19	■	■							■
ANTI-TERRA-U 80	■						80	BG	40	30	■	■			■				■
ANTI-TERRA-U 100	■						100		50	35	■	■	■		■				■
BYK-151		■					40	Water/DPM 11/1			■				■				■
BYK-153* ²		■					44	Water			■				■				■
BYK-154* ³		■					42	Water			■				■				■
BYK-155/35* ³		■					35	Water	25	125	■				■				■
BYK-155/50* ²		■					50	Water			■				■				■
BYK-156* ²		■					51	Water			■				■				■
BYK-9076		■					100		38	44	■	■	■	■	■	■	■	■	■
BYK-9077		■					100		48		■	■	■	■	■	■	■	■	■
BYK-W 903	■						40	PMA			■				■			■	■
BYK-W 966	■						52	Hydrocarbons	26	19	■				■				■
BYK-W 969	■						40	Monophenylglycol	30	30	■				■				■
BYK-W 980	■						80	BG	40	30	■				■				■
BYK-W 996	■						52	Solvent naphtha/PMA 1/1	71		■				■				■
BYK-W 9010	■						100		129		■		■		■				■
BYK-W 9011	■						100		65		■				■				■
BYK-W 9012	■						100		308		■				■				■

*¹ The active substance content 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.

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Deflocculating wetting and dispersing additives (2/7)

Product	Chemistry						Product data			Systems			Pigments							
	Fatty acids	Phosphoric acid esters	Hyperbranched polyamines	Polyurethanes	Polyacrylates/ SMA-based	Other														
							Active substance (%)* ¹	Solvent	Acid value (mg KOH/g)	Amine value (mg KOH/g)	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Inorganic	Organic	Effect	Carbon blacks	Matting agents	Fillers
BYKJET-9131		■				■	40	PMA/BG 1/1	2						■					
BYKJET-9132			■				40	PMA/BG 1/1	6	28	■					■				
BYKJET-9142				■			100		95		■	■			■		■			
BYKJET-9150		■					70	PONPGDA	5	12	■					■		■		
BYKJET-9151		■					>98.5		8	18	■	■				■		■		
BYKJET-9152		■					99		6	19	■	■			■		■		■	
DISPERBYK-101 N* ³	■						52	Isoparaffinic hydrocarbons/PG 2/1	28	24	■				■					
DISPERBYK-102		■					100		101		■	■			■		■			
DISPERBYK-103		■					40	PMA			■				■		■		■	
DISPERBYK-106		■					100		132	74	■	■	■		■	■	■			
DISPERBYK-107		■					90	Isoparaffinic hydrocarbons	64		■	■			■		■		■	
DISPERBYK-108		■					100			71	■	■	■		■	■	■	■		
DISPERBYK-109		■					100			140		■	■		■	■			■	
DISPERBYK-110		■					52	PMA/alkylbenzenes 1/1	53		■				■		■		■	
DISPERBYK-111		■					100			129	■	■			■		■		■	
DISPERBYK-115			■				52	Xylene/BuAc/PMA 5/1/1		25	■	■			■	■	■		■	
DISPERBYK-118			■				80	PMA	36		■				■		■		■	
DISPERBYK-130		■					51	Alkylbenzenes/BG 5/1	< 3	190	■						■		■	
DISPERBYK-140			■				52	PMA	73	76	■	■			■	■	■		■	

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Deflocculating wetting and dispersing additives (3/7)

Product	Chemistry					Active substance (%) ^{*1}	Solvent	Product data			Systems			Pigments						
	Fatty acids	Phosphoric acid esters	Hyperbranched polyamines	Polyurethanes	Polyacrylates/ SMA-based						Acid value (mg KOH/g)	Amine value (mg KOH/g)	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Inorganic	Organic	Effect	Carbon blacks
						Other												Fillers		
DISPERBYK-142		■				60	PMA				46	43	■	■		■	■	■	■	
DISPERBYK-145		■				100					76	71	■	■	■	■	■	■	■	■
DISPERBYK-161		■				30	PMA/BuAc 6/1				11		■			■	■	■	■	
DISPERBYK-161 TF ^{*4}		■				30	PMA/BuAc 6/1				11		■			■	■	■	■	
DISPERBYK-162		■				38	PMA/xylene/BuAc 5/4/2				12.5		■			■	■	■	■	
DISPERBYK-162 TF ^{*4}		■				38	PMA/BuAc 4/1				12.5		■			■	■	■	■	
DISPERBYK-163		■				45	Xylene/BuAc/PMA 3/1/1				10		■	■		■	■	■	■	■
DISPERBYK-163 TF ^{*4}		■				45	Xylene/BuAc/PMA 3/1/1				10		■	■		■	■	■	■	■
DISPERBYK-164		■				60	BuAc				18		■	■		■	■	■	■	
DISPERBYK-166		■				29.5	BuAc/PMA 4/1				20		■			■	■	■	■	
DISPERBYK-167		■				52	PMA/BuAc 2/1				12.5		■	■		■	■	■	■	■
DISPERBYK-167 TF ^{*4}		■				52	PMA/BuAc 2/1				12.5		■	■		■	■	■	■	■
DISPERBYK-168		■				30	Dicarboxylic acid esters				10.5		■			■	■	■	■	
DISPERBYK-169		■				30	BuAc				17.5		■			■				
DISPERBYK-170		■				30	PMA/BuAc 6/1				11		■			■	■	■	■	
DISPERBYK-170 TF ^{*4}		■				30	PMA/BuAc 6/1				11		■			■	■	■	■	
DISPERBYK-171		■				39.5	PMA/BuAc 4/1				13		■			■	■	■	■	
DISPERBYK-174		■				52.5	Xylene/PMA/BuAc 3/2/1				22		■			■	■	■	■	
DISPERBYK-180	■					100					94	94	■	■		■	■	■	■	■

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Deflocculating wetting and dispersing additives (4/7)

Product	Chemistry						Product data				Systems			Pigments							
	Fatty acids	Phosphoric acid esters	Hyperbranched polyamines	Polyurethanes	Polyacrylates/ SMA-based	Other	Active substance (%)* ¹	Solvent			Acid value (mg KOH/g)	Amine value (mg KOH/g)	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Inorganic	Organic	Effect	Carbon blacks	Matting agents
								PMA/PG/PM 5/3/2	Water	PPG										Fillers	
DISPERBYK-181					■		65	PMA/PG/PM 5/3/2			33	33	■					■			
DISPERBYK-182			■				43	PMA/DPM/BuAc 7/4/4			13	■	■					■	■	■	
DISPERBYK-184		■					52	DPM/PG 2/1			15	■					■	■	■	■	
DISPERBYK-184 TF* ⁴		■					52	DPM/PG 2/1			15	■					■	■	■	■	
DISPERBYK-185		■					> 90	PEG			17	■	■	■	■	■	■	■	■	■	
DISPERBYK-187		■					70	PG/PM 2/3			35	35	■				■				
DISPERBYK-190		■					40	Water			10	1	■				■	■	■	■	■
DISPERBYK-190 BF* ⁵		■					40	Water			10	1	■				■	■	■	■	■
DISPERBYK-191		■					100				30	20	■				■	■	■	■	■
DISPERBYK-192	■						100						■					■			
DISPERBYK-193			■				40	Water					■				■	■	■	■	
DISPERBYK-194 N			■				57	Water			75		■				■	■	■	■	■
DISPERBYK-195			■				35	Water			2	< 1	■				■	■	■	■	
DISPERBYK-199			■				40	Water					■				■	■	■	■	
DISPERBYK-199 BF* ⁵			■				40	Water					■				■	■	■	■	
DISPERBYK-2000		■					40	PMA/BG 1/1			4		■				■	■	■	■	
DISPERBYK-2001		■					46	PMA/BG/PM 2/2/1			19	29	■				■	■	■	■	
DISPERBYK-2008		■					60	PPG			66		■		■					■	
DISPERBYK-2009		■					44	PMA/BG 1/1			4		■				■	■	■	■	

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Deflocculating wetting and dispersing additives (5/7)

Product	Chemistry						Product data			Systems			Pigments						
	Fatty acids	Phosphoric acid esters	Hyperbranched polyamines	Polyurethanes	Polyacrylates/ SMA-based	Other	Active substance (%)* ¹	Solvent	Acid value (mg KOH/g)	Amine value (mg KOH/g)	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Inorganic	Organic	Effect	Carbon blacks	Matting agents
DISPERBYK-2009 R					■		43	PM/PMA 2/1		4									
DISPERBYK-2010					■		40	Water	20	20	■								
DISPERBYK-2012					■		40	Water	4	7	■								
DISPERBYK-2013					■		> 97		8	18	■	■							
DISPERBYK-2014					■		100		19	■	■								
DISPERBYK-2015				■			40	Water	10		■								
DISPERBYK-2015 BF* ⁵				■			40	Water	10		■								
DISPERBYK-2018				■			52	Water		26	■								
DISPERBYK-2019				■			52	Water		22	■								
DISPERBYK-2022				■			60	PMA		61	■								
DISPERBYK-2025				■			70	PMA	38	37	■								
DISPERBYK-2026				■			60	PMA		34	39	■							
DISPERBYK-2050				■			52	PMA		30	■								
DISPERBYK-2055				■			100			40	■	■	■	■					
DISPERBYK-2060				■			> 95	Water		5	■	■	■						■
DISPERBYK-2061				■			100			3	■	■	■						
DISPERBYK-2062				■			100			65	65	■	■						■
DISPERBYK-2080				■			30	Water			■								■
DISPERBYK-2081				■			45	Water			■								■

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Deflocculating wetting and dispersing additives (6/7)

