



Product Guide L-G 5

Additives for Radiation Curing Systems

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Radiation curing systems (UV and EB curing) have found wide usage in several industrial sectors where high-quality surface coatings are of interest. The main areas of application are wood and furniture coatings, industrial coatings, can coatings, printing inks (including overprint varnishes), inkjet inks, and powder coatings. This brochure summarizes our additive recommendations for these applications.

Solvent-free additives are naturally preferred for solvent-free formulations; however, solvent-borne additives may also be used (except in powder coatings), as long as they contribute only small amounts of solvent to the final formulation.

Several products were specifically developed for radiation curing formulations: these are acrylated additives that can participate in crosslinking reactions. These products are marked with an asterisk (*) in the following tables.

Details about all the additives mentioned can be found in the corresponding Technical Data Sheets that are also available at our website www.byk.com/additives.



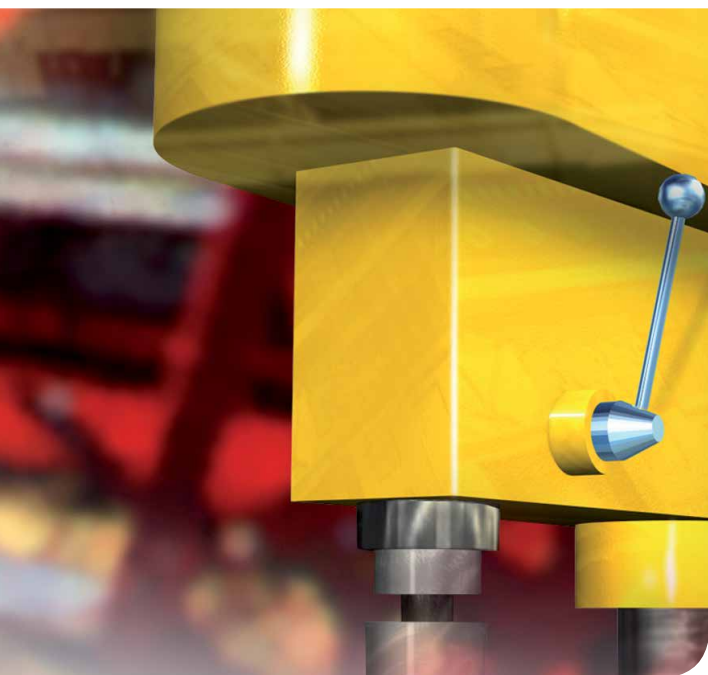
Industrial Coatings

	Solvent-free systems	Aqueous systems
Pigment wetting and stabilization	DISPERBYK-110 DISPERBYK-180 DISPERBYK-2155 DISPERBYK-2013 DISPERBYK-2008 DISPERBYK-2055	DISPERBYK-180 DISPERBYK-190 DISPERBYK-192 DISPERBYK-2010 DISPERBYK-2012 DISPERBYK-2055 DISPERBYK-2060
Silicone-based defoamers	BYK-1799	BYK-019 BYK-093
Silicone-free defoamers	BYK-1788 BYK-1790	BYK-011
Substrate wetting	BYK-378 BYK-3760 BYK-UV 3505* BYK-333	BYK-348 BYK-349 BYK-346 BYK-3455
Surface slip		BYK-378 BYK-3760 BYK-307 BYK-333
Scratch resistance	CERAFLOUR 929 N NANOBYK-3605* CERAFLOUR 950 CERAFLOUR 996	
Leveling	BYK-361 N BYK-UV 3535* BYK-399 BYK-3455	BYK-3441 BYK-327 BYK-381 BYKETOL-AQ
Matting	CERAFLOUR 1000	AQUAMAT 272 N CERAFLOUR 929 N CERAFLOUR 920
Anti-settling/ anti-sagging	RHEOBYK-D 410	RHEOBYK-D 420 RHEOBYK-H 7625 VF RHEOBYK-L 1400

Our especially recommended additives are printed in bold.

