

CYTEC



PRODUCT GUIDE – Liquid Coating Resins and Additives

Europe, Middle East and Africa

From defining more efficient processes for mining customers to developing new additives for polymer-based alternatives to wood and metals, the product lines of Cytec Specialty Chemicals are unified in their dedication to customer-driven innovation.

Working closely with our customers, we develop revolutionary technologies that enable them to improve performance and productivity, enter new markets, and refine new applications. How to improve mine profitability or coatings efficiency in the face of important environmental concerns? How to develop polymers that really stand up to UV light? How to use phosphines to create better, safer biocides and fumigants for agriculture? Our technology and sales teams work on-site with customers every day to address today's business challenges and troubleshoot tomorrow's.

The applications are diverse, but the commitment is uniform: finding better solutions for customers through continual research, ongoing collaboration and a passion for innovation.

An Expansive Portfolio

Cytec Specialty Chemicals is a complete solution provider for customers requiring high-value surface technologies in industries that include industrial coatings, automotive, architectural, wood and paper, graphics, adhesives and opto-electronics.

We offer our customers advanced and diverse products and technologies for surfaces with an emphasis on solvent free or low-VOC products, such as UV/EB curable resins and additives, powder coating resins and additives, as well as water-borne and solvent-borne liquid coating resins and additives.

We are committed to working with our customers to develop environmentally advanced solutions and we are dedicated to open communication concerning the safe handling, distribution, use and disposal of the products we make.

A Focus on Customer Satisfaction

Cytec Specialty Chemicals operates a globally integrated set of order fulfillment IT systems and processes. All Spec Chem personnel in the order

fulfillment processes are dedicated to delivering customer satisfaction through reliable and cost-effective supply of products to our customers. Cytec Specialty Chemicals has specialized personnel in Customer Service, Procurement, Manufacturing, Planning and Logistics to achieve this goal. In addition to timely and accurate order fulfillment, there is an equally important focus on maintaining safety and protecting the environment at all steps in the process, from the procurement of raw materials to the delivery of finished goods to the customer's door.

Dedication to Operational Excellence

Cytec's Spec Chem Manufacturing Organization operates globally to provide superior service to our customers in all regions. Our vision of operational excellence brings value to our customers through ongoing, continuous improvement initiatives, including Lean Manufacturing, Six Sigma Principles, and Best Practice Engineering. Our value proposition is driven by excellence in our Safety, Environmental, Quality Systems and Employee Development Programs. We are structured by business technology, which enables our sites to work transparently with R&D, Customer Service and the Business, to share best practices across common processes. We also are able to gain leverage from overall global manufacturing synergies to most efficiently meet customer needs.

Key Product Lines

- Liquid Coating Resins and Additives
- Mining Chemicals
- Phosphine and Phosphorus Specialties
- Polymer Additives
- Powder Coating Resins and Additives
- RADCURE® UV/EB
- Specialty Additives

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Resins and Crosslinkers

Cytec's comprehensive range of liquid coating resins covers all major technology platforms, e. g. Alkyds, Acrylics, Epoxies, Phenolics, Polyesters, Polyurethanes and complements our other advanced products – additives and crosslinkers – used world-wide to formulate high-performance coating systems for all applications.

Our broad portfolio of water based and high solid resins allows formulation to design eco-friendly systems, in compliance to the most restrictive regulations around the world.

Additives

Cytec provides a wide selection of specialty resins and additives for the coatings market. Our portfolio includes top-quality additives for solvent-free, solventborne, high solids and waterborne coating systems for automotive, architectural, industrial and specialty coating applications.

Crosslinkers and Catalysts

Cytec offers a broad range of amino crosslinkers and catalysts for liquid coatings. Our crosslinkers are used around the world for improving the durability and resistance properties of coatings.

Trade Names	Nomenclature	Descriptions
ADDITOL®	XW/VXW/XL/VXL	Dispersing, leveling, defoaming, drying additives
BECKOCOAT®	PU/VPU	Moisture curing 1K polyurethanes
BECKOPOX®	VEH/EH VEP/EP VEM/EM	Water-borne and solventborne hardeners for epoxy resins Water-borne and solventborne epoxy resins Solvent-borne modified epoxy resins
CYCAT®	XK/VXK	Catalysts
CYMEL®	–	Amino crosslinkers
DAOTAN®	TW/VTW	Water-borne polyurethane dispersions
DUROFTAL®	VPI PE/VPE	Solvent-borne hydroxylated polyesters for isocyanate crosslinking Solvent-borne hydroxylated polyesters for amino resin crosslinking
DUROXYN®	EF/VEF/VAX	Water-borne and solventborne epoxy ester resins
MACRYNAL®	SM/VSM	Water-borne and solventborne acrylic polyols for isocyanate crosslinking
MODAFLOW®	AQ	Flow and leveling additives
PHENODUR®	PR/VPM/VPR/VPW	Water-borne and solventborne phenolic resins
RESYDROL®	AF/VAF AS/VAS AL/VAL AX/VAX AY/VAY AZ/VAZ AM	Water-borne fatty acid modified alkyd resins Water-borne soya oil modified alkyd resins Water-borne linseed oil modified alkyd resins Water-borne epoxy modified alkyd resins Water-borne acrylic modified alkyd resins Water-borne urethane modified alkyd resins Water-borne modified alkyd resins
UCECRYL®	B/BH/BMR	Water-borne acrylic emulsions
VIACRYL®	SC/VSC	Water-borne and solventborne physically drying/ self-crosslinking and baking acrylic resins
VIALKYD®	AC/AF/AM/AN/AR/AS/ AT/AV/AY/SAF/TO/TS/ VAF/VAS/VAN	Solvent-borne alkyd resins

Key words	Abbreviations
ABS	Acrylonitrile butadiene styrene
ABU	Butylacrylate
A/F	Bisphenol A/Bisphenol F
APEO	Alkylphenol ethoxylate
AV	Acid value
B	Butanol
BAC	Butylacetate
BDG	Dibutoxyethanol
BG	Butyl glycol
BP	Butoxy propanol
CED	Cathodic electrodeposition
Co	Cobalt
D60	Shellsol D60
DMEA	Dimethylethanol amine
DTM	Direct to metal
ED	Electro deposition
EP	Ethoxy-propanol
FDA	Food and Drug Administration
f.o.d	form of delivery
HS	High solids
IB	Isobutanol
IRH	Isopar H
1K	One component
2K	Two component
KOH	Potassium hydroxyde
LG	Solvent blend
Li	Lithium
MAM	Methylmethacrylate
MB	Methoxy butanol
MFFT	Minimum film formation temperature
MP	Methoxy propanol
N. A.	not applicable
NC	Nitrocellulose

Key words	Abbreviations
NCO	Polyisocyanate Crosslinker
NEP	n-ethyl-pyrrolidone
NH ₃	Ammonia
NMP	n-methyl-pyrrolidone
OEM	Original equipment manufacturer
OH	Hydroxyl number
PA6	Polyamide 6
PBD	Polybutadiene
PC	Polycarbonate
PE	Polyethylene
PP flamed	Polypropylene flamed treated
PS	Polystyrene
p-TSA	Para-toluene sulfonic acid
PUD	Polyurethane dispersion
PVB	Polyvinylbutyrol
PVC	Polyvinyl chloride
s/b	Solvent-borne
SB	Secondary butanol
SCA	Sag control agent
SNA	Solvent naphta A
SNB	Solvent naphta B
TEA	Triethylamine
TMPFA	Trimethylolpropane formalacrylate
TPGDA	Tripropylene glycol diacrylate
UP/FRP	Unsaturated Polyester/ Fiberglass Reinforced Polyester
VOC	Volatile organic compounds content
WA	Water
w/b	Water-borne
WS	White spirit
WSW	White spirit <1% aromatics
X	Xylene
Zr	Zirconium

Water-borne and Solvent-borne Acrylic Resins for Polyisocyanate Crosslinkable 2K Systems

Water-borne Polyisocyanate Crosslinkable Acrylic Resins

Products	Resin data					Features								
	Non-volatile %	Organic cosolvent (% in supply form)	Viscosity at 23 °C mPa.s	Hydroxyl content on solid resin (%)	Neutralisation agent	Shear stability	Flow and leveling	Drying	For blending	Yellowing resistance	Airless/Airmix application	Exterior durability	Chemical resistance	Humidity resistance
MACRYNAL®* SM 6810W/42WA	42	PnB (5,2)	200–1200	4,1	DMEA	Yes	●●●	●		●●●	●	●●●	●●	●●●
MACRYNAL SM 6817W/44WA	44	PnB (3,8)	300–3000	3,0	DMEA	Yes	●●	●●●		●●●		●●●	●	●●
MACRYNAL VSM 2521W/42WAB	42	B (7,4)	1000–4000	4,2	DMEA	Yes	●	●●●	●	●●●		●●●	●●●	●●●
MACRYNAL SM 6825W/41WA	42	MP (5,6)	500–3000	4,2	DMEA	Yes	●	●●●	●	●●●		●●●	●●●	●●●
MACRYNAL VSM 6285W/43WABDG	43	BDG (5,2) Texanol (2,3)	400–2000	3,3	DMEA	Yes	●●●	●	●	●●●	●	●●●	●	●●●
MACRYNAL VSM 6299W/42WA	42	BG (2,0) SNA (2,0)	800–4000	4,1	DMEA	Yes	●●	●●		●●●	●	●●●	●●●	●●●