Product	Chemistry						Product data			Systems			Pigments							
	Fatty acids	Phosphoric acid esters	Hyperbranched polyamines	Polyurethanes	Polyacrylates/ SMA-based	Other														
							Active substance (%)* ¹	Solvent	Acid value (mg KOH/g)	Amine value (mg KOH/g)	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Inorganic	Organic	Effect	Carbon blacks	Matting agents	Fillers
DISPERBYK-2096	■						100		40		■	■	■							
DISPERBYK-2117						■	100		24		■	■	■	■	■	■	■	■	■	
DISPERBYK-2118						■	100		16.5		■	■	■	■	■	■	■	■	■	■
DISPERBYK-2150		■					52 PMA		57		■	■	■	■	■	■	■	■	■	
DISPERBYK-2150 TF* ⁴		■					52 PMA		57		■	■	■	■	■	■	■	■	■	
DISPERBYK-2151		■					80 PMA				■	■	■	■	■	■	■	■	■	■
DISPERBYK-2151 TF* ⁴		■					80 PMA				■	■	■	■	■	■	■	■	■	■
DISPERBYK-2152		■					> 99				■	■	■	■	■	■	■	■	■	■
DISPERBYK-2152 TF* ⁴		■					> 99				■	■	■	■	■	■	■	■	■	■
DISPERBYK-2155		■					100		48		■	■	■	■	■	■	■	■	■	
DISPERBYK-2155 TF* ⁴		■					100		48		■	■	■	■	■	■	■	■	■	
DISPERBYK-2157		■					100		< 7	35	■	■	■	■	■	■	■	■	■	
DISPERBYK-2158		■					60 DPGDA			13		■							■	
DISPERBYK-2159		■					60 PMA			13	■	■	■						■	
DISPERBYK-2163			■				45 Xylene/BuAc/PMA 3/1/1			10	■	■	■					■	■	
DISPERBYK-2163 TF* ⁴			■				45 PMA/BuAc 4/1			10	■	■	■					■	■	
DISPERBYK-2164			■				60 BuAc/PMA 2/3			14	■	■	■					■	■	
DISPERBYK-2190				■			100				■									■
DISPERBYK-2200			■				100				■	■	■	■	■	■	■	■	■	

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Deflocculating wetting and dispersing additives (7/7)

Product	Chemistry						Product data			Systems			Pigments					
							Solvent											
	Fatty acids	Phosphoric acid esters	Hyperbranched polyamines	Polyurethanes	Polyacrylates/ SMA-based	Other	Active substance (%)* ¹	Acid value (mg KOH/g)	Amine value (mg KOH/g)	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Inorganic	Organic	Effect	Carbon blacks	Matting agents
DISPERBYK-2205		■					100	24	27	■	■	■	■	■	■	■	■	■
DISPERBYK-2290			■				100			■								■
DISPERBYK-2291			■				100			■								■
DISPERPLAST-1142	■						100	85		■			■	■				■
DISPERPLAST-1150	■						100	95		■	■		■	■				■

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Controlled flocculating wetting and dispersing additives

Product	Chemistry						Product data			Systems			Pigments									
	Fatty acids	Phosphoric acid esters	Hyperbranched polyamines	Polyurethanes	Polyacrylates/ SMA-based	Other	Active substance (%)* ⁶	Solvent			Acid value (mg KOH/g)	Amine value (mg KOH/g)	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Inorganic	Organic	Effect	Carbon blacks	Matting agents	
								White spirit/2-butoxyethanol 9/1	Solvent naphtha	PM/alkylbenzenes 3/2	PM/isoparaffinic hydrocarbons 3/2	Water	Alkylbenzenes	Xylene/DIBK 9/1	Xylene/DIBK 9/1	100	180	150	365	35	35	
ANTI-TERRA-202* ⁷	■						50	White spirit/2-butoxyethanol 9/1				51	51		■		■				■	
ANTI-TERRA-203	■						50	Solvent naphtha				51	51		■		■				■	
ANTI-TERRA-204	■						52	PM/alkylbenzenes 3/2				41	37		■		■				■	
ANTI-TERRA-205	■						52	PM/isoparaffinic hydrocarbons 3/2				40	37		■		■				■	
ANTI-TERRA-250	■						70	Water				46	41	■			■				■	
BYK-220 SN	■						52	Alkylbenzenes				100		■			■	■	■	■	■	
BYK-P 104	■						50	Xylene/DIBK 9/1				180		■			■				■	
BYK-P 104 S	■						50	Xylene/DIBK 9/1				150		■			■				■	
BYK-P 105	■						100					365		■		■	■				■	
BYKUMEN	■						46	White spirit/isobutanol 3/2				35		■			■				■	
BYKUMEN N	■						46	Dearomatized hydrocarbons/isobutanol 3/2				35		■			■				■	
DISPERBYK	■						50	Water				85	85	■	■		■					

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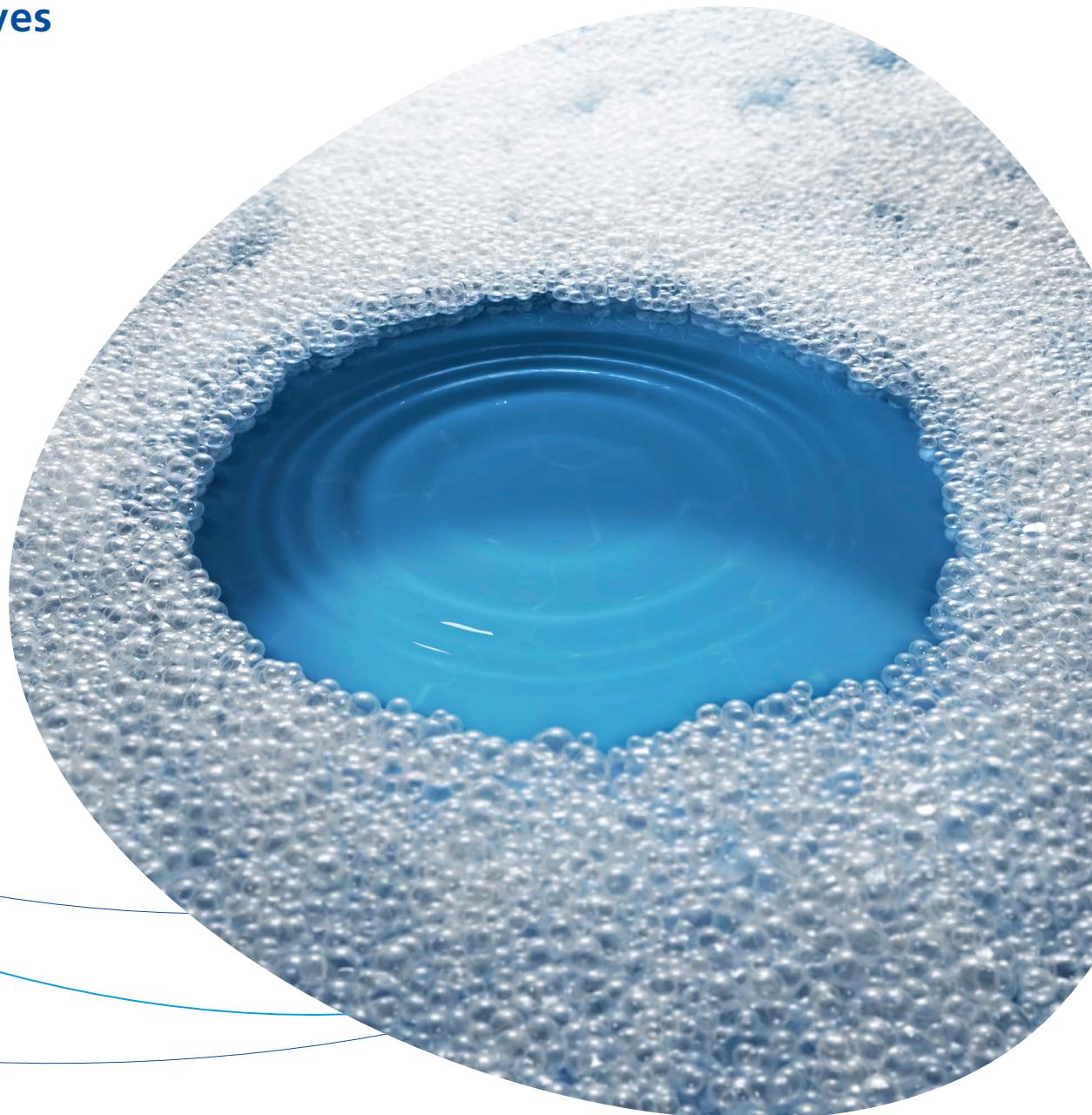
*⁷ Only available in North America.

Pigment synergists

Product	Product data		
	Chemical characterization	Properties	
BYK-SYNERGIST 2100	Insoluble pigment complex	For phthalocyanine pigments, organic violet pigments, and carbon blacks. Always use in combination with high molecular weight wetting and dispersing additives.	
BYK-SYNERGIST 2105	Insoluble pigment complex	For organic yellow, orange, and red pigments. Always use in combination with high molecular weight wetting and dispersing additives.	

Defoamers and air release additives

Foam is a dispersion of a gas in a liquid. The occurrence of foam when producing and processing coatings, but also in many other industrial processes, is usually not desired. Defoamers or air release agents prevent and destroy the foam bubbles and enable an improved processing, a perfect surface, and optimum product properties. BYK offers defoamers that can be used in a variety of different applications. You can divide them into three main groups: silicone defoamers, mineral oil defoamers, and polymer defoamers.



Silicone-based defoamers (1/3)

Product	Chemistry				Product data				Systems	Addition	Low cyclic alternative			
					Solvent									
	Polysiloxanes	Hydrophobic particles	Polymer	Solvent-free product										
BYK-017* ⁸	■	■		■					■	■	■	BYK-1707		
BYK-018	■	■	■	■					■	■				
BYK-019* ⁸	■				DPM				■	■		BYK-1709		
BYK-021	■	■	■	■					■	■				
BYK-022	■	■	■	■					■	■	■			
BYK-023	■	■			Aqueous emulsion				■	■	■			
BYK-024	■	■		■					■	■	■			
BYK-025	■				DPM				■		■			
BYK-028	■	■	■	■					■	■	■			
BYK-044	■	■			Aqueous emulsion				■	■				
BYK-070	■		■		Xylene/PMA/BuAc 10/2/1				■	■	■			
BYK-073	■				PMA/n-butanol/BuAc 2/1/1				■	■	■			
BYK-077	■				Alkylbenzenes				■	■	■			
BYK-081	■		■		PG				■	■	■			
BYK-085	■			■					■	■	■			
BYK-088	■		■		Hydrocarbon mixture (paraffins, naphthenes)				■	■	■			
BYK-092	■	■	■	■					■	■	■			
BYK-093	■	■	■	■					■	■	■			
BYK-094	■	■		■					■	■	■			
BYK-141	■		■		Alkylbenzenes/isobutanol 11/2				■	■	■			
BYK-1610	■	■			Aqueous emulsion				■	■	■			

Unless otherwise stated, all silicone-containing additives have a cyclic siloxane content (D4, D5, D6) of less than 0.1 % each.