figure 1

* acrylated (reactive) additives



Wood and Furniture Coatings

	Solvent-free systems	Aqueous systems
Pigment wetting and stabilization	DISPERBYK-2013 DISPERBYK-2155 DISPERBYK-111	DISPERBYK-2012 DISPERBYK-2013 DISPERBYK-2015 DISPERBYK-190
Wetting and stabilization of silica matting agents	DISPERBYK-2008 DISPERBYK-2158* DISPERBYK-2159	DISPERBYK-2012 DISPERBYK-2013
Anti-settling	GARAMITE-1958 GARAMITE-7303 RHEOBYK-410 RHEOBYK-7410 ET	AQUATIX 8421 RHEOBYK-7420 ES LAPONITE-S 482 RHEOBYK-H 3300 VF
Silicone-based defoamers	BYK-1798 BYK-1799 BYK-088 BYK-A 530	BYK-093 BYK-094 BYK-1781 BYK-024 BYK-028
Silicone-free defoamers	BYK-1788 BYK-1790 BYK-1791 BYK-1794	
Leveling	BYK-361 N BYK-3455 BYK-3456 BYK-UV 3535*	BYK-3455 BYK-3456 BYK-333
Surface slip	BYK-333 BYK-378 BYK-3760 BYK-UV 3500* BYK-UV 3505* CERAFLOUR 988	AQUACER 539 BYK-333 BYK-3760 BYK-UV 3500*
Tape release	BYK-UV 3500* BYK-UV 3505* BYK-378 BYK-3760	BYK-377 BYK-333 BYK-UV 3500*
Scratch resistance	CERAFLOUR 929 N CERAFLOUR 988 NANOBYK-3601* NANOBYK-3605* CERAFLOUR 996	CERAFLOUR 927 N CERAFLOUR 929 N NANOBYK-3603 AQUAMAT 272 N NANOBYK-3620
Substrate wetting	BYK-3760 BYK-UV 3500* BYK-UV 3505* BYK-378	BYK-349 BYK-3455 BYK-3456 BYK-UV 3500*
Matting	CERAFLOUR 920 CERAFLOUR 1000 CERAFLOUR 929 N CERAFLOUR 950 CERAFLOUR 988	CERAFLOUR 920 CERAFLOUR 1000 AQUAMAT 208 AQUAMAT 272 N CERAFLOUR 927 N CERAFLOUR 929 N

Our especially recommended additives are printed in bold.

figure 2

* acrylated (reactive) additives





Can Coatings

	Solvent-free systems
Pigment wetting and stabilization	DISPERBYK-111 DISPERBYK-2013 DISPERBYK-2155
Silicone-based defoamers	BYK-088
Silicone-free defoamers	BYK-1795 BYK-1790
Substrate wetting	BYK-307 BYK-3760
Scratch resistance	BYK-307 CERAFLOUR 925 N BYK-3760
Leveling	BYK-307 BYK-359 BYK-3760
Surface slip	BYK-307 CERAFLOUR 925 N BYK-3760

Our especially recommended additives are printed in bold.

figure 3

* acrylated (reactive) additives



Powder Coatings

	Pigmented coatings	Clear coatings
Leveling	BYK-368 P BYK-3902 P	BYK-361 N
Matting	CERAFLOUR 920 CERAFLOUR 950	CERAFLOUR 970 CERAFLOUR 991
Scratch resistance	CERAFLOUR 920 CERAFLOUR 950	CERAFLOUR 920 CERAFLOUR 981
Texture	CERAFLOUR 955 CERAFLOUR 958 CERAFLOUR 959	
Scar effect	CERAFLOUR 960 CERAFLOUR 994	

Our especially recommended additives are printed in bold.