Solvent-borne Acrylic Resins for Polyisocyanate Crosslinkable 2K Systems

Products	Resin data				Features								
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	OH content (on solids) %	Low solids	Medium solids	High solids	Outdoor resistance	Chemical resistance	Gloss	Adhesion to steel	Adhesion to non-ferrous metals	Drying
MACRYNAL SM 2703/80BACX	80	BAC/X	7000–9000	2,2			●	●●	●	●●●	●●	●●	●●
MACRYNAL SM 2704/75BACX	75	BAC/X	5000–7000	1,9			●	●●	●	●●●	●●●	●●	●●
MACRYNAL SM 2711/70BAC	70	BAC	1500–2500	2,7			●	●●	●●	●●●	●●●	●●	●●
MACRYNAL SM 2810/75BAC	75	BAC	4500–6000	4,2			●	●●●	●●●	●●●	●●	●	●●
MACRYNAL SM 2816/70BAC	70	BAC	7000–11000	4,5		●		●●●	●●●	●●●	●	●	●●
MACRYNAL SM 2930/70BAC	70	BAC	2000–4200	4,5			●	●●●	●●●	●●●	●	●	●
MACRYNAL SM 500/60X	60	X	2000–3800	2,7	●			●●	●●	●●●	●●●	●●	●●

* MACRYNAL acrylic resins

● low
●● medium
●●● high

Water-borne and Solvent-borne Acrylic Resins for Polyisocyanate Crosslinkable 2K Systems

Applications							
Metal primer/ Surfacer	Pigmented topcoat	Clearcoat	Transportation	Wood paint	Refinishing	Plastics	High film build
	✓	✓	✓		✓	✓	✓
✓	✓	✓	✓		✓	✓	
	✓	✓	✓	✓	✓	✓	
	✓	✓	✓	✓	✓	✓	
	✓	✓	✓		✓	✓	
	✓	✓	✓		✓	✓	

Applications							
For general industry topcoat	For general industry primer	For general industry monocoat	For car refinish topcoat	For car refinish primer surfacer	For car refinish clearcoat	For OEM 2K clearcoat	For plastic coatings
✓	✓			✓			✓
✓	✓			✓			✓
✓	✓	✓		✓			✓
✓		✓	✓		✓		
✓			✓		✓		✓
						✓	
✓	✓	✓		✓			✓

Solvent-borne Acrylic Resins for Polyisocyanate Crosslinkable 2K Systems

Solvent-borne Acrylic Resins for Polyisocyanate Crosslinkable 2K Systems

Products	Resin data				Features									
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	OH content (on solids) %	Low solids	Medium solids	High solids	Outdoor resistance	Chemical resistance	Gloss	Adhesion to steel	Adhesion to non-ferrous metals	Drying	Modifier resin to improve flexibility
MACRYNAL®* SM 510N/60LG	60	X/SNA/BAC	2400–3600	4,5	●			●●●	●●●	●●●	●●	●	●●	
MACRYNAL SM 513/60LG	60	X/SNA/BAC	2400–4000	3,6	●			●●	●●	●●●	●●	●	●●●	
MACRYNAL SM 515/70BAC	70	BAC	3600–6000	4,5		●		●●●	●●●	●●●	●	●	●●	
MACRYNAL SM 516/70BAC	70	BAC	7000–11000	4,5		●		●●●	●●●	●●●	●	●	●●	
MACRYNAL SM 540/60X	60	X	1400–2400	1,4	●			●●	●●	●●●	●●●	●●●	●●	●
MACRYNAL SM 548/50X	50	X	600–1200	2,0	●			●	●●	●●●	●●	●	●●●	
MACRYNAL SM 565/70BAC	70	BAC	2000–4200	4,5			●	●●●	●●●	●●●	●	●	●	
MACRYNAL VSM 1509/60LG	60	BAC / SNA	5000–7000	3,0	●			●●	●●	●●●	●●●	●●	●●●	
MACRYNAL VSM 2155/60EPAC	60	EPAC	3900–4800	5,8	●			●●●	●●●	●●●	●	●	●●●	
MACRYNAL VSM 2570/70BAC	70	BAC	2200–3800	2,4		●		●●●	●●	●●●	●●●	●●	●●	
MACRYNAL VSM 2701/65SNA	65	SNA	3500–7000	2,6	●			●●	●●	●●●	●●●	●●	●●	
MACRYNAL VSM 2705/70LG	70	SNA/BAC	3000–6800	3,5		●		●●	●●	●●●	●	●	●●	
MACRYNAL VSM 2800/70BAC	70	BAC	2000–5000	4,4			●	●●●	●●●	●●●	●●	●●	●●	
MACRYNAL VSM 2805/80BAC	80	BAC	4000–8500	4,5			●	●●	●●●	●●●	●	●	●	
MACRYNAL VSM 2806/75BAC	75	BAC	4000–7000	4,1			●	●●●	●●●	●●●	●	●	●	
MACRYNAL VSM 2868/70BAC	70	BAC	2700–5000	4,4			●	●●●	●●●	●●●	●	●	●●	

● low
●● medium
●●● high

* MACRYNAL acrylic resins

Solvent-borne Acrylic Resins for Polyisocyanate Crosslinkable 2K Systems

Applications						
For general industry topcoat	For general industry primer	For general industry monocoat	For car refinsh topcoat	For car refinsh primer surfacer	For car refinsh clearcoat	For plastic coatings
✓		✓	✓		✓	
✓	✓			✓	✓	
✓			✓		✓	✓
✓			✓		✓	✓
✓	✓	✓		✓		✓
✓						
✓			✓		✓	✓
✓	✓			✓		
✓						
✓	✓	✓				✓
✓	✓	✓		✓		
✓						
✓	✓		✓	✓	✓	✓
✓						
✓			✓		✓	✓
✓			✓		✓	✓

Water-borne Acrylic Resins, Physically Drying/Self-crosslinking and Hydroxylated Acrylic Dispersions

Products	Resin data						Features												
	Non-volatile %	Solvent	Viscosity at 23 °C mP.s	pH at 10 % in water	MFFT in °C	OH number on solid resin	Physically drying	Self-crosslink	Fast dry	Sandability	Hardness	Flow and leveling	Flexibility	Shear stability	Yellowing resistance	Exterior	Corrosion resistance	Humidity resistance	Chemical resistance

Water-borne Acrylic Resins for 1K stoving systems or 2K with Isocyanates

VIACRYL®* SC 323W/70SBB	70	SBB	10000–20000													•		•	•
VIACRYL SC 6807W/43WA	43	Water	400–2500	8.0–9.0		75				•	•	•	•	•	•	•		•	•
VIACRYL VSC 6250W/65MP	65	MP	18000–35000													•	•	•	•
VIACRYL VSC 6273W/44WA	44	Water	200–2400	8.0–9.1		85				•	•	•	•	•	•	•		•	•
VIACRYL VSC 6276W/44WA	44	Water	200–2400	8.0–9.1		86				•	•	•	•	•	•	•		•	•
VIACRYL VSC 6279W/45WA	45	Water	280–1600	7.7–8.5	25		•	•						•	•	•			
VIACRYL VSC 6292W/38WA	38	Water	450–4500					•								•	•	•	•
VIACRYL VSC 6800W/47WA	47	Water	300–2000	8.0–9.0		100				•	•	•	•	•	•	•		•	•
VIACRYL VSC 6295W/45WA	45	Water	50–250	6.5–7.8	30	N.A.		•	•	•	•	•		•	•			•	•

Water-borne Acrylic Resins, Self-crosslinking and Amino Crosslinking / Thermosetting Acrylic

VIACRYL SC 6827W/46WA	46	Water	<150	3.0–5.0	20	75		•	•				•	•	•	•		•	•
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N.A. = not applicable

* VIACRYL acrylic resins

Solvent-borne Acrylic Resins, Physically Drying/
Self-crosslinking and Amino Crosslinking

Thermosetting Acrylic

Products	Resin data				Features					Applications					
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	OH number on solid resin [mgKOH/g]	Crosslinkable with amino resin	Yellowing resistance	Outdoor resistance	Chemical resistance	Gloss	For general industry topcoat	For OEM topcoat	For OEM clearcoat	For basecoat	Can & coil for topcoat	Can & coil for basecoat
VIACRYL®* SC 303/60XB	60	X/B	4500–6500	80	●	●●●	●●●	●●●	●●●	✓		✓	✓		
VIACRYL SC 341/60SNABAC	60	SNA/BAC	1000–2000	86	●	●●●	●●●	●●●	●●●	✓		✓			
VIACRYL SC 370/75SNA	75	SNA/BAC	4200–7000	120	●	●●●	●●●	●●●	●●●	✓	✓	✓			
VIACRYL SC 444/50BSNB	50	B/SNB	1600–2400	N.A.	N.A.	●●●		●●●	●●●	✓				✓	✓
VIACRYL SC 444N/53BSNBV2	53	B/SNB	500–900	N.A.	N.A.	●●●		●●●	●●●	✓				✓	✓
VIACRYL SC 454/50BSNB	50	B/SNB	570–920	N.A.	N.A.	●●●		●●●	●●●	✓				✓	✓
VIACRYL SC 461/50XBV2	50	X/B	600–1100	N.A.	N.A.	●●●		●●●	●●●	✓					
VIACRYL SC 2960/75SNA	75	SNA	4000–7000	145	●	●●●	●●●	●●●	●●●			✓			
VIACRYL SC 9425/50BSNB	50	B/SNB	1300–1700	N.A.	N.A.			●●●	●●●					✓	✓
VIACRYL VSC 5754/60SNABAC	60	SNA/BAC	700–1100	N.A.	●	●●●	●●●	●●●	●●●	✓	✓				