*⁸ Content of cyclic siloxanes ≥ 0.1 %.

Silicone-based defoamers (2/3)

Product	Chemistry				Product data				Systems	Addition	Low cyclic alternative			
					Solvent									
	Polysiloxanes	Hydrophobic particles	Polymer	Solvent-free product										
BYK-1611	■	■			Aqueous emulsion		■		■	■	■			
BYK-1615	■	■			Aqueous emulsion		■		■	■	■			
BYK-1616	■	■			Aqueous emulsion		■		■	■	■			
BYK-1617	■	■			Aqueous emulsion		■		■	■	■			
BYK-1707	■	■	■				■		■					
BYK-1709	■				DPM		■		■					
BYK-1719	■	■		■			■		■					
BYK-1723	■	■			Aqueous emulsion		■		■	■	■			
BYK-1724	■	■			Aqueous emulsion		■		■	■	■			
BYK-1730	■	■		■			■		■	■				
BYK-1760	■		■	■				■	■	■	■			
BYK-1770	■			■			■		■	■	■			
BYK-1780	■	■		■			■		■					
BYK-1781	■	■		■			■		■	■	■			
BYK-1785	■	■			Aqueous emulsion		■		■					
BYK-1786	■	■			Aqueous emulsion		■		■	■	■			
BYK-1789	■	■		■			■		■	■	■			
BYK-1796	■	■		■				■	■	■	■			
BYK-1797* ⁸	■			■				■	■	■	■			
BYK-1799	■	■		■				■	■	■	■			
BYK-1810	■				BuAc		■		■	■	■			

Unless otherwise stated, all silicone-containing additives have a cyclic siloxane content (D4, D5, D6) of less than 0.1 % each.

*⁸ Content of cyclic siloxanes ≥ 0.1 %.

Silicone-based defoamers (3/3)

Product	Chemistry				Product data				Systems	Addition	Low cyclic alternative			
					Solvent									
	Polysiloxanes	Hydrophobic particles	Polymer	Solvent-free product										
BYK-1811	■				BuAc				Aqueous	■	■	■		
BYK-1815	■				BuAc				Solvent-borne	■	■	■		
BYK-1816	■				BuAc				Solvent-free	■	■	■		
BYK-1818	■				BuAc				Mill base	■	■	■		
BYK-1880	■			■					Post-addition	■	■	■		
BYK-A 525	■				White spirit/PMA 9/1					■	■	■		
BYK-A 530	■	■			Hydrocarbon mixture					■	■	■		
BYK-A 595	■	■			Aqueous emulsion		■			■				

Unless otherwise stated, all silicone-containing additives have a cyclic siloxane content (D4, D5, D6) of less than 0.1 % each.

*⁸ Content of cyclic siloxanes ≥ 0.1 %.

Polymer-based defoamers (1/2)

Product	Chemistry				Product data				Systems		Addition	
	Polysiloxanes	Solvent			Aqueous	Solvent-borne			Solvent-free	Mill base	Post-addition	
		Hydrophobic particles	Polymer	Solvent-free product								
BYK-011	■	■			Hydrocarbons/ethyl hexanol 21/1				■			■
BYK-012	■	■	■						■			■
BYK-014	■	■	■						■			■
BYK-015	■	■	■						■			■
BYK-054		■			Isoparaffins				■	■	■	■
BYK-054 T		■			Isoparaffins				■	■	■	■
BYK-055		■			Alkylbenzenes/PMA 12/1				■	■	■	■
BYK-057		■			Alkylbenzenes/PMA 8/1				■	■	■	■
BYK-1640		■	■		Aqueous emulsion				■			■
BYK-1641	■	■	■		Aqueous emulsion				■			■
BYK-1642		■	■		Aqueous emulsion				■			■
BYK-1680	■		■	■					■			■
BYK-1681		■		■					■			■
BYK-1710		■	■		Hydrocarbon mixture				■			■
BYK-1711		■	■		Hydrocarbon mixture				■			■
BYK-1740		■		■					■			■
BYK-1745		■	■	■					■			■
BYK-1748		■	■							■	■	■
BYK-1765		■	■						■	■	■	■
BYK-1788		■	■						■	■	■	■
BYK-1790		■	■						■	■	■	■

Unless otherwise stated, all silicone-containing additives have a cyclic siloxane content (D4, D5, D6) of less than 0.1 % each.

Polymer-based defoamers (2/2)

Product	Chemistry				Product data				Systems		Addition		
	Polysiloxanes	Hydrophobic particles	Polymer	Solvent-free product	Solvent				Aqueous	Solvent-borne	Solvent-free	Mill base	Post-addition
					Water	Alcohol	Hydrocarbon	Solvent naphtha					
BYK-1791	■				Isoparaffins				■	■	■	■	
BYK-1794	■	■							■	■	■	■	■
BYK-1795	■	■							■	■	■	■	■
BYK-1851	■				Dearomatized hydrocarbons				■	■	■	■	
BYK-1852	■				Dearomatized hydrocarbons				■	■	■	■	
BYK-1856	■				BuAc/PMA 9/1				■	■	■	■	■
BYK-A 500	■				Alkylbenzenes/PMA 12/1				■	■	■	■	■
BYK-A 501	■				Alkylbenzenes/PMA 8/1				■	■	■	■	■
BYK-A 535	■	■							■	■	■	■	■
BYK-A 535 T	■	■							■	■	■	■	■
BYK-A 555	■				Solvent naphtha				■	■	■	■	■

Unless otherwise stated, all silicone-containing additives have a cyclic siloxane content (D4, D5, D6) of less than 0.1 % each.

Mineral oil-based defoamers (alkylphenol ethoxylate-free)

Product	Chemistry					Product data					Systems		Addition		
			Solvent									Aqueous	Solvent-borne	Solvent-free	Mill base
	Polysiloxanes	Hydrophobic particles	Polymer	Mineral oil	Solvent-free product										Post-addition
BYK-035	■	■		■	■						■			■	■
BYK-037	■	■		■							■		■	■	■
BYK-038	■	■		■	■						■		■	■	■
BYK-039	■	■		■	■						■		■	■	■
BYK-1630	■	■		■	■						■		■	■	■
BYK-1632	■	■	■		Aqueous emulsion						■		■	■	■

Unless otherwise stated, all silicone-containing additives have a cyclic siloxane content (D4, D5, D6) of less than 0.1 % each.

Powdered defoamers

Product	Chemistry					Product data					Systems		Addition		
			Carrier									Aqueous	Solvent-borne	Solvent-free	Mill base
	Polysiloxanes	Hydrophobic particles	Polymer	Mineral oil	Solvent-free product										Post-addition
BYK-1690 SD			■	■	■	Inorganic					■			■	
BYK-1691 SD			■	■	■	Inorganic					■		■	■	
BYK-1692 SD			■	■	■	Inorganic					■		■	■	
BYK-1693 SD			■	■	■	Inorganic					■		■	■	

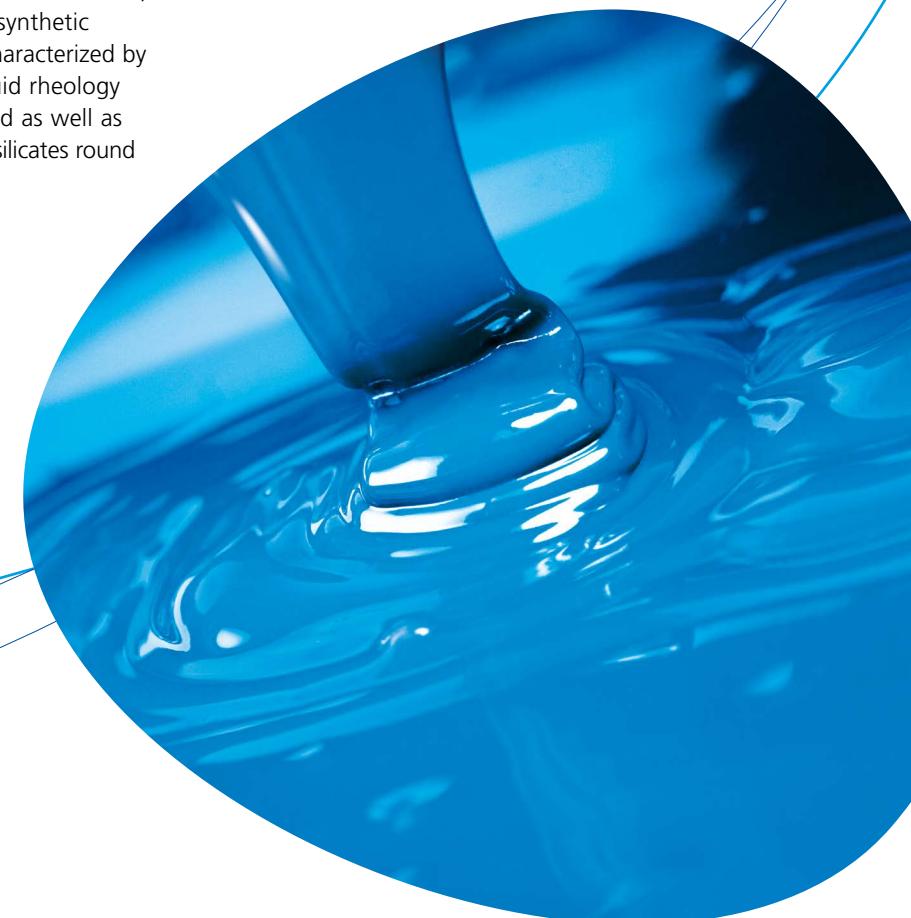
Rheology additives

By using rheology additives, the application properties of the most varied of systems can be significantly improved.