figure 4

Printing Inks and Overprint Varnishes

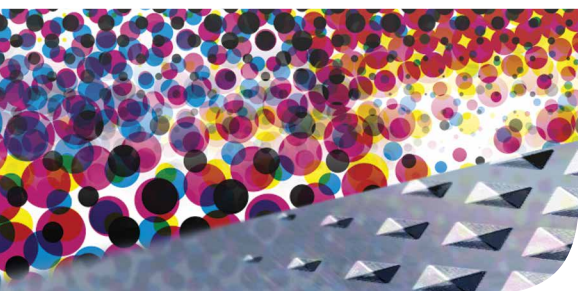
	Packaging gravure and flexographic inks UV 100 %	Overprint varnishes	
		UV aqueous	UV 100 %
Pigment wetting and stabilization	BYKJET-9152 DISPERBYK-111 DISPERBYK-168 DISPERBYK-2013 DISPERBYK-2030* BYK-9076 BYK-9077 DISPERBYK-2155		
Silicone-based defoamers	BYK-088 BYK-1797 BYK-1799 BYK-A 530	BYK-019 BYK-1719 BYK-094	BYK-019 BYK-088
Silicone-free defoamers	BYK-1752 BYK-1790 BYK-1791 BYK-1794		BYK-1752 BYK-1790 BYK-1794
Substrate wetting	BYK-377 BYK-3760 BYK-UV 3500* BYK-333 BYK-378	BYK-3455 BYK-DYNWET 800 N	BYK-377 BYK-UV 3500* BYK-UV 3510 BYK-381 BYK-UV 3505*
Surface slip	BYK-307 BYK-377 CERAFLOUR 950 BYK-3760 CERAFLOUR 991	AQUACER 539 BYK-307 BYK-333 BYK-378 HORDAMER PE 35	BYK-377 BYK-3760 CERAFLOUR 950 CERAFLOUR 991 BYK-307 BYK-UV 3500* BYK-UV 3505*
Abrasion resistance	BYK-377 BYK-UV 3510 CERAFLOUR 950 CERAFLOUR 991	AQUACER 532 BYK-333 BYK-UV 3500* BYK-378	BYK-377 BYK-UV 3510 CERAFLOUR 950 CERAFLOUR 991
Leveling	BYK-307 BYK-381 BYK-3760 BYK-361 N BYK-333 BYK-378 BYK-3455	BYK-345 BYK-381	BYK-354 BYK-377 BYK-381 BYK-3455 BYK-345 BYK-UV 3505*
Matting	CERAFLOUR 1000	CERAFLOUR 1000	CERAFLOUR 1000
Water repellency		AQUACER 497 AQUACER 539	
Anti-Slip		AQUACER 593	
Rheology control	RHEOBYK-R 606** RHEOBYK-R 607**	RHEOBYK-425 RHEOBYK-7420 ES	RHEOBYK-7410 ET

Our especially recommended additives are printed in bold.

figure 5

* acrylated (reactive) additives

** in combination with silica and clays



Inkjet Inks

	Solvent-free systems
Pigment wetting and stabilization	Cyan: (PB 15:3/PB 15:4) BYKJET-9151 BYKJET-9152 DISPERBYK-2030* BYKJET-9150* DISPERBYK-168
	Magenta: (PV 19/PR 122) BYKJET-9151 BYKJET-9152 DISPERBYK-2030* BYKJET-9150* DISPERBYK-168
	Yellow: (PY 139/PY 151/PY 155) BYKJET-9151 BYKJET-9152 DISPERBYK-2030* BYKJET-9150* DISPERBYK-168
	Yellow: (PY 150) DISPERBYK-168 DISPERBYK-2030*
	Black: (PBk 7) BYKJET-9151 DISPERBYK-168 DISPERBYK-2030* BYKJET-9150* BYKJET-9152
	White: (PW 6) DISPERBYK-111 DISPERBYK-2152 BYKJET-9150*
Leveling	BYK-361 N BYK-3441 BYK-3455 BYK-UV 3530*
Substrate wetting	BYK-UV 3530* BYK-UV 3575* BYK-UV 3500* BYK-UV 3505*
Surface slip	BYK-378 BYK-UV 3500* BYK-UV 3505* BYK-UV 3575*
Defoaming	BYK-1790 BYK-1798 BYK-A 535

Our especially recommended additives are printed in bold.

figure 6

* acrylated (reactive) additives

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

www.byk.com

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Additive Guide



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