N.A. = not applicable

● low
●● medium
●●● high

* VIACRYL acrylic resins

VIACRYL®

Solvent-borne Acrylic Resins, Physically Drying/
Self-crosslinking and Amino Crosslinking

Solvent-borne Acrylic Resins, Physically Drying/
Self-crosslinking and Amino Crosslinking (continued)

Cold Plastic for Roadmarking

Products	Resin data				Features								Applications	
	Non-volatile %	Reactive monomers	Viscosity at 23 °C mPa.s	AV on solids	Gel time (min) with benzoyl peroxyde	Acrylic polymer	Polyester polymer	Internally plastified	Internally catalysed	Hard resin	Initial whiteness	Curing at high ambient temperature	Hand application	Machine application
VIACRYL®* VSC 5745	100	MAM-ABU	60-115	<25	13-25		•						✓	✓
VIACRYL SC 732	100	MAM-ABU	40-85	<25			•			•	•		✓	
VIACRYL VSC 2990	100	MAM-ABU	40-140	<18		•		•			•		✓	
VIACRYL VSC 9481	100	MAM-ABU	50-150	<20		•			•	•	•			✓

Thermoplastic Acrylic Resins

Products	Resin data				Features				Applications	
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	AV on solids	Physically drying	Fast dry	Yellowing resistance	Exterior	Metal topcoat	Architectural paint
VIACRYL SC 121/60X	60	X	5000-9000	15-25	•	•	•	•	✓	
VIACRYL SC 124/50WS	50	WS	3500-8000	<5	•	•	•	•	✓	✓
VIACRYL SC 166/45BAC	45	BAC	350-700	<3	•	•	•	•	✓	
VIACRYL SC 200/40X	40	X	1000-2500	25-35	•	•	•	•	✓	

* VIACRYL acrylic resins

VIACRYL®

Solvent-borne Acrylic Resins, Physically Drying/
Self-crosslinking and Amino Crosslinking (continued)

Products	Resin data							Features			
	Non-volatile %	Viscosity at 25 °C mPa.s	pH-value	MFFT in °C	Polymer type	Ammonia-free	APEO-free	Water whitening resistance	Hydrophobic coatings	Low PVC paints	High PVC paints
UCECRYL®* B 746	50	1000	8	3	Styrene acrylic						•
UCECRYL B 983	48	600	8.5	17	Acrylic			•	•	•	
UCECRYL B 1009	48	600	8.5	42	Acrylic			•	•	•	
UCECRYL B 1190	49	450	8	3	Acrylic	•					•
UCECRYL B 1470	49	200	8	20	Acrylic	•	•			•	
UCECRYL B 3009	48	100	8	46	Acrylic	•	•			•	
UCECRYL B 3014	47	500	8	30	Acrylic		•	•	•	•	
UCECRYL B 3016	42	150	8.5	17	Acrylic		•	•	•	•	
UCECRYL B 3021	48	750	9	3	Acrylic			•	•		•
UCECRYL B 3022	44,5	1000	9	12	Acrylic		•	•	•	•	
UCECRYL B 3025	49	150	8,5	60	Styrene acrylic		•	•	•	•	•
UCECRYL BMR 47	55	250	8.5	0	Acrylic		•				•

* UCECRYL acrylic emulsions

Applications										
Concrete tiles	Fibre cement sheets	Metal roofing	Architectural paints	Anti-blocking agent	Cement-mortar strengthening	Clearcoat	Pigmented	Hot tire resistance	Metal cladding outdoor	Adhesion on galvanized, power & coil coating
✓			✓				✓			
✓						✓	✓			
	✓						✓			
✓			✓				✓			
✓			✓				✓			
	✓						✓			
		✓	✓			✓	✓			
✓			✓			✓	✓			
			✓			✓	✓			
		✓	✓				✓	✓	✓	✓
		✓					✓			

Water-borne Alkyd Resins for Air-Drying Decorative Coatings

Products	Resin data									Features													
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	Amine neutralization	Appearance	pH at 10 % in water	Type of modification	Oil length	VOC < 1%	Fast initial drying	Rapid through drying	Fast development of hardness	Fast sandability	Early water resistance	High hardness coating	Flexibility	Pigment wetting	Yellowing resistance	Compatible with acrylic dispersion	Sag resistance	Increase the open time	Wood penetration	Excellent re-coatability
RESYDROL®* AY 430W/42WA	42	Water/ BG	6000 – 11000	NH3	Light brown	7.5–9.0	Acrylic	44	No	•	•	•	•					•	•				•
RESYDROL AY 586W/45WA	45	Water	5000–10000	NH3	Light brown	7.5–8.5	Acrylic	58	Yes							•	•		•		•	•	•
RESYDROL AY 588W/42WA	42	Water	1000–4000	NH3	Light brown	7.0–9.0	Acrylic	58	Yes							•	•		•		•	•	•
RESYDROL AY 6705W/44WA	44	Water	100–1000	NH3	Light brown	7.5–9.5	Acrylic	Not available	Yes	•	•			•		•		•	•		•	•	•
RESYDROL AZ 6711W/44WA	40	Water	1000–10000	NH3	Light brown	7.5–9.5	Acrylic and urethane	40	Yes	•	•	•	•	•	•		•		•			•	•
RESYDROL AZ 6185W/40WA	40	Water	200–1200	NH3	Light brown	8.0–9.2	Acrylic and urethane	32	Yes	•	•	•	•	•	•		•	•	•			•	•
RESYDROL AZ 6190W/43WA	43	Water	3000–8000	NH3	Light brown	7.5–9.0	Acrylic and urethane	40	Yes	•	•	•	•	•	•	•		•	•			•	•
RESYDROL AZ 6191W/42WA	42	Water	400–2400	TEA	Light brown	8.0–9.2	Acrylic and urethane	44	Yes	•	•	•		•		•	•	•	•		•		•
RESYDROL SAY 586W/45WA	45	Water	5000–10000	NH3	Light brown	7.5–8.5	Acrylic	58	No	•	•					•	•		•		•	•	•
RESYDROL AF 6120W/62WA	62	Water	500–1500	none	White opaque	5.5–9.5	No	35	Yes		•					•		•	•		•		•
RESYDROL VAF 6111W/60WA	60	Water	200–800	none	White opaque	5.5–9.0	No	40	Yes							•		•	•		•	•	•
RESYDROL VAL 5547W	98	none	800–1500	DMEA	Transparent	5.5–7.5	No	62	Yes							•	•		•		•	•	•
RESYDROL VAS 6110W/68WA	68	Water	500–2000	None	White opaque	5.5–8.5	No	61	Yes							•			•		•	•	•
RESYDROL VAY 6278W/45WA	45	Water	70–500	NH3	White opaque	7.8–8.6	Acrylic	15	Yes	•	•	•	•					•	•				•

* RESYDROL water-borne alkyd resins

Water-borne Alkyd Resins for Air-Drying Decorative Coatings

Features						Applications								
Brushability	Shear stable	Abrasion resistance	High gloss	Weathering resistance	Gloss retention	Primer	DTM	Industrial topcoat	Semi transparent stain	Solid color stain	Deck stain	Wood primer	Architectural paints	High film build
	•			•	•	✓			✓	✓		✓	✓	
•	•		•	•	•	✓	✓	✓	✓	✓		✓	✓	
•	•		•	•	•	✓	✓	✓	✓	✓		✓	✓	
•	•		•	•	•		✓	✓	✓	✓		✓	✓	
•	•	•		•		✓			✓					
•	•	•		•		✓	✓	✓				✓	✓	
•	•	•	•	•	•	✓			✓	✓		✓	✓	
•	•	•	•	•	•		✓	✓	✓	✓			✓	
•	•		•			✓	✓		✓			✓	✓	
•			•	•	•	✓	✓	✓		✓			✓	✓
•			•	•	•	✓				✓		✓	✓	
•	•											✓		
•									✓	✓		✓		✓
				•	•	✓			✓	✓		✓	✓	

Water-borne Alkyd Resins for Air-Drying
and Forced Dry Industrial Systems

Products	Resin data									Features													
	Non-volatile %	Solvent	Viscosity at 23°C mPa.s	Amine neutralization	Appearance	pH at 10% in water	Type of modification	Oil length	VOC < 1%	Fast initial drying	Rapid through drying	Fast development of hardness	Fast sandability	Early water resistance	High hardness coating	Adhesion on non-ferrous metal	Water resistance	Corrosion resistance	Flexibility	Pigment wetting	Yellowing resistance	Compatible with acrylic dispersion	Sag resistance
RESYDROL® AX 237W/70BG	70	BG	8000–14000	N.A.	Transparent	N.A.	Epoxy Ester	36	No								•	•	•	•		•	
RESYDROL AY 241W/40WA	40	Water/BG	3000–15000	NH3	White opaque	8.0–9.5	Acrylic	24	No	•	•		•	•	•	•	•					•	
RESYDROL AY 334W/40WA	40	Water/BG	3000–21000	TEA/DMEA	White opaque	8.5–10.0	Acrylic	33	No						•		•		•	•		•	
RESYDROL AY 466W/38WA	38	Water/BG	3000–11000	NH3	Brown opaque	7.5–9.0	Acrylic	46	No						•		•		•	•		•	
RESYDROL AY 6150W/45WA	45	Water/nBP	300–2000	NH3	Light Brown opaque	8.0–9.2	Acrylic	35	No	•	•	•		•	•		•	•	•	•	•	•	•
RESYDROL VAN 6113W/42WALG	42	Water/BG/MP	500–3000	N.A.	White opaque	3.0–5.0	Polyester		No	•		•			•	•			•		•	•	
RESYDROL VAX 6267W/40WA	40	Water	45–200	NH3/DMEA	Whitish	8.0–9.0	Acrylic/ Epoxy	7	Yes	•	•	•	•	•		•	•	•	•		•	•	
RESYDROL VAY 6096W/39WA	39	Water/BG	2000–8000	NH3	Brown opaque	7.0–9.0	Acrylic	32	No	•	•	•		•	•		•			•		•	