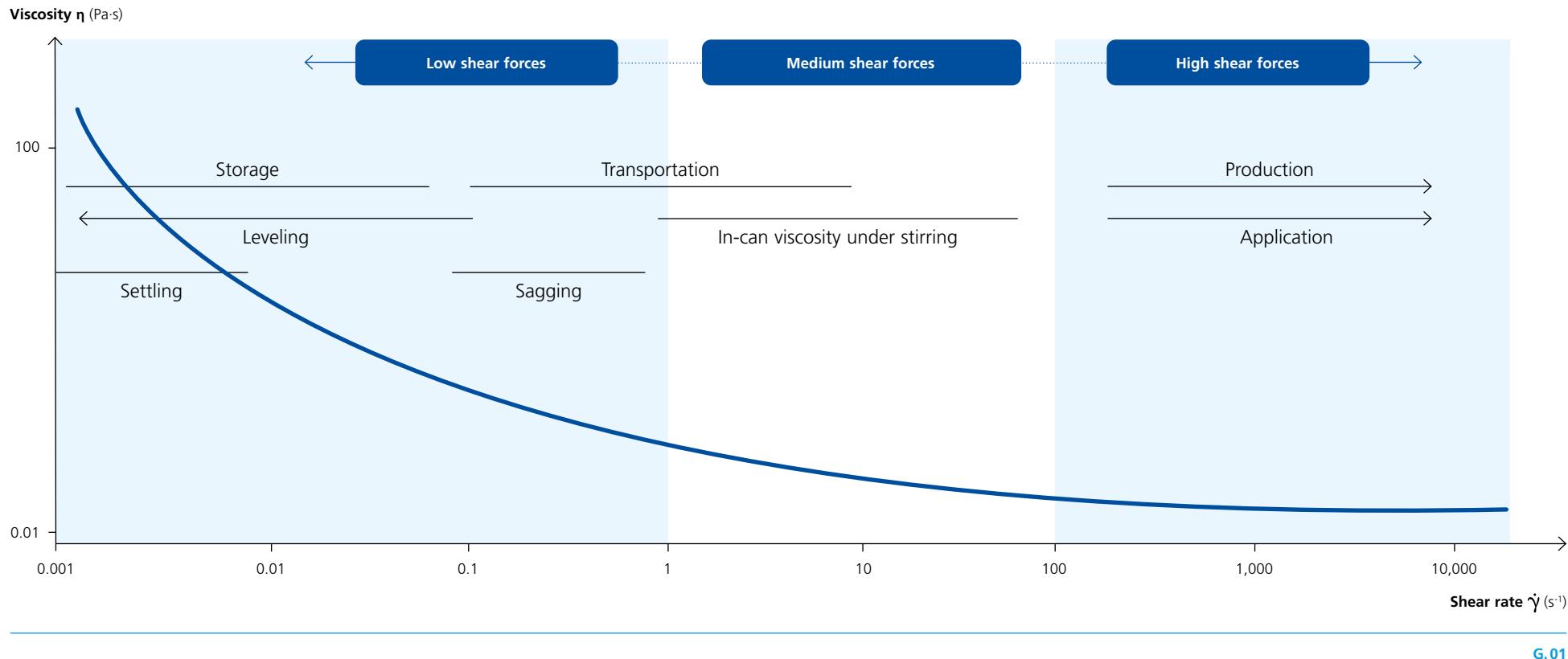
However, depending on the desired improvement, tailor-made solutions and a precise adaptation of the rheological profile are required. For example, the increase in storage stability requires a different viscosity profile than an increase in film thicknesses, while, for an increase in viscosity in low shear ranges, a different approach is required than for an increase in the brushing resistance.

Moreover, the additive must be precisely adapted to the polarity of the system, depending on whether the system in question is solvent-borne, solvent-free, or aqueous.

BYK offers a multitude of the most diverse additives for systems with a variety of polarities. Alongside additive classes such as natural phyllosilicates or associate thickeners, special high-performance additives such as synthetic phyllosilicates are also available. These are characterized by their high uniformity and transparency. Liquid rheology additives that can be very easily incorporated as well as enhancers for fumed silica and various phyllosilicates round off the scope of products available.



Typical shear rates



Low-shear conditions are typically experienced while the coating is stored and immediately after it has been applied to the substrate. During these phases, low-shear viscosity is needed to resist pigment settling and film sagging while providing the required leveling of the applied coating film.

Medium-shear conditions are created during stirring of the coating, pouring, and some types of pumping. During these phases, medium-shear viscosity helps to facilitate good in-can appearance and handling properties and may also affect spattering. Rheology additives that are effective in this range are often referred to "KU builders" or "medium-shear builders."

High-shear processes include brushing, certain aspects of rolling, and spraying. High-shear viscosity influences brush and roller drag as well as film building and hiding power. Rheology additives that provide a good effectiveness in the high shear range are often referred to as "ICI builders" or "high-shear builders."

Rheology additives (1/5)

Product	Product data Active substance (%)* ⁹ Solvent	Delivery form		Systems			Effective at		Incorporation					
		Liquid	Solid	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Low shear range	Medium shear range	High shear range	Post-addition	Direct addition into the powder component	Pregel* ¹⁰	Medium shear
Modified ureas														
RHEOBYK-410	52 NMP	■			■		■	■		●		●	●	●
RHEOBYK-411	25 NMP	■				■		■		●		●	●	●
RHEOBYK-420	52 NMP	■		■				■		●		●	●	●
RHEOBYK-7410 CA* ¹¹	47 Cyclic amide	■			■		■	■		●		●	●	●
RHEOBYK-7410 ET	40 Amide ether	■			■		■	■		●		●	●	●
RHEOBYK-7411 CA* ¹¹	45 Cyclic amide	■				■		■		●		●	●	●
RHEOBYK-7411 ES	25 Amide ester	■				■		■		●		●	●	●
RHEOBYK-7420 CA* ¹¹	52 Cyclic amide	■		■				■		●		●	●	●
RHEOBYK-7420 ES	40 Amide ester	■		■				■		●		●	●	●
RHEOBYK-7420 ET	42 Amide ether	■		■				■		●		●	●	●
RHEOBYK-7460 CA	40 Cyclic amide	■			■		■	■		●		●	●	●
RHEOBYK-7470 CA	47.5 Cyclic amide	■		■				■		●		●	●	●
RHEOBYK-D 410	52 DMSO	■			■		■	■		●		●	●	●
RHEOBYK-D 420	45 DMSO	■		■				■		●		●	●	●
RHEOBYK-D 7460	50 DMSO	■			■		■	■		●		●	●	●

● Especially recommended ○ Suitable

*⁹ The active substance content 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. *¹⁰ Pregel: Pre-dispersion of a powdered rheological additive in suitable medium

*¹¹ Not available in North America.

*¹² Acrylic thickener (HASE)

*¹³ Only available in North America and Europe.

Rheology additives (2/5)

Product	Product data Active substance (%)* ⁹ Solvent	Delivery form		Systems			Effective at		Incorporation						
		Liquid	Solid	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Low shear range	Medium shear range	High shear range	Post-addition	Direct addition into the powder component	Pregel* ¹⁰	Medium shear	High shear
Associative thickeners															
RHEOBYK-425	50 PPG	■		■				■		●		○	○		
RHEOBYK-7600	15 Water	■		■				■		○		○	○		
RHEOBYK-7601	15 Water	■		■				■		●		●	●		
RHEOBYK-7610	20 Water	■		■				■		●		●	●		
RHEOBYK-7650	100		■	■				■		○		○	●	●	
RHEOBYK-7670	100		■	■					■	○	○	○	●	●	
RHEOBYK-7690	100		■	■					■	○	○	○	●	●	
RHEOBYK-7691	100		■	■					■	○	○	○	●	●	
RHEOBYK-H 3300 VF	17.5 Water	■		■				■		●		●	●		
RHEOBYK-H 6500 VF	20 Water	■		■				■		●		●	●		
RHEOBYK-H 7500 VF	17.5 Water	■		■				■		●		●	●		
RHEOBYK-H 7625 VF	20 Water	■		■				■		●		●	●		
RHEOBYK-HV 80* ¹²	30 Water	■		■					■	●		●	●		
RHEOBYK-L 1400 VF	20 Water	■		■					■	●		●	●		
RHEOBYK-M 2600 VF	20 Water	■		■					■	●		●	●		
RHEOBYK-T 1000 VF	22.5 Water	■		■					■	●		●	●		
RHEOBYK-T 1010 VF	22.5 Water	■		■					■	●		●	●		

● Especially recommended ○ Suitable

*⁹ The active substance content 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. *¹⁰ Pregel: Pre-dispersion of a powdered rheological additive in suitable medium

*¹¹ Not available in North America.

*¹² Acrylic thickener (HASE)

*¹³ Only available in North America and Europe.

Rheology additives (3/5)

Product	Product data Active substance (%)* ⁹	Delivery form		Systems			Effective at			Incorporation				
		Liquid	Solid	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Low shear range	Medium shear range	High shear range	Post-addition	Direct addition into the powder component	Pregel* ¹⁰	Medium shear
Amides and castor oil derivatives														
RHEOBYK-100	100		■		■		■	■	■				●	
RHEOBYK-430	29	Isobutanol/solvent naphtha 9/1	■		■		■	■	■	○	○		●	
RHEOBYK-431	25	Isobutanol/monophenyl glycol 6/1	■			■		■	■	○	○		○	●
RHEOBYK-440	25	Alicyclic amide	■	■				■	■	○	○		○	●
RHEOBYK-7502* ¹³	100		■		■	■	■	■	■				●	
RHEOBYK-7503* ¹³	100		■		■	■	■	■	■				●	
RHEOBYK-7590	100		■		■	■	■	■	■				●	
RHEOBYK-7591	100		■		■	■	■	■	■				●	
Synthetic phyllosilicates														
LAPONITE-7007	100		■	■				■			●	○		○
LAPONITE-EP	100		■	■				■			●	●		○
LAPONITE-RD	100		■	■				■			●	○		○
LAPONITE-RDS	100		■	■				■			●	○		○
LAPONITE-S 482	100		■	■				■			●	○		○
LAPONITE-SL 25	22.5	Water	■	■				■		●	●	●		●

● Especially recommended ○ Suitable

*⁹ The active substance content 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. *¹⁰ Pregel: Pre-dispersion of a powdered rheological additive in suitable medium

*¹¹ Not available in North America.

*¹² Acrylic thickener (HASE)

*¹³ Only available in North America and Europe.

Rheology additives (4/5)

Product	Product data Active substance (%)* ⁹	Delivery form		Systems			Effective at			Incorporation					
		Liquid	Solid	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Low shear range	Medium shear range	High shear range	Post-addition	Direct addition into the powder component	Pregel* ¹⁰	Medium shear	High shear
Natural phyllosilicates	Solvent														
BYK-AQUAGEL 7100	100			■	■			■	■			○	●		
OPTIBENT-602	100			■	■			■	■			●			
OPTIBENT-987	100			■	■			■	■			●			
OPTIBENT-1056	100			■	■			■	■			●			
OPTIBENT-1248	100			■	■			■	■			●			
OPTIBENT-6042	100			■	■			■	■			●			
OPTIBENT-7920	100			■	■			■	■			●	●		
OPTIBENT-7925	100			■	■			■	■			●			
OPTIBENT-NT 10	100			■	■			■	■			●			
OPTIGEL-CG	100			■	■			■	■			●			●
OPTIGEL-CK	100			■	■			■	■			○			●
OPTIGEL-CK XR	100			■	■			■	■			○			●
OPTIGEL-LX	100			■	■			■	■			○			●
OPTIGEL-W 724	100			■	■			■	■			○			●
OPTIGEL-WA	100			■	■			■	■			○			●
OPTIGEL-WH	100			■	■			■	■			○			●
OPTIGEL-WM	100			■	■			■	■			○			●
OPTIGEL-WX	100			■	■			■	■			○			●
OPTIGEL-WX XR	100			■	■			■	■			○			●

● Especially recommended ○ Suitable

*⁹ The active substance content 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. *¹⁰ Pregel: Pre-dispersion of a powdered rheological additive in suitable medium

*¹¹ Not available in North America.

*¹² Acrylic thickener (HASE)

*¹³ Only available in North America and Europe.

Rheology additives (5/5)

Product	Product data	Delivery form	Systems				Effective at		Incorporation						
			Liquid	Solid	Aqueous	Solvent-borne (polar)	Solvent-borne (non-polar)	Solvent-free	Low shear range	Medium shear range	High shear range	Post-addition	Direct addition into the powder component	Pregel* ¹⁰	Medium shear
	Active substance (%) * ⁹	Solvent													
Organically-modified phyllosilicates															
CLAYTONE-40	100		■			■	■	■	■	■	■	●			●
CLAYTONE-AF	100		■			■	■	■	■	■	■	○			●
CLAYTONE-APA	100		■		■	■	■	■	■	■	■	○			●
CLAYTONE-HT	100		■		■	■	■	■	■	■	■	●			●
CLAYTONE-HY	100		■		■	■	■	■	■	■	■	○			●
CLAYTONE-MPQ	100		■		■	■	■	■	■	■	■	○			●
CLAYTONE-MPZ	100		■		■	■	■	■	■	■	■	○			●
CLAYTONE-VZ	100		■		■	■	■	■	■	■	■	●			●
GARAMITE-1210	100		■		■	■	■	■	■	■	■	○			●
GARAMITE-1958	100		■		■	■	■	■	■	■	■	○			●
GARAMITE-2578	100		■		■	■	■	■	■	■	■	○			●
GARAMITE-7303	100		■		■	■	■	■	■	■	■	○			●
GARAMITE-7305	100		■		■	■	■	■	■	■	■	○			●
Rheological synergists															
RHEOBYK-405	52	Xylene/alkylbenzenes/isobutanol 5/4/1	■		■	■	■	■	■	■	■	●			●
RHEOBYK-7405	52	PPG 600	■		■	■	■	■	■	■	■	●			●
RHEOBYK-R 605	52	Xylene/alkylbenzenes/isobutanol 5/4/1	■		■	■	■	■	■	■	■	●			●
RHEOBYK-R 606	100		■		■	■	■	■	■	■	■	●			●

● Especially recommended ○ Suitable

*⁹ The active substance content 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. *¹⁰ Pregel: Pre-dispersion of a powdered rheological additive in suitable medium

*¹¹ Not available in North America. *¹² Acrylic thickener (HASE)

*¹³ Only available in North America and Europe.

Surface additives

During the application of liquid coatings on surfaces, a multitude of surface defects can occur. The cause for this is, among others, significantly differing surface tensions. If, for example, the surface tension of the coating is higher than that of the substrate, this manifests itself in poor wetting (high contact angle) and with that poor adhesion and cratering. Also, after the application and while the coating is drying, local surface tension differences can cause unfavorable leveling and the floating of pigments. BYK offers a variety of additives that can improve or even prevent these surface defects. In addition, additives from this product group can also influence the surface slip and increase the cleanability.



Silicone surface additives (1/4)

Product	Product data		Systems	Effects				Low cyclic alternative						
	Macromer-modified acrylate	Non-volatile matter (%) ^{*14}		Solvent	Aqueous	Solvent-born	Solvent-free	Increase of surface energy	Surface slip	Leveling	Substrate wetting	Anti-crater effect	Defoaming effect	Easy to clean effect
BYK-300 ^{*15}	52	Xylene/isobutanol 4/1			■				■	■	■			BYK-3750 or BYK-3755
BYK-301 ^{*15}	52	BG			■	■			■	■	■			BYK-3751
BYK-302 ^{*15}	> 95				■	■	■		■	■	■			BYK-3752
BYK-306 ^{*15}	12.5	Xylene/monophenyl glycol 7/2			■				■	■	■	■		BYK-3761 or BYK-3765
BYK-307 ^{*15}	100				■	■	■		■	■	■	■		BYK-3762
BYK-310	25	Xylene			■	■			■	■	■	■		
BYK-314	15	PMA/monophenyl glycol 1,4/1			■				■		■	■		
BYK-315 N	25	PMA/monophenyl glycol 1/1			■				■	■				
BYK-320	52	White spirit/PMA 9/1			■				■	■		■		
BYK-322	> 98				■				■	■		■		
BYK-323 ^{*15}	> 96				■				■	■		■		BYK-3780
BYK-325 N	52	PMA/monophenyl glycol 1/1			■				■	■				
BYK-326	> 96				■	■	■		■	■	■			
BYK-327	> 99				■	■	■		■	■	■			
BYK-329	100				■	■	■		■	■		■		
BYK-330 ^{*15}	51	PMA			■				■		■	■		BYK-3763
BYK-331 ^{*15}	> 98				■	■	■		■	■				BYK-3753
BYK-332	> 97				■	■	■		■	■				
BYK-333	> 97				■	■	■		■		■	■		
BYK-337	15	DPM			■	■			■		■	■		

Unless otherwise stated, all silicone-containing additives have a cyclic siloxane content (D4, D5, D6) of less than 0.1 % each.

*¹⁴ The active substance content 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.

*¹⁵ Content of cyclic siloxanes ≥ 0.1 %.

Silicone surface additives (2/4)

Product	Product data		Systems	Effects				Low cyclic alternative						
	Macromer-modified acrylate	Non-volatile matter (%) ^{*14}		Solvent	Aqueous	Solvent-born	Solvent-free	Increase of surface energy	Surface slip	Leveling	Substrate wetting	Anti-crater effect	Defoaming effect	Easy to clean effect
BYK-342 ^{*15}		52 DPM			■	■	■		■	■	■	■	■	BYK-3754 or BYK-3756
BYK-345		100			■					■				
BYK-346		45 DPM			■					■				
BYK-347		100			■					■				
BYK-348		100			■					■				
BYK-349		100			■				■	■				
BYK-370 ^{*15}		25 Xylene/alkylbenzenes/cyclohexanone/monophenyl glycol 75/11/7/7	OH		■			■	■	■				BYK-3772
BYK-375 ^{*15}		25 DPM	OH	■				■		■				BYK-3771
BYK-377 ^{*15}		100	OH		■	■	■		■		■			BYK-3771
BYK-378 ^{*15}		100			■	■	■		■		■	■		BYK-3764
BYK-379		100			■	■	■		■		■	■		
BYK-3400		70 Water			■				■	■				
BYK-3420		100			■					■				
BYK-3450		100			■					■				
BYK-3451		100			■					■				
BYK-3455		> 90			■		■		■	■				
BYK-3456		> 90			■		■		■	■				
BYK-3480		100			■				■	■	■	■		
BYK-3481		100			■				■	■	■	■		

Unless otherwise stated, all silicone-containing additives have a cyclic siloxane content (D4, D5, D6) of less than 0.1 % each.

*¹⁴ The active substance content 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.

*¹⁵ Content of cyclic siloxanes ≥ 0.1 %.