N.A. = not applicable

* RESYDROL water-borne alkyd resins

Water-borne Alkyd Resins for Air-Drying and Forced Dry Industrial Systems

Features							Applications							
Excellent re-coatability	Humidity protection	Brushability	Shear stable	High gloss	Weathering resistance	Gloss retention	Primer	Anti-corrosion primer	DTM	Industrial topcoat	Dip enamel	Wood primer	High film build	Plastic coatings
•		•	•				✓	✓	✓			✓		✓
•	•		•		•	•	✓		✓	✓	✓	✓		✓
		•	•		•	•		✓	✓	✓	✓			
	•	•	•	•	•	•			✓	✓				
	•	•	•	•	•	•	✓	✓	✓	✓	✓		✓	
				•	•				✓	✓				✓
•		•	•				✓	✓	✓			✓	✓	
•			•	•					✓	✓				

Water-borne Alkyd Resins for OEM
Primer Surfacer Stoving Systems

Products	Resin data							Features								
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	Amine neutralization	pH-value	Type of modification	Curing temperature °C	Stone chip resistance	Hardness	Leveling	Adhesion	Corrosion resistance	Sag resistance	For use in blend to improve stone chip resistance	For use in blend to improve adhesion and corrosion resistance	For use in blend to improve leveling
RESYDROL® AM 224W/40WA	40	4 % MPP	100–700 (22 % MPP)	DMEA	7.5–9.0	Fatty acid	150–180	●●	●●	●●	●●	●	●●			
RESYDROL AX 906W/35WA	35	3 % MPP	160–560 (28 % BG)	DMEA	7.0–8.5	Epoxy	130–190	●●	●●●	●●●	●●●	●●	●●		●	
RESYDROL AZ 541W/42WA	42		50–3000	DMEA	7.5–8.5	Urethane	150–190	●●●	●●	●●	●●	●	●●●			
RESYDROL AZ 6608W/43WA	43	3.6 % NMP/1.4 % MP	100–1500	DMEA	7.5–8.5	Urethane	130–200	●●●	●	●●	●●	●	●●	●		
RESYDROL VAF 5540W/70MP	70	30 % MP	300–550 (54 % BG)		N.A.		130–190	●●	●●●	●●●	●●	●	●			●
RESYDROL VAX 5227W/55LG	55	5.5 % BG/8 % B/ 4.9 % MPP	90–500 (44 % BG)	DMEA	7.0–9.0	Epoxy	120–190	●●	●	●●	●●●	●●●	●●		●	
RESYDROL VAX 5533W/40LG	40	11.4 % MPP	50–760 (22 % BG)	DMEA	7.5–9.5	Epoxy	130–190	●●●	●●●	●●	●●●	●●●	●●		●	
RESYDROL VAX 5538W/50WA	50		1000–8000	DMEA	6.8–7.6	Epoxy	120–190	●	●●●	●●	●●●	●●●	●		●	
RESYDROL VAZ 6620W/36WA	36	2 % MPP	100–800	DMEA	6.5–7.5	Urethane	130–190	●●●	●●●	●●●	●●●	●●	●●			
RESYDROL AF 6640W/65WAMP	65	11 % MP	4000–8000	DMEA	7.0–8.0		130–190	●●	●●●	●●●	●●	●	●			●

N.A. = not applicable

● low
●● medium
●●● high
● Yes

* RESYDROL water-borne alkyd resins

RESYDROL®

Water-borne Alkyd Resins for OEM
Primer Surfacer Stoving Systems

Products	Resin data									Features										
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	Amine neutralization	Appearance	pH-value	VOC < 1%	Type of modification	Oil length	Hardness	Impact	Yellowing resistance	Metal	Non-ferrous resistance	Corrosion protection / resistance	Water resistance	Shear stable	Pigment wetting	High gloss	Weathering
RESYDROL® AF 502W/35WA	35	Water	225–710 (29BG)	DMEA	Light Brown	7.5–8.8	Yes	Fatty acid	N.A.		•		•				•	•	•	
RESYDROL AN 6181W/50WALG	50	Water/BG/MP	30–300	N.A.	White opaque	3.0–5.0	No	Polyester	N.A.	•	•	•	•	•						•
RESYDROL AN 6481W/70BBP	70	B/BP	1000–2000	N.A.	Brown clear	N.A.	No	Polyester	N.A.		•	•					•	•	•	•
RESYDROL AN 6618W/42WA	42	Water	50–1500	DMEA	Opaque	7.0–8.5	Yes	Polyester	N.A.	•	•		•	•	•	•	•	•	•	•
RESYDROL AX 246W/70BG	70	BG/MP	340–690 (50MP)	DMEA	Brown	Partially neutralized	No	Epoxy	22				•		•		•	•		
RESYDROL AX 906W/35WA	35	Water/MP	160–560 (28BG)	DMEA	Clear opaque	7.0–8.5	No	Epoxy polyester	N.A.	•	•		•	•	•	•	•	•		•
RESYDROL AY 5537W/35WA	35	Water/MPP	500–4000	DMEA	Opaque	7.5–9.2	No	Acrylic polyester	N.A.		•	•	•	•		•	•	•	•	•

N.A. = not applicable

* RESYDROL water-borne alkyd resins

Water-borne Alkyd Resins
for Stoving Systems

Features			Applications								
High reactivity	Heat resistance	For use in blend to increase reactivity	Primer	Anti-corrosion primer	DTM	Dip enamel	Industrial topcoat	Drums coating	Low temperature	Single coat	High filled topcoat
			✓	✓	✓			✓	✓	✓	✓
•		•	✓		✓		✓			✓	
							✓				
•			✓		✓	✓	✓		✓	✓	
•	•		✓	✓	✓	✓					
•		•	✓	✓	✓	✓	✓		✓		
	•				✓	✓	✓			✓	

Solvent-borne Hydroxylated Polyesters

Products	Resin data						Features												
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	OH number on solid resin	AV on solid resin	Structure	FDA 175 300	EU Plastics Directive	High solids	Flexibility	Hardness	Crosslinking	Interior	Exterior	Yellowing resistance	Wedgebend	Impact resistance	Flow and leveling	Chemical resistance
DUROFTAL® PE 6160	50	MPAC	1000–2000 (40 % MPAC)	30	<=8	linear	●	●		●			●	●		●	●	●	
DUROFTAL VPE 6104	60	MPAC	4000–8000	90	<=5	slightly branched	●	●			●	●	●	●					●
DUROFTAL PE 6607	60	BGMP	500–2000	350	25–35	branched	●	●			●	●	●	●					●
DUROFTAL VPE 6128	70	SNABG	1500–3000	60	<= 12	linear			●						●				
DUROFTAL PE 6163	66	SNABG	500–700 (50BG)	55	<=6	slightly branched				●					●				

Solvent-borne Isocyanate-crosslinkable Polyesters

Products	Resin data				Features								
	Non volatile %	Solvent	Viscosity at 23 °C mPa.s	OH content (on solids) %	High solids	Crosslinkable with amino resins	Outdoor resistance	Chemical resistance	Gloss	Adhesion to steel	Adhesion to non-ferrous metals	Drying	
DUROFTAL VPI 2803/78BAC	78	BAC	7000–19000	5.4	●	●	●●●	●●●	●●●	●●	●	●	
DUROFTAL VPI 2801/78BAC	78	BAC	8000–13000	7.1	●	●	●●●	●●●	●●●	●●	●	●	

● low
 ●● medium
 ●●● high
 ● Yes

* DUROFTAL solvent-borne polyesters

Hydroxylated and Isocyanate-crosslinkable Polyesters

Applications							
Topcoat / Clearcoat	Primer	Industrial	Outdoor architectural coil	Indoor architectural coil	Backcoat coil	Interior – Can	Exterior – Can
						✓	✓
						✓	✓
						✓	✓
✓		✓	✓	✓	✓		
✓	✓	✓	✓	✓	✓		

Applications				
General industry topcoat	Car refinish topcoat	Car refinish primer surfacer	Car refinish clearcoat	OEM 2K clearcoat
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓

Solvent-borne Alkyd Resins
for Decorative Coatings

Products	Resin data							Features								
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	AV on solid resin	Oil length	Oil type or modification	Iodine color at 50 % sol	High solids	Exterior	Fast drying	Air dry/forced air	Polyamid thixotropic resin	Pumpable resin	Urethan modified	Urethane thixotropic resin	Gloss
VIALKYD®* AS 533tix/50SD60	50	D60	thix	<15	53	Soya	<20		•	•		•				
VIALKYD AS 6140sca/49SD60	49	D60	160–320; 10000 1/s	<15	60	Soya	<8		•	•	•		•		•	
VIALKYD AS 6172/55SD60	55	D60	2700–4000; 25 1/s	<15	57	Soya	<10		•	•	•					semi-gloss
VIALKYD SAF 724/78SD60	78	D60	5000–8000; 25 1/s	<12	72	Fatty acids; linoleic rich	<12		•		•					
VIALKYD TO 167/60IRH	60	IRH	2500–4500; 25 1/s	<4	68	Soya	<10			•	•			•		
VIALKYD TO 608/55SD60	55	D60	280–560; (45 % SD60 100 1/s)	<5	62	Soya	<8			•	•			•		
VIALKYD TO 750/65IRH	65	IRH	800–1600; 25 1/s	<10	71	Urethane	<= 10	•							• •	Excellent
VIALKYD VAF 6091	100		450–800; 25 1/s	<10	89	Fatty acids; linoleic rich	<6	•	•		•					
VIALKYD TS 354/70WS	70	WS	65–190; (50 % WS 100 1/s)	<15	47	Silicone	<10		•	•	•					

* VIALKYD alkyd resins

Solvent-borne Alkyd Resins
for Decorative Coatings

Applications					
Stains & Varnishes	Chemical resistance	Flexibility	Glossy paint	Yellowing resistance	Outdoor durability
✓				✓	✓
✓				✓	✓
				✓	✓
✓		✓	✓	✓	✓
✓	✓		✓	✓	
✓	✓		✓	✓	
		✓		✓	
✓		✓			✓
	✓	✓		✓	✓

Products	Resin data								Features											
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	AV on solid resin	Oil length	Oil type or modification	Iodine color at 50 % sol	OH number on solids	High solids	Exterior	Air dry/forced air	Compatible with acrylic resins	2K with isocyanates	Bake enamels	Hardness	Chemical resistance	Pigment wetting	Grinding resin	Flexibility	Sanding
VIALKYD** AF 403/60X	60	X	3000–4500	<6	40	Fatty acids	<= 8	90	No	•	•				•		•			
VIALKYD AF 464/55WSX	55	WS/X	610–860 (45WS)	<12	46	Fatty acids	<= 10		No	•	•				•		•			
VIALKYD AF 474/55WS	55	WS	500–900 (45K30)	<15	48	Fatty acids	<=7 (45WS)		No	•	•						•			
VIALKYD AM 342/50X	50	X	240–360 (40X)	<30	35	Rosin mod. linseed/tung	<=30		No	•	•				•					•
VIALKYD AM 415/60X	60	X	3400–4000	8–12	40	Rosin/Phenolic mod. linseed/tung	<=30		No	•	•				•					
VIALKYD AV 303/60X	60	X	460–630 (50X)	<10	30	Styrene	<10		No	•	•									
VIALKYD AV 384/70X	70	X	135–310 (50X)	<12	38	Styrene	<= 10		No	•	•									
VIALKYD AY 402/50X	50	X	530–910 (40X)	<20	30	Acrylic, Vinyl, Urethane	<=20		No	•	•									•
VIALKYD AY 472/50WS	50	WS	870–1250	<15	41	Acrylic, Vinyl	<=8		No	•	•									•
VIALKYD TS 314/50MPWSW	50	MP/Softsol W	100–500	10–16	35	Silicone	< 5		No	•	•				•					
VIALKYD AC 451n/70SNB	70	Solvesso 150/X	4400–5200	<6	46	Non drying	<=3		No	•				•	•		•		•	
VIALKYD AN 950/70X	70	X	2300–3100	<12		Polyester	<=5		No	•				•			•		•	
VIALKYD AR 308/50LG	50	X/EG/Butanol	500–850	18–32	30	Deshydrated castor oil	<=12		No	•				•	•					
VIALKYD VAN 6130/75 MPAC	75	MPAC	900–1300	<=4	No	No	<=5	210	Yes	•		•	OK	Excellent	Good	OK	Excellent	OK	Excellent	OK
VIALKYD VAN 9460/80BAC	80	BAC	1500–3500	<= 2	No	No	<= 2	4,3	Yes		•	•					Excellent			

* VIALKYD alkyd resins

Solvent-borne Alkyd Resins
for Industrial Coatings

					Applications								
Yellowing resistance	Outdoor resistance	Adhesion to steel	Adhesion to non-ferrous metals	Gloss	Primer	Topcoat	Stoving topcoat for metal	Anti-corrosion primer	Air dry topcoat	For general industry monocoat	For plastic coatings	Pigment paste	Metallic basecoat
•				•		✓			✓				
•				•		✓			✓				
				•		✓			✓				
					✓			✓	✓				
				•	✓	✓		✓	✓				
					✓			✓					
					✓	✓		✓	✓				
				•	✓	✓		✓	✓				
•				•	✓	✓		✓	✓				
•				•		✓			✓				
•				•		✓	✓						
•				•	✓	✓	✓						✓
•				•	✓	✓	✓						
OK				Excellent	✓	✓							
	Good	Good	Good	Excellent	✓	✓			✓	✓	✓		

Products	Resin data					Features							
	Non-volatile %	Solvent	Type	Viscosity at 23 °C mPa.s	Epoxy equivalent weight g/mol	Chemical resistance	Corrosion resistance	Adhesion to concrete	Shear stable	Adhesion to metal	Solvent-free	Flexibility	Abrasion resistance

Water-borne 1 component Epoxy Dispersions

BECKOPOX® EM 2120W	45	WA	Water-borne 1 component epoxy	25–1000			•	•	•	•		•	
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Water-borne Epoxy Dispersions

BECKOPOX EP 384W	53	WAMP	Water-borne solid resin type 1 dispersion	400–750	920–1040		•	•	•*	•			•
BECKOPOX EP 385W	56	WA	Water-borne solid resin type 1 dispersion, flexibilized	450–1100	850–930		•	•		•		•	•
BECKOPOX EP 386W	52	WA	Water-borne solid resin type 1 dispersion, flexibilized	300–1500	900–1100		•	•	•*	•		•	•
BECKOPOX VEP 2381W	55	WA	Water-borne solid resin type 1 dispersion	3500–12000	850–960		•	•	•*	•			•
BECKOPOX VEP 2384W	57	WA	Water-borne solid resin type 1 dispersion, solvent free	300–1300	650–850	•	•	•	•	•	•		•
BECKOPOX VEP 2390W	75	MP	Water-emulsifiable solid resin, diluted in organic solvent	3000–6000	620–690		•		•*	•			
BECKOPOX EP 122W	100		Water-emulsifiable liquid resin	700–900	190–200	•		•			•		•
BECKOPOX EP 147W	100		Water-emulsifiable liquid resin	9000–13000	188–200	•	•	•			•		•
BECKOPOX EP 2350W	60	WA	Water-borne solid resin type 1 dispersion	1000–9000	520–640	•	•	•		•			•

Solvent-borne Epoxy Resins

BECKOPOX EP 301	75	X	Solvent-borne solid type 1 resin	7800–13000	600–700		•	•	•	•			•
BECKOPOX EP 116	100		Solvent-free A/F liquid resin	7800–11000	175–185	•	•	•	•	•	•		•
BECKOPOX EP 151	100		Solvent-free, internally plasticized A-liquid resin	25000–38000	400–500				•		•	•	
BECKOPOX EP 140	100		Solvent-free A liquid resin	11000–15500	180–190	•	•	•	•	•	•		•
BECKOPOX EP 128	100		Solvent-free reactive diluted A liquid resin	700–1000	190–200	•	•	•	•	•	•		•

* Mill base temperature shall not exceed 40°C

* BECKOPOX epoxy resins

Water-borne

Products	Resin data							Features						
	Type	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	H-equivalent weight (f.o.d.) g/mol	Amine value mg KOH/g	Iodine color number	High reactivity	Low reactivity	Pigment wetting	Flexibility	Shear stable	Adhesion	Corrosion resistance
BECKOPOX®* EH 613W	Polyamine adduct, water-borne	80	WA	23000–31000	145	220–240	<= 10	•		•	•	•*	•	•
BECKOPOX EH 623W	Polyamine adduct, water-borne	80	WA	12000–21000	200	195–220	<=10	•		•		•*	•	•
BECKOPOX EH 659W	Polyamidoamine, water-borne	50	WA	17000–27000	210–220	150–180	<=70		•	•		•*	•	•
BECKOPOX VEH 2106W	Polyamine adduct, water-borne	80	WA	14000–25000	142	220–240	<=20	•		•	•	•*	•	•
BECKOPOX EH 2189W	Polyamine adduct, water-borne	50	WA	10–100	138	200–230	<= 10	•					•	•
BECKOPOX VEH 2188W	Polyamine adduct, water-borne	55	WA	6000–14000	380	130–140	<=25	•			•		•	•
BECKOPOX VEH 2177W	Polyamine adduct, water-borne	80	WA	7000–12000	175	200–230	<-10	•		•		•	•	•
BECKOPOX VEH 2849W	Polyamine adduct, water-borne	80	WA	18000–25000	134	240–270	<-10	•		•		•	•	•

Solvent-borne

Products	Resin data							Features						
	Type	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	H-equivalent weight (f.o.d.) g/mol	Amine value mg KOH/g	Iodine color number	High reactivity	Low reactivity	Pigment wetting	Shear stable	Adhesion	Corrosion resistance	
BECKOPOX EH 631	Polyamine adduct, solvent-borne	55	XIB	3600–6000	345	140–170	<=3		•	•	•	•	•	•
BECKOPOX EH 651	Polyamidoamine, solvent-borne	70	X	550–1700	255	155–185	<=20		•	•	•	•	•	•
BECKOPOX EH 637	Cycloaliphatic polyamine adduct, solvent free	100		90–120	100	300–350	<=2	•		•	•	•	•	
BECKOPOX EH 661	Polyamidoamine, modified, solvent free	100		230–360	39	850–950	<=15	•		•	•			