Silicone surface additives (3/4)

Product	Product data		Systems	Effects				Low cyclic alternative			
	Macromer-modified acrylate	Non-volatile matter (%)* ¹⁴		Solvent		Aqueous	Solvent-borne	Solvent-free	Increase of surface energy	Surface slip	
				Aromatic-free white spirit/PMA 9/1	Xylene/isobutanol 4/1						
BYK-3483		100				■		■		■	
BYK-3550	■	52 PMA					■			■	
BYK-3558		> 98				■	■		■	■	
BYK-3565	■	> 97				■	■	■	■	■	
BYK-3566	■	> 97				■	■	■	■	■	
BYK-3568	■	> 97				■	■	■	■	■	
BYK-3740		52 Aromatic-free white spirit/PMA 9/1				■				■	
BYK-3741		≥ 98				■	■		■	■	
BYK-3750		52 Xylene/isobutanol 4/1				■					
BYK-3751		52 BG				■	■		■	■	
BYK-3752		97				■	■	■	■	■	
BYK-3753		> 99				■	■	■	■	■	
BYK-3754		52 DPM				■	■	■	■	■	
BYK-3755		22 Xylene/PMA 1.6/1				■			■		
BYK-3756		24 DPM				■	■	■	■	■	
BYK-3760		> 99				■	■	■	■	■	
BYK-3761		12.5 Xylene/monophenyl glycol 7/2				■			■		
BYK-3762		> 96				■	■		■	■	
BYK-3763		51 PMA				■			■	■	
BYK-3764		100				■	■	■	■	■	

Unless otherwise stated, all silicone-containing additives have a cyclic siloxane content (D4, D5, D6) of less than 0.1 % each.

*¹⁴ The active substance content 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.

*¹⁵ Content of cyclic siloxanes ≥ 0.1 %.

Silicone surface additives (4/4)

Product	Product data		Systems		Effects			Low cyclic alternative					
	Macromer-modified acrylate	Non-volatile matter (%) ^{*14}	Solvent	Reactive group	Aqueous	Solvent-borne	Solvent-free	Increase of surface energy	Surface slip	Leveling	Substrate wetting	Anti-crater effect	Defoaming effect
BYK-3765	11.5	PMA/monophenyl glycol 3.3/1			■				■	■	■	■	
BYK-3771	100		OH	■	■				■	■			
BYK-3772	25	PMA/monophenyl glycol 93/7	OH	■					■	■	■		
BYK-3780	100			■					■	■		■	
BYK-SILCLEAN 3700	25	PMA	OH	■					■	■	■		■
BYK-SILCLEAN 3701 ^{*15}	100		Epoxy	■	■				■	■			■
BYK-SILCLEAN 3710 ^{*15}	100		Acrylic		■				■	■	■		■
BYK-UV 3500 ^{*15}	100		Acrylic		■				■	■	■		
BYK-UV 3505	40	TPGDA	Acrylic	■	■	■			■	■			■
BYK-UV 3510 ^{*15}	100			■	■	■			■	■			BYK-UV 3511
BYK-UV 3511	100			■	■	■			■	■			
BYK-UV 3530	100		Acrylic	■		■			■	■	■		
BYK-UV 3570 ^{*15}	70	PONPGDA	Acrylic		■				■	■	■		
BYK-UV 3575 ^{*15}	40	TPGDA	Acrylic	■	■	■			■	■	■		
BYK-UV 3576	40	TPGDA	Acrylic	■	■	■			■	■	■		
BYK-UV 3590	100		Acrylic		■				■				
BYK-UV 3595	100		Acrylic		■				■	■			
BYKETOL-SPECIAL	< 1	Alkylbenzenes/DIBK 5/1		■					■	■		■	

Unless otherwise stated, all silicone-containing additives have a cyclic siloxane content (D4, D5, D6) of less than 0.1 % each.

*¹⁴ The active substance content 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.

*¹⁵ Content of cyclic siloxanes ≥ 0.1 %.

Silicone-free surface additives (1/2)

Product	Product data				Solvent	Reactive group	Systems		Effects					
	Acrylate	Macromer-modified acrylate	Other	Active substance (%) * ¹⁶			Aqueous	Solvent-borne	Solvent-free	Increase of surface energy	Leveling	Substrate wetting	Anti-crater effect	Defoaming effect
BYK-350	■			100			■	■			■			
BYK-352	■			80 PMA			■	■			■		■	
BYK-354	■			51 Solvent naphtha/DIBK 9/1			■	■			■		■	
BYK-355	■			52 PMA			■				■			
BYK-356	■			100			■	■			■			
BYK-358 N	■			52 Alkylbenzenes			■	■			■		■	
BYK-359	■			100			■	■			■		■	
BYK-361 N	■			100			■	■			■		■	
BYK-381	■			52 DPM		OH	■				■	■		
BYK-390	■			50 Xylene			■						■	
BYK-392	■			52 PMA			■				■		■	
BYK-394	■			80 DPM		OH	■	■						■
BYK-397	■			70 PMA			■				■		■	
BYK-399		■		100			■				■	■	■	
BYK-3410		■		100			■				■			
BYK-3540		■		80.5 PNB			■				■		■	
BYK-3560	■			100			■	■			■			

*¹⁶ The active substance content 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.

Silicone-free surface additives (2/2)

Product	Product data				Solvent	Reactive group	Systems		Effects				
	Acrylate	Macromer-modified acrylate	Other	Active substance (%) * ¹⁶			Aqueous	Solvent-borne	Increase of surface energy	Leveling	Substrate wetting	Anti-crater effect	Defoaming effect
BYK-DYNWET 800			■	100			■			■			
BYK-DYNWET 810			■	100			■			■			
BYK-UV 3535			■	100		Acrylic/OH	■	■	■	■			
BYKETOL-AQ			■	4 PMA			■					■	
BYKETOL-OK			■	< 1 Alkylbenzenes/DIBK/dipentene 14/5/1				■				■	
BYKETOL-PC			■	90 Water			■						■
BYKETOL-WA			■	100 BG			■		■	■	■	■	
BYKETOL-WB			■	100			■		■	■	■		

*¹⁶ The active substance content 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.

Silicone-free surface additives, powdered

Product	Product data			Carrier	Acrylate content (%)	Systems		Effects			
	Acrylate	Other	Non-volatile matter (%) ^{*17}			Aqueous	Solvent-borne	Solvent-free	Leveling	Anti-crater effect	Pigment wetting
										Matting	
BYK-360 P	■		100	Silicon dioxide (silica)	57			■	■	■	
BYK-364 P ^{*18}	■		100	Silicon dioxide (silica)	60		■	■	■	■	■
BYK-366 P	■		100	Silicon dioxide (silica)	63		■	■	■	■	
BYK-368 P	■		100	Silicon dioxide (silica)	63		■	■	■	■	
BYK-3900 P	■		100	Silicon dioxide (silica)	63		■	■	■	■	
BYK-3902 P	■		100	Silicon dioxide (silica)	63		■	■	■	■	
BYK-3931 P ^{*19}	■		100	Silicon dioxide (silica)	63		■		■		
BYK-3932 P	■		100	Silicon dioxide (silica)	63		■	■	■	■	
BYK-3933 P	■		100	Silicon dioxide (silica)	63		■	■	■	■	
BYK-3938 P		■	100				■				■

*¹⁷ The active substance content 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.

*¹⁸ OH-functional

*¹⁹ Synergist, use in combination with standard flow additives

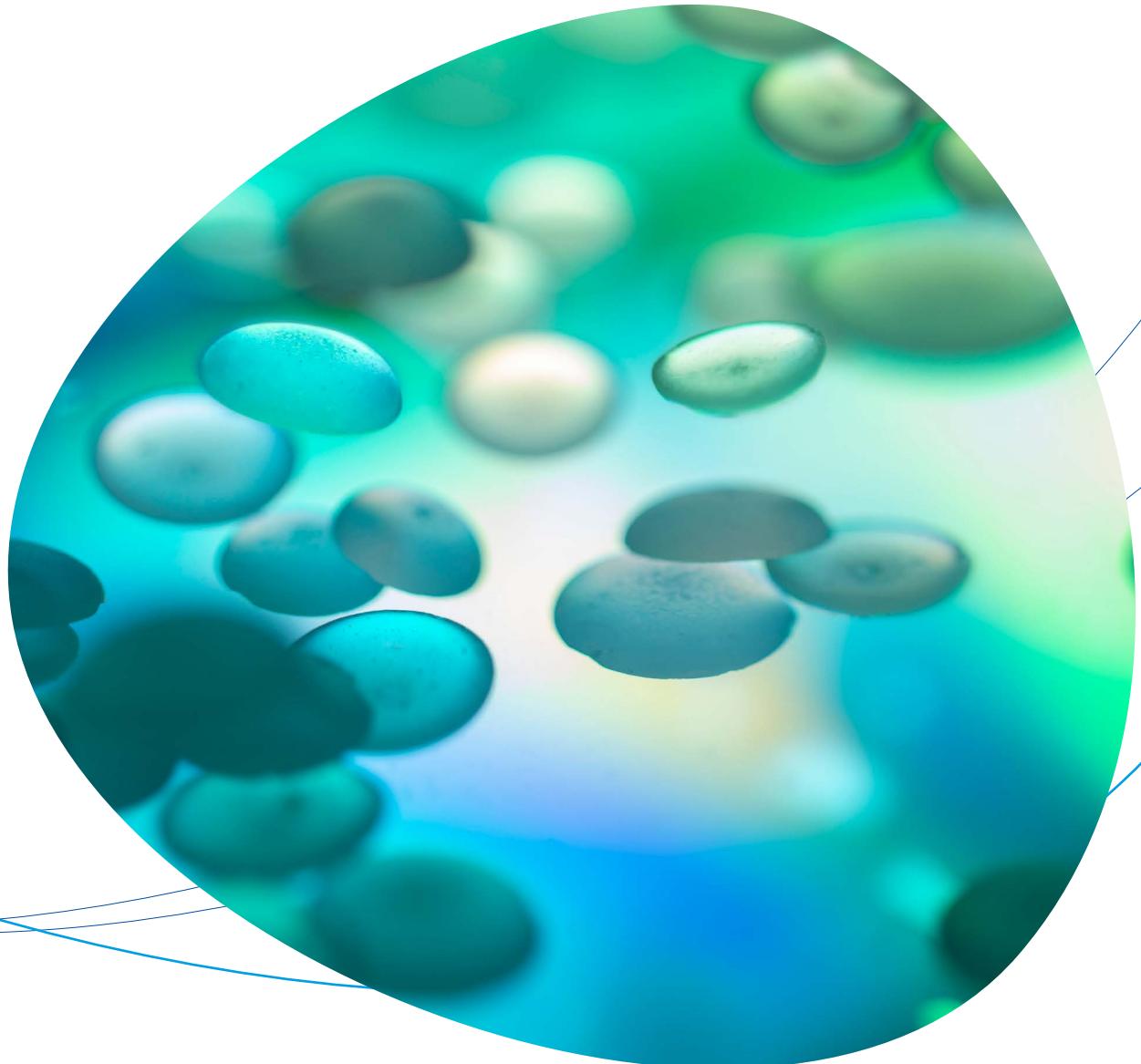
Nano additives

Product	Product data				Carrier	Particle size D50 (nm)	Systems		Effects		
	Aluminum oxide	Silicon dioxide (silica)	Zinc oxide	Particle content (%)			Aqueous	Solvent-borne	Solvent-free	Scratch resistance	Abrasion resistance
BYK-UV 3518		■		45 PM		20		■	■	■	■
BYK-UV 3519		■		40 EOTMPTA		20		■	■	■	■
NANOBYK-3603	■			40 Water		25	■		■	■	
NANOBYK-3605		■		50 HDDA		20		■	■	■	■
NANOBYK-3611	■			30 PMA		20		■	■	■	
NANOBYK-3620		■		30 Water		< 100	■		■	■	
NANOBYK-3650		■		25 PMA/PM		20		■		■	
NANOBYK-3652		■		25 PMA/PM		20		■		■	
NANOBYK-3822		■		40 Water		20	■				■

Wax additives

Wax additives can be used in many applications, for example to control the processability of products or to improve the surface properties. There are waxes based on natural, semi-synthetic, and synthetic raw materials. The chemical composition, melting point, and polarity of a wax determine its basic properties. The final properties can additionally be influenced by modifications and the subsequent manufacturing process.

BYK sells wax additives in various preparations, such as micronized wax additives, aqueous emulsions and dispersions, and solvent-based dispersions.



Micronized wax additives (1/3)

Product	Product data			Systems		Effects						Pigment wetting in powder coatings	Anti-blocking/water repellency	
		Wax base		Particle size distribution (μm)		Effects								
		D50	D90	Aqueous	Solvent-borne	Solvent-free	Mechanical resistance	Surface slip	Anti-slip	Soft-feel effect	Matting	Sandability	Structure/texture	
CERAFLOUR 913	Polypropylene wax	160	18	31	■	■				■	■		■	
CERAFLOUR 914	Polypropylene wax	160	24	36	■	■							■	
CERAFLOUR 915	Polypropylene wax	160	34	57	■	■							■	
CERAFLOUR 916	Modified HDPE wax/polymer blend	135	46	82	■	■							■	
CERAFLOUR 917	Organic polymer	135	42	64	■	■	■			■			■	
CERAFLOUR 920	Organic polymer		5	16	■	■	■				■	■		
CERAFLOUR 921* ²⁰	Organic polymer		6	18	■	■	■	■	■		■	■		
CERAFLOUR 924	Modified HDPE wax	135	12	20	■	■	■	■	■	■	■	■		
CERAFLOUR 925 N	Modified polyethylene wax	115	6	10	■	■				■				
CERAFLOUR 927 N	Modified HDPE wax	125	9	15	■				■			■		
CERAFLOUR 929 N	Modified polyethylene wax	115	8	15	■	■			■			■		
CERAFLOUR 950	Modified HDPE wax	135	9	15	■	■	■	■	■	■	■			
CERAFLOUR 960	Modified amide wax	145	4	11		■							■	■
CERAFLOUR 961	Modified polyethylene wax	140	5	11	■	■							■	

*²⁰ Only available in North America.

Micronized wax additives (2/3)

Product	Product data			Systems		Effects						Degassing of powder coatings	Pigment wetting in powder coatings	Anti-blocking/water repellency				
		Wax base		Particle size distribution (μm)		Aqueous	Solvent-borne	Solvent-free	Mechanical resistance	Surface slip	Anti-slip	Soft-feel effect	Matting	Sandability	Structure/texture			
		D50	D90															
CERAFLOUR 962	Modified polyethylene wax	140	9	21			■		■							■		
CERAFLOUR 964	Amide wax	75	20	50			■									■		
CERAFLOUR 967	Synthetic polymer						■								■			
CERAFLOUR 970	Polypropylene wax	160	9	14	■	■				■		■						
CERAFLOUR 988	Blend of Fischer-Tropsch wax and amide wax	140	6	13	■	■	■					■						
CERAFLOUR 991	Fischer-Tropsch wax	115	5	9	■	■	■	■	■									
CERAFLOUR 993	Amide wax	145	13	31		■						■			■	■	■	
CERAFLOUR 994	Amide wax	145	5	10	■	■	■	■	■					■				
CERAFLOUR 1000	Biopolymer	175	5	11	■	■	■	■	■	■	■	■	■				■	
CERAFLOUR 1001	Biopolymer	175	3	7	■	■	■	■	■	■	■	■	■					
CERAFLOUR 1002	Biopolymer	175	6	31	■	■	■	■	■	■	■	■	■		■			
CERAFLOUR 1003	Corn starch		13	18	■	■						■			■			
CERAFLOUR 1004	Corn starch			9	14	■	■					■			■			
CERAFLOUR 1010	Rapeseed wax	70	6	16	■	■	■	■	■	■	■	■	■					

*20 Only available in North America.

Micronized wax additives (3/3)

Product	Product data			Systems		Effects									
		Wax base		Particle size distribution (μm)											
		D50	D90	Aqueous	Solvent-borne	Solvent-free	Mechanical resistance	Surface slip	Anti-slip	Soft-feel effect	Matting	Sandability	Structure/texture	Degassing of powder coatings	Pigment wetting in powder coatings
CERAFLOUR 1050	Polyethylene wax	125	5	10	■	■	■	■	■	■	■	■	■	■	■
CERAFLOUR 1051	Modified polyethylene wax	125	6	10	■	■	■	■	■	■	■	■	■	■	■
CERAFLOUR 1052	Modified polyethylene wax	125	6	10	■	■	■	■	■	■	■	■	■	■	■

*²⁰ Only available in North America.

Wax additives – Wax emulsions and dispersions in water (1/2)

Product	Product data			Systems				Effects											
	Wax base	Solvent		Emulsifier system				Mechanical resistance	Surface slip	Anti-slip	Soft-feel effect	Matting	Sandability	Structure/texture	Degassing of powder coatings	Pigment wetting in powder coatings	Anti-blocking/water repellency	Anti-settling	Effect pigment orientation
		Non-volatile matter (%) ^{*21}	Melting point (°C)	pH value	Non-ionic	Anionic	Cationic												
AQUACER 497	Paraffin wax	60	50 Water	5.5	■														
AQUACER 501	Oxidized HDPE wax	130	35 Water	9	■														
AQUACER 507	Oxidized HDPE wax	130	35 Water	9.7		■												■	
AQUACER 513	Oxidized HDPE wax	135	35 Water	9.2	■														
AQUACER 526	Modified EVA copolymer wax	105	30 Water	9.7		■												■	
AQUACER 531	Modified HDPE wax	130	45 Water	3.5	■													■	
AQUACER 532	Modified HDPE wax	130	40 Water	3.5	■														
AQUACER 533	Modified paraffin wax	95	40 Water	9.5		■												■	
AQUACER 535 N	Modified paraffin wax	105	30 Water	10	■													■	
AQUACER 537 N	Modified paraffin wax	110	30 Water	9.5		■												■	
AQUACER 539	Modified paraffin wax	90	35 Water	9.5	■													■	
AQUACER 541	Montane ester wax	80	30 Water	5.5	■														
AQUACER 552	Oxidized HDPE wax	130	35 Water	9	■														
AQUACER 561	Bees wax	65	25 Water	5.5	■													■	
AQUACER 570	Sunflower/carnauba wax blend	85	40 Water	5	■														
AQUACER 571	Modified rice bran wax	80	25 Water	9.75	■								■					■	
AQUACER 593	Modified polypropylene wax	160	30 Water	9	■								■						

*²¹ The active substance content 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. *²² Only available in North America.

Wax additives – Wax emulsions and dispersions in water (2/2)

Product	Product data			Systems				Effects											
	Wax base	Solvent	Non-volatile matter (%)* ²¹	Emulsifier system				Mechanical resistance	Surface slip	Anti-slip	Soft-feel effect	Matting	Sandability	Structure/texture	Degassing of powder coatings	Pigment wetting in powder coatings	Anti-blocking/water repellency	Anti-settling	Effect pigment orientation
				pH value	Non-ionic	Anionic	Cationic												
AQUACER 840	Oxidized HDPE wax	135	30 Water	5															
AQUACER 1013	Oxidized HDPE wax	135	35 Water	9.2	■														
AQUACER 1039	Modified paraffin wax	90	35 Water	9.5	■														■
AQUACER 1541	Carnauba wax	85	25 Water	10	■														
AQUACER 1547	Oxidized HDPE wax	125	35 Water	9.7		■													
AQUACER 2650	Carnauba wax	85	30 Water	4.5	■														■
AQUACER 8035* ²²	Oxidized HDPE wax	140	35 Water	9		■													
AQUACER 8335* ²²	Modified paraffin wax	58	45 Water	11		■													■
AQUACER 8840* ²²	EAA copolymer wax	110	30 Water	9	■														
AQUAMAT 208	Oxidized HDPE wax	135	35 Water	8.5															
AQUAMAT 263	Oxidized HDPE wax	130	35 Water/PNB 12/1	9.5															■
AQUAMAT 272 N	Modified polyethylene wax	125	55 Water	4															
AQUATIX 8421	Modified EVA copolymer wax	105	20 Water	5.5	■														■ ■
HORDAMER PE 02	Polyethylene primary dispersion	95	40 Water	11		■													

*²¹ The active substance content 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. *²² Only available in North America.