* Mill base temperature shall not exceed 40 °C

** Room temperature drying

* BECKOPOX amine hardeners

Applications				
Concrete primer	Concrete topcoat	Wb thicklayer coating on concrete	Metal primer	Single coat
✓	✓		✓	✓
✓	✓		✓**	✓**
✓	✓		✓	✓
✓	✓		✓	✓
✓	✓		✓	✓
✓	✓		✓	✓
✓	✓		✓	✓

Applications						
Concrete primer	Concrete topcoat	Trowelling compounds	Epoxy resin mortars	Tile adhesives / grouting compounds	Metal primer	Single coat
✓	✓				✓	✓
✓	✓				✓	✓
✓	✓	✓	✓			
		✓	✓	✓		

Water-borne and Solvent-borne Epoxy Ester Resins

Products	Resin data							Features											
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	Iodine color	AV on solid resin	pH at 10 % in water	Oil length %	Oxidative drying	Adhesion to metal	Adhesion on melamine substrat	Flexibility	Corrosion resistance	Good dilutability with water	Fast drying time	Re-coatability	Hardness	High pigment loading	Temperature resistance	Water resistance
Water-borne																			
DUROXYN®* VAX 6127W/42WA	42	Water/MB	200–3000	N.A.	N.A.	8.5–10.0	38	•	•		•	•	•	•	•	•	•	•	•
Solvent-borne																			
DUROXYN EF 900/60X	60	X	3000–4500	<=8 (50X)	<=3	N.A.	42	•	•		•	•			•	•	•	•	•
DUROXYN EF 935/60X	60	X	350–510 (40X)	<=10 (50X)	<6	N.A.	35	•	•		•	•		•	•	•	•	•	•
Cationic Resins																			
DUROXYN EF 2107W/45WA	45	Water	25–1000	N.A.	N.A.	4.0–6.0	N.A.		•		•		•	•	•	•		•	
DUROXYN VEF 2406W/45WA	45	Water	50–1000	N.A.	N.A.	4.0–6.0	N.A.		•	•		•	•	•	•	•		•	

N.A. = not applicable

* DUROXYN epoxy ester resins

Applications				
Primer	Industrial paint	Zinc dust paint	Wood primer/ interior – exterior	Stain & tannin blocking
✓	✓			
✓	✓	✓		
✓	✓	✓		
✓			✓	✓
✓			✓	✓

Products	Resin data							Features						
	Non-Volatile %	Solvent	Dynamic viscosity (Ubbelohde at 23 °C DIN 53177)	Compatible with epoxy resins	Compatible with PVB	Usual ratio Epoxy: Phenolic / Phenolic: PVB	Color	Typical stoving conditions	Temperature °C	CYCAT® XK 406N (ex. ADDITOL®)	Wedge bend	Erichsen cup No. 2	2 % lactic acid / 1h/129 °C	Cysteine test / 90 min at 121 °C
Water-borne														
PHENODUR® VPW 1942	52	WA	100–1000	N.A.	N.A.	N.A.	N.A.	10–12'	200–230	Yes (blocked)		●●●	●●	●●●
PHENODUR VPW 1946	46	WA	500–2500	N.A.	N.A.	N.A.	N.A.	10–12'	170–200	Yes (blocked)		●●●	●●	●●●●
PHENODUR PW 165	40	WA/MP	100–1000	N.A.	N.A.	N.A.	N.A.	N.A.	air drying or/and forced drying one-pack wash primer					
Solvent-borne														
PHENODUR PR 411	75	B	250–1500	Yes	No	80:20 to 1:1	very light	10–12'	200	Yes	●●	●●●	●●●	●●●
PHENODUR PR 516	60	B	150–500	Yes	Yes	80:20 to 1:1	very light	10–12'	200	Yes	●●●	●●●	●●●	●●●
PHENODUR PR 517	60	B	2000–5000	Yes	Yes	80:20 to 1:1	medium	10–12'	200	Yes	●●●●	●●●●	●●●	●●●●●
PHENODUR PR 898	52	BG/B	400–1400	Yes	Yes	80:20 to 1:1	light	10–12'	200	Yes	●●●	●●●●●	●●●●	●●
PHENODUR PR 899	60	MPAC	200–1500	Yes	Yes	80:20 to 1:1	medium	10–12'	200	Yes	●●●	●●●●	●●●	●●
PHENODUR VPM 1150	50	EPAC	1500–4000 ⁽¹⁾	Yes	N.A.	co-curing resin	clear	10–12'	200	No	●●●●	●●●●	●●●	●●
PHENODUR VPR 1785	50	MP	50–700	Yes	Yes	80:20 to 1:1	medium	10–12'	200	Yes	●●●●	●●●●	●●●●	●●
PHENODUR PR 308	62	MP	1000–2250	Yes	Yes	additive	very dark	coloring (tinting) resin to adjust color tone						

(1) DIN EN ISO 3219; 25 1/s; 23 °C
N.A. = not applicable

- low
- medium
- high
- very high
- outstanding

Applications							
Silver lacquer	Coil for can	Can	Tubes	Drums	Metal foils	Water-borne	(Wash) primer
	✓	✓		✓	✓	✓	✓
	✓	✓		✓	✓	✓	✓
						✓	✓
✓	✓	✓		✓	✓		
✓	✓	✓	✓	✓	✓		
	✓		✓				
		✓	✓				
	✓	✓	✓				
✓	✓	co-curing resin for high molecular weight epoxy resins or PE resins					
	✓	✓	✓		✓		
	✓	✓	✓		✓		

Products	Resin data								Features																		
	PUD (NCO) = urethane type	Basic polymer	Non-volatile %	Solvent content %/ Co-solvent	Neutralizing agent %/ Type	Dyn. viscosity at 23°C mPa.s (DIN EN ISO 3219)	pH-value (DIN ISO 976)	OH-value on solid resin mg KOH/g (DIN EN ISO 4629)	Ambient temp./40-70rH	80°C/30min	Drying time at ambient temp. h	Oxydative drying	Solvent-free	Physically drying	Self-crosslinking	NCO-crosslinking	Aziridine-crosslinking	Abrasion resistance	Shear stability	Humidity resistance	Hardness	Scratch resistance	Transparent	Amber color	Compatibility with acrylics	Flexibility	Chemical resistance (Ethanol DR)
DAOTAN®* STW 1235/36WANMP	Mixed	PE	36	11,8 NMP	0,9/TEA	10–400	7.0–8.5		•	•	< 5			•		•			•	••	••					••••	<10
DAOTAN TW 1225/40WANEP	Aliphatic	PE	40	6,4/NEP	2,1/DMEA	100–800	6.6–7.7	47	•	•	> 8				•			•	••••	••••	••••					••••	>1000
DAOTAN TW 1227/40WA	Aliphatic	PE	40		1,9/DMEA	50–850	7.2–7.6	50	•	•	< 8				•			•	••••	••••	••••					••••	>1000
DAOTAN TW 1235/36WANEP	Mixed	PE	36	13,5 NEP	0,9/TEA	10–400	7.0–8.5		•	•	< 5			•		•		•	••	••						••••	<10
DAOTAN TW 1236/40WANEP	Aliphatic	PC	40	14,9/NEP	1,1/TEA	500–1500	7.0–9.0		•	•	> 8			•		•		•	••	•						••••	<10
DAOTAN TW 1237/32WANEP	Aliphatic	PE	32	6,3/NEP	0,75/TEA	5–60	7.5–8.4		•	•	> 8			•		•		•	••	•						••••	<10
DAOTAN TW 1252/42WA	Aliphatic	Fatty acid	42	3,0/NEP	0,4/NH3	500–2000	7.0–9.5	45	•	•	< 1	•						•	••	••••						••••	<10
DAOTAN TW 5661/37WA	Aliphatic	PE	0	4.2/NEP	0,9/TEA	50–200	7.2–8.7		•		<0.5			•			•		••••	••••	••••	•			•	••	<500
DAOTAN TW 6437/32WANEP	Aliphatic	PE	32	9/NEP	0,75/TEA	5–60	7.2–8.4		•	•	> 8			•		•		•	••	•						••••	<10
DAOTAN TW 6440/43WA	Mix	Oil	43	3.0/DP-DGME	0,2/NH3	300–3000	7.0–8.0							•		•	••			••••	•		•		••		
DAOTAN TW 6493/35WA	Aliphatic	PE	35	None	1,1/TEA	5–200	8.0–10.0			•		•	•		•	•	••			••	•	•			••••		
DAOTAN VTW 1233/36WANMP	Aliphatic	PE	36	8,0/NMP	1,0/TEA	40–500	7.2–8.0		•	•	< 8			•		•		•	••	•						••••	<10
DAOTAN VTW 1250/40WA	Aromatic	Fatty acid	40	4,6/NMP	0,2/NH3	800–3200	6.9–8.0	35	•	•	< 1	•						•	••	••••						••••	<10

Remark: all NMP containing grades are available as Lab products with NEP instead of NMP!