Wax additives – Wax dispersions in organic solvents (1/2)

Product	Product data				Systems		Effects													
	Wax base	Solvent			Particle size distribution (μm)		Aqueous	Solvent-free	Mechanical resistance	Surface slip	Anti-slip	Soft-feel effect	Matting	Sandability	Structure/texture	Degassing of powder coatings	Pigment wetting in powder coatings	Anti-blocking/water repellency	Anti-settling	Effect pigment orientation
		Melting point (°C)	Non-volatile matter (%)*) ²³	DPM	D50	D90														
CERACOL 79	Carnauba wax	85	20	DPM	2	6	■			■	■									
CERACOL 83	Fischer-Tropsch wax	105	20	Isopropanol	2.5	6	■	■		■	■									
CERACOL 600	Modified hydrocarbon wax	100	20	PMA	2	5	■			■	■									
CERACOL 601	Carnauba wax	85	20	DPM	2	6	■	■		■	■									
CERACOL 605	Carnauba wax	85	20	BG	2	3	■	■		■	■									
CERACOL 609 N	Wax-modified lanolin	85	20	Aromatic hydrocarbons/ isopropanol 1/1	3	6	■		■	■	■									
CERACOL 610	Microcrystalline wax	95	15	Low-naphthalene aromatic hydrocarbons	5	9	■		■	■	■									
CERACOL 615	Microcrystalline wax	95	20	DPM	6	10	■	■		■	■									
CERACOL 624	Carnauba wax	85	12	DPM	4	7	■		■	■	■									
CERAFAK 100	EVA copolymer wax	105	10	Xylene/BuAc 1/1			■											■	■	
CERAFAK 103	EVA copolymer wax	110	6	Xylene/BuAc/butanol 7/8/1			■											■	■	
CERAFAK 106	EVA copolymer wax	105	6	Xylene/BuAc/butanol 7/8/1			■											■	■	
CERAFAK 110	EVA copolymer wax	100	6	BuAc/butanol 15/1			■											■	■	
CERAFAK 111	Polyethylene wax	110	12.5	BuAc			■													■
CERAFAK 117	Modified Fischer-Tropsch wax	110	25	Aromatic-free white spirit			■													

*²³ The active substance content 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.

Wax additives – Wax dispersions in organic solvents (2/2)

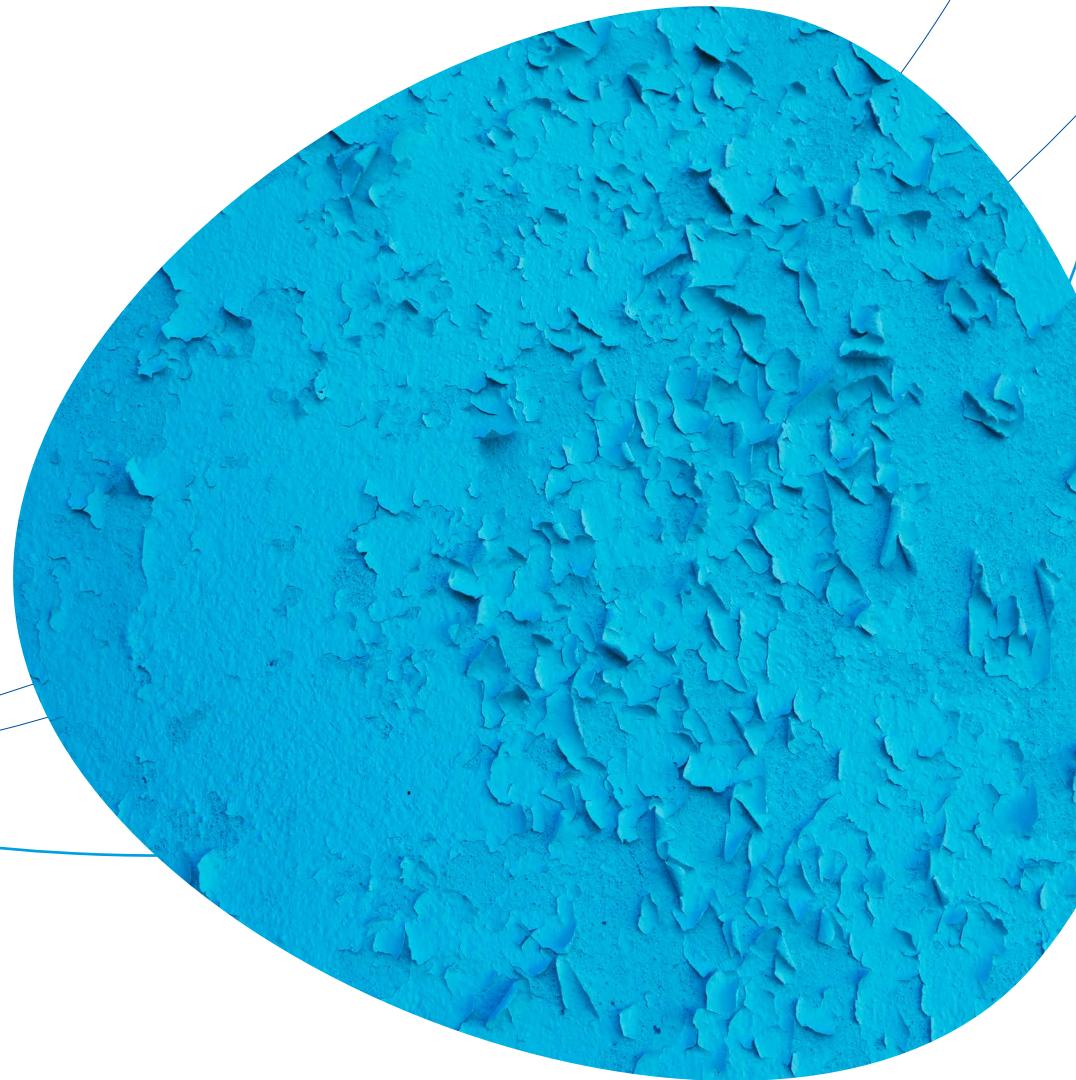
Product	Product data				Systems		Effects								
	Wax base	Solvent			Particle size distribution (μm)		Aqueous	Solvent-free	Mechanical resistance	Surface slip	Anti-slip	Soft-feel effect	Matting	Sandability	Structure/texture
		Melting point (°C)	Non-volatile matter (%)*) ²³	D50	D90										
CERAFAK 127 N	Modified Fischer-Tropsch wax	120	15	Aromatic hydrocarbons	3	7	■	■	■	■	■	■	■	■	Degassing of powder coatings
CERAFAK 140 N	Carnauba wax	85	15	Isobutanol/aromatic hydrocarbons 13/4			■	■	■	■					Pigment wetting in powder coatings
CERAFAK 151	Oxidized HDPE wax	135	25	Xylene			■	■		■	■	■	■		Anti-blocking/water repellency
CERAMAT 241	Oxidized HDPE wax	135	20	Xylene/BuAc 1/1			■	■	■	■	■	■	■		Anti-settling
CERAMAT 250	Polyethylene wax	120	40	BuAc			■	■		■	■	■	■		Effect pigment orientation
CERAMAT 258	Oxidized HDPE wax	135	17.5	BuAc			■	■		■	■	■	■		
CERATIX 8561	EVA copolymer wax	105	4.7	Xylene/BuAc/Butanol 3/6/1			■								
CERATIX 8563	EVA/EAA copolymer wax blend	110	4.4	Xylene/BuAc/Butanol 3/6/1			■								
CERATIX 8566	EVA copolymer wax	100	4.7	BuAc/Butanol 9/1			■								

*²³ The active substance content 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.

Adhesion promoters

In numerous coating applications, the interactions at interfaces are a decisive influencing factor for efficiency in the end application. Interfaces exist both between the coating and substrate and between the individual coating layers or aged coatings. The aim of adhesion promoters is to create as many stable additional physical or chemical bonds as possible at these phases.

Additives from BYK can, for example, positively influence the adhesion of coatings to different substrates, the tolerance to surface contamination, and the resistance to moisture and corrosion.



Adhesion promoters

Product	Product data							Non-volatile matter (%) ^{*24}	Acid value (mg KOH/g)	Amine value (mg KOH/g)	Systems		Substrates			
	OH	NR ₃	COO ⁻	COOH	Si(OR) ₃	Solvent	Aqueous				Aqueous	Solvent-borne	Solvent-free	Metal	Glass	Plastics
BYK-3941 P	■				■			63 ^{*25}			■	■				
BYK-3942 P	■	■						63 ^{*25}			■	■				
BYK-4500		■			TMBP-MIB			40		28	■	■		■	■	
BYK-4509	■			■	PM			80	29	29	■	■		■	■	
BYK-4510	■			■	PM			80	30		■	■		■	■	
BYK-4511		■		■	PMA			40		136	■	■		■	■	
BYK-4512	■	■			PMA			60		56	■		■	■	■	
BYK-4513	■	■			DPM			41		60	■		■			

*24 The active substance content 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.

*25 Active substance on solid silica carrier

Processing additives

Processing additives from BYK are used to achieve various effects in coating applications. These additives have generally positive influences on a wide range of processing parameters and the properties of the final product. Such effects can, for example, be the prevention of gelling and skin formation, lowering of curing temperature and duration, or increasing of conductivity.



Processing additives

Product	Product data			Systems		Effect
	Solvent	Acid value (mg KOH/g)	Amine value (mg KOH/g)	Aqueous	Solvent-borne	
BYK-3950 P						<input checked="" type="checkbox"/> Improved pigment and filler absorption, viscosity reduction, improved leveling, and degassing of powder coatings
BYK-3951 P						<input checked="" type="checkbox"/> Improved pigment and filler absorption, viscosity reduction, improved leveling, and degassing of powder coatings
BYK-3955 P						<input checked="" type="checkbox"/> Improved pigment and filler absorption, especially of carbon blacks, viscosity reduction, improved leveling, and degassing of powder coatings
BYK-CATALYST 450	PM/PG/water 64/5/3	60	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Blocked acid catalyst (acid content: 20 %), reduction in baking temperature and time
BYK-ES 80	Isobutanol	140	140	<input checked="" type="checkbox"/>		Increased conductivity in the liquid coating
BYKANOL-A	Isobutanol/water/dearomatized white spirit 10/1/6	13	57	<input checked="" type="checkbox"/>		Anti-gelling, prevention of skin formation in alkyd systems



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