- low
- medium
- high
- very high
- outstanding

* DAOTAN polyurethane dispersions

Substrates / direct adhesions								Applications					
Metal	ABS	PA 6	PC	PP pre-treated	PVC	Rubber	UP / FRP	Primer	Basecoat	Topcoat	Clearcoat	Trim paint	Concrete floor
	•	•	•	•	•			✓					
	•	•	•	•	•		•	✓		✓	✓		
	•	•	•	•	•		•	✓		✓	✓		
	•	•	•	•	•			✓					
	•		•	•	•			✓	✓				
	•	•	•	•	•			✓	✓				
•								✓		✓			
•								✓			✓	✓	✓
	•	•	•	•	•			✓	✓				
		•	•					✓					
•								✓					

Products	Resin data								Features											
	PUD (NCO) = urethane type	Basic polymer	Non-volatile %	Solvent content % / Co-solvent	Neutralizing agent % / Type	Dyn. viscosity at 23°C mPa.s (DIN EN ISO 3219)	pH-value (DIN ISO 976)	OH-value on solid resin mg KOH/g (DIN EN ISO 4629)	Ambient temp./40-70rH	80°C/30min	Drying time at ambient temp. h	Physically drying	Self-crosslinking	NCO-crosslinking	Shear stability	Humidity resistance	Hardness	Scratch resistance	Flexibility	Chemical resistance (Ethanol DR)
DAOTAN® TW 2229/40WANEP	Aromatic	PE	40	8,3/NEP	2,1/DMEA	300-1200	7.0-7.7	43	●	●	< 5			●	●	●●●●	●●●		●●●	<500
DAOTAN TW 6438/40WANEP	Mixed	PE	40	22,2/NEP	1,1/TEA	150-1500	7.2-8.0		●	●	< 1	●		●	●	●●●	●●●●		●●●	<500
DAOTAN TW 6464/36WA	Aliphatic	PE	36		0,8/DMEA	15-250	7.4-8.4	36	●	●	< 1	●	●	●	●	●●●●	●●●		●●●	<500
DAOTAN VTW 6471/37WA	Aliphatic	PE	37	3/BG	0,75/DMEA	300-1500	7.5-8.5	36	●	●	< 1	●	●	●	●	●●●●	●●		●●●	<500
DAOTAN TW 6490/35WA	Aliphatic	PE	35		1/TEA	10-150	8.5-10		●	●	< 5	●		●	●	●●	●	●	●●●●	<10
DAOTAN VTW 1262/35WA	Aliphatic	PC	35		0,5/DMEA	5-50	7.5-8.4	35	●	●	>8	●		●	●	●●	●		●●●●	<10
DAOTAN VTW 1265/36WA	Aliphatic	PE	36		0,9/DMEA	10-90	7.0-8.0	24	●	●	< 1	●	●	●	●	●●●●	●●●●	●●●	●●●	<100
DAOTAN VTW 1267/36WA	Aliphatic	PE	36		0,7/DMEA	20-400	7.0-8.0	23	●	●	< 1	●	●	●	●	●●	●●●		●●●	<10
DAOTAN VTW 6460/35WA	Aliphatic	PE	35		0,80/DMEA	20-400	7.0-8.5	29	●	●	<5	●		●	●	●●	●		●●●●	<10
DAOTAN VTW 6463/36WA	Aliphatic	PE	36		0,8/DMEA	50-500	7.4-8.5	36	●	●	< 1	●		●	●	●●●●	●●●		●●●	<500

- low
- medium
- high
- very high
- outstanding

* DAOTAN polyurethane dispersions

DAOTAN®

Water-borne Polyurethane Dispersions
(continued)

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BECKOCOAT®

Moisture Curing 1K Polyurethanes

Substrates / direct adhesions								Applications			
Metal	ABS	PA 6	PC	PMMA	PP pre-treated	PVC	UP / FRP	Primer	Basecoat	Topcoat	Clearcoat
	•	•			•	•	•	✓			
	•	•	•	•	•	•	•	✓			
	•	•	•	•	•	•	•	✓	✓		
	•		•		•	•	•	✓	✓		
	•		•	•				✓	✓		
	•	•	•	•	•	•		✓		✓	✓
	•		•			•		✓	✓		
	•		•		•	•		✓	✓		
	•	•	•	•	•	•	•	✓	✓		

Products	Resin data					Features				Applications	
	Non-volatile %	Solvent	Viscosity at 23 °C mPa.s	Iodine color at 50 % sol	NCO-content %	Glossy system	Mat system	2007 VOC compliant	Abrasion resistance	Concrete coating	1K for wood flooring
BECKOCOAT®* PU 428	51	XMPAC	290–590	<= 2	3,0–5,0	•		•	•	✓	✓
BECKOCOAT VPU 4204	40	LG	160–370	<= 5	2,0–4,0		•	•	•	✓	✓

* BECKOCOAT moisture curing resin

Products	Resin data					Features						
	% Solids (Foil) 45/45 °C	Pan solids	Solvent	Viscosity at 23 °C mPa.s	Typical free formaldehyde levels	Catalyst required	Catalyst type	Sensitivity for self condensation	Important characteristics	High solids	Medium solids	Water-borne

Melamine resins

CYMEL®* 303 LF	≥98			3000–6000	<0.25	Yes	Strong Acid Catalyst	Low	Highly methylated melamine resin providing films with excellent film hardness and flexibility properties.	•		•
CYMEL 3745	≥98			2500–7500	<0.7	Yes	Strong Acid Catalyst	Low	Highly methylated melamine resin with slightly better water solubility compared to CYMEL 303 LF.	•		•
CYMEL MM-100	≥98			10000–25000	<0.5	Yes	Strong Acid Catalyst	Low	Highly methylated melamine resin, which is higher oligomeric and higher in NH functionality compared to CYMEL 303 LF.	•		•
CYMEL 370	86–90		i-Butanol	5100–10200	<3.5	Optional	Weak Acid Catalyst	High	Partly methylated melamine resin designed for fast curing medium solids coating formulations.		•	•
CYMEL 323	78–82		i-Butanol	2500–7500	<1.0	Optional	Weak Acid Catalyst	High	High NH methylated melamine resin designed for very fast curing medium solids formulations, with low formaldehyde release.		•	•
CYMEL 325	78–82		i-Butanol	2500–4500	<1.3	Optional	Weak Acid Catalyst	High	High NH methylated melamine resin designed for fast curing medium solids formulations with improved formulation stability properties.		•	•
CYMEL 327	88–92		i-Butanol	5100–16000	<1.3	Optional	Weak Acid Catalyst	Medium	High NH methylated melamine resin designed for fast curing medium to high solids formulations with improved film flexibility properties.	•	•	•
CYMEL 328	83–87		Water	1000–3000	<0.7	Optional	Weak Acid Catalyst	Medium	High NH melamine resin designed for water-borne coating formulations with very good formulation stability properties.		•	•
CYMEL 1130	≥96			3000–6000	<0.15	Yes	Strong Acid Catalyst	Low	Highly alkylated mixed ether melamine resin designed for HS and ED formulations providing improved film appearance properties.	•		
CYMEL 1133	≥98			750–1950	<0.15	Yes	Strong Acid Catalyst	Low	Highly alkylated mixed ether melamine resin designed for HS and ED formulations providing improved adhesion and throwing power properties.	•		
CYMEL 202	80–84		n-Butanol	2500–7500	<1.0	Optional	Weak Acid Catalyst	Medium	High NH mixed ether melamine resin designed for fast curing medium solids formulations providing improved film appearance and adhesion properties.		•	•
CYMEL MB-98	≥95			1700–4500	<0.1	Yes	Strong Acid Catalyst	Low	Highly butylated melamine resin designed for acid curing wood formulations with improved resistance properties.		•	
CYMEL 1158	78–82		n-Butanol	3000–7000	<0.7	Optional	Weak Acid Catalyst	Medium	Butylated high NH melamine resin designed for automotive clear coat formulations providing excellent gloss and film appearance properties.		•	
CYMEL 688		68–72	n-Butanol	2850–5850	<1.7	Optional	Weak Acid Catalyst	High	Partly butylated melamine resin designed for general industrial stoving applications providing films with high gloss and excellent adhesion properties.		•	
CYMEL MI-12-I		58–62	i-Butanol	1050–1950	<1.0	Optional	Weak Acid Catalyst	High	Partly iso-butylated melamine resin designed for fast curing general industrial applications.		•	

* CYMEL amino crosslinkers

Applications								
Automotive coatings	Coil coatings	Can coatings	Acid curing wood coatings	Foil coatings	Electro deposition	General industrial formulations	Primer formulations	Mirror backing
✓	✓	✓		✓		✓	✓	
	✓	✓		✓		✓		
		✓				✓		
		✓				✓		
						✓		✓
✓		✓				✓	✓	✓
✓	✓	✓		✓		✓	✓	✓
✓	✓	✓		✓		✓	✓	
✓	✓	✓			✓	✓		
✓	✓	✓			✓	✓	✓	
✓		✓				✓	✓	✓
			✓					
✓						✓		
✓						✓		
✓						✓	✓	✓

Products	Resin data					Features						
	% Solids (Foil) 45/45°C	Pan solids	Solvent	Viscosity at 23°C mPa.s	Typical free formaldehyde levels	Catalyst required	Catalyst type	Sensitivity for self condensation	Important characteristics	High solids	Medium solids	Water-borne
Urea resins												
CYMEL®* UM-15	>96			6800–17000	<0.7	Yes	Strong Acid Catalyst	Low	Highly methylated urea resin designed for very fast curing water-borne systems.			•
CYMEL U-80	>96		n-Butanol	1700–4500	<0.2	Yes	Strong Acid Catalyst	Low	Highly butylated urea resin designed for high solids primer formulations with excellent adhesion properties.	•		
CYMEL UB-30-B		63–67	n-Butanol	13000–25000	<0.6	Optional	Strong Acid Catalyst	High	Partly butylated urea resin, especially recommended for electrostatic spray applications.		•	
CYMEL UI-19-IE		58–62	i-Butanol/Ethanol	1700–3500	<1.2	Optional	Strong Acid Catalyst	High	Partly iso-butylated urea resin designed for acid curing wood formulations providing films with good stackability properties.		•	
CYMEL UI-20-E		76–80	Ethanol	1700–3500	<0.3	Optional	Strong Acid Catalyst	High	Partly iso-butylated urea resin designed for acid curing wood formulations providing films with high build and low formaldehyde split off.		•	
Benzoguanamine resins												
CYMEL 659		70–74	n-Butanol/Xylene	575–1075, 25°C	<2.0	Optional	Weak Acid Catalyst	High	Partly butylated benzoguanamine resin, provides films with very good corrosion and chemical resistance properties.		•	
CYMEL 1123	>98			3800–10200	<0.1	Yes	Strong Acid Catalyst	Low	Highly alkylated benzoguanamine resin provides films with excellent film flexibility, corrosion and chemical resistance properties.	•		

* CYMEL amino crosslinkers

Applications				
Can coatings	Acid curing wood coatings	Electro deposition	General industrial formulations	Primer formulations
			✓	
✓			✓	✓
			✓	✓
	✓			
	✓			
✓		✓	✓	✓
✓		✓	✓	✓

Products	Resin data						Features					
	Solvent	Non-volatile (%)	Acid number	Density (kg/m ³)	Water solubility	Xylene solubility	Recommended amino resin	Description	High solids	Medium solids	Water-borne	
CYCAT®* 296-9	i-Butanol	50	360-385	1050	complete	complete	Partially alkylated/ High imino	Weak phosphoric acid catalyst to accelerate the cure reactions of high imino and partially alkylated resins.		•	•	
CYCAT 500	i-Butanol	40	80-90	927	insoluble	complete	Highly alkylated	Strong naphthalene sulfonic acid catalyst, especially recommended for electrocoating and electrostatic spray systems with improved water resistance.	•		•	
CYCAT 600	i-Propanol	70	125-135	960	complete	complete	Highly alkylated	Strong dodecyl benzene sulfonic acid catalyst, especially recommended for high solids formulations with hydrocarbon solubility.	•		•	
CYCAT 4040	i-Propanol	40	130-140	960	complete	complete	Highly alkylated	Strong alkyl benzene sulfonic acid for general purpose strong acid catalyst for highly alkylated melamine, benzoguanamine, glycoluril and urea resins.	•		•	
CYCAT 4045	Ethylene glycol	35	60-70	1160	complete	complete	Highly alkylated	Amine blocked alkyl benzene sulfonic acid catalyst for highly alkylated melamine, benzoguanamine, glycoluril and urea resins. It provides excellent stability in water-borne and high solids systems.	•		•	
CYCAT XK 350	Butyl acetate	62	180-220	1000	insoluble	complete	Partially alkylated/ High imino	Weak catalyst, based on organic acid, recommended for melamine curing systems to improve anti-corrosion performance.	•	•	•	
CYCAT VXX 6357	Methoxy propoxy propanol	90	104-112	1020	insoluble	complete	Highly alkylated	Covalently blocked catalyst, based on p-TSA, to accelerate curing reaction in water-borne and solvent-borne amino stoving resins.	•		•	
CYCAT VXX 6378	Butyl acetate/ iso-Butanol	32	140-160	920	insoluble	complete	Partially alkylated/ High imino	Catalyst based on a mixture of alkyl phenyl phosphates, recommended for 1K alkyd-amino systems as well as in acid curing wood applications.	•	•	•	
CYCAT VXX 6395	i-Propanol	35	70-80	950	complete	complete	Highly alkylated	Blocked p-TSA catalyst, especially for low temperature curing of urea and melamine crosslinking systems. Typical application areas are Industrial Coating and Automotive OEM.	•		•	
CYCAT XK 406N	Xylene/n-butanol	18	100	900	insoluble	complete	Epoxy-phenol or BADGE free phenolic systems	Increases the crosslinking speed of thermal curing phenolic-epoxy resins or phenolic-polyester. It can improve adhesion properties and allows better sulfur staining resistance for interior can coatings.	•		(•)	

* CYCAT catalysts

Applications								
Automotive coatings	Coil coatings	Can coatings	Acid curing wood coatings	Foil coatings	Electro deposition	General industrial formulations	Primer formulations	Mirror backing
✓		✓	✓			✓	✓	
					✓	✓	✓	
✓	✓	✓ FDA yes	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓		✓		✓	✓	
✓		✓				✓	✓	
✓	✓	✓				✓	✓	
✓		✓	✓			✓	✓	
✓	✓	✓		✓		✓	✓	
	✓	✓ FDA yes					(●) Primer	

Additive grades																					Characteristics	% Active matter							
	w/b s/b	Acrylics, thermopl.	Acrylics, stoving	Acrylics, thermopl. w/b	Acrylics, stoving, w/b	Alkyds air-drying	Alkyd/amino systems	Alkyds air-drying, w/b	Alkyd/Amino systems, w/b	Dispersion paints	Dispersion lacquers	2K-Epoxy systems	Epoxy esters, stoving	Epoxy esters air-drying	2K-Epoxy systems, w/b	PE/Amino systems, oil-free	NC combi systems	Phenolic systems	Polyurethane systems	Powder coatings			Acid curing systems	Hybrid systems	UV s/b and 100%	UV w/b	2K-Polyurethanes, w/b		
Dispersing additives, grinding media																													
ADDITOL®* VXW 6394	w			•						•	•															•	High molecular weight polymer; nonionic	40 %	
ADDITOL VXW 6208	w			•	•			•	•	•	•				•											•	Nonionically stabilized polymer; diluted in water	50 %	
ADDITOL XW 6528	w			•	•					•																	•	Polyester modified acrylic resin; co-crosslinkable	35 %
ADDITOL XL 6535	s w	•	•	•	•	•	•	•	•	•	•		•	•					•							•	Special modified polyester with strong pigment wetting capacity; auto emulsifying in sb systems	45 %	
ADDITOL XL 6521	s	•	•			•	•									•	•		•								Modified block copolymer; high molecular; cationic	60 %	
Leveling additives, silicone-free																													
MODAFLOW®* 9200	s		•				•					•	•			•		•	•						•	Modified acrylic copolymer; low molecular weight; crosslinkable	100 %		
MODAFLOW EPSILON	s	•	•			•	•					•	•	•		•	•	•	•	•	•					•	Acrylic polymer, high molecular weight	80 %	
MODAFLOW RESIN	s	•	•			•	•					•	•	•		•	•	•	•	•	•					•	Acrylic copolymer; high molecular weight; FDA-approved	100 %	
MODAFLOW 2100	s	•	•			•	•					•	•	•		•	•	•	•	•	•					•	Acrylic copolymer; low molecular weight; FDA-approved	100 %	
ADDITOL VXW 6396	w			•	•		•	•	•	•					•											•	Highly fluoro-modified acrylic copolymer; neutralized by amine; low molecular weight	55 %	
MODAFLOW AQ 3025	w			•	•		•	•	•	•																•	Acrylic copolymer; neutralized by amine; silicone-free	25 %	
ADDITOL XW 6508	w			•			•																			•	Acrylic copolymer; neutralized by amine	44 %	
Leveling additives, silicone containing																													
ADDITOL XL 123 N	s w	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Modified silicone	50 %
ADDITOL VXL 4930	s w	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Polyether-modified silicone	40 %
ADDITOL VXW 6503	s w			•	•		•	•	•	•					•											•	Silicone tenside	50 %	
Defoamer, silicone-free																													
ADDITOL VXW 6211	w						•			•					•											•	Hydrocarbons; hydrophobic solid particles	100 %	
ADDITOL VXW 6393	w				•		•		•	•					•												Special mineral oil, waxes; low odour	100 %	
ADDITOL VXW 6500	w			•	•		•	•	•						•											•	Degassing polymers; hydrocarbons; silicone-free	100 %	
ADDITOL XW 6544	w				•		•		•	•	•				•												Hydrophobic polymers, silicone free	101 %	
Defoamer, silicone containing																													
ADDITOL VXW 6210 N	w			•			•		•	•					•											•	Modified silicone; blend of hydrocarbons	100 %	
Combination driers																													
ADDITOL VXW 4940 N	w						•																			•	Combination drier; 3 % Co / 3 % Ba / 5 % Zr in form of emulsion	-	
ADDITOL VXW 6206	w						•																			•	Combination drier; 5 % Co / 0,22 % Li / 7,5 % Zr; free of nonylphenol ethoxylates	-	
ADDITOL XW 6533	w						•																			•	Co-free combination drier based; contains Zr and Mn; free of nonylphenol ethoxylate	60 %	

* ADDITOL additives
* MODAFLOW flow modifiers

Descriptions

Especially for preparation of stable pigment concentrates; prevents flocculation
For inorg./org. pigments and pigment concentrates/pastes
Co-crosslinkable; high pigment loading capacity; improves gloss; improves chemical and corrosion resistance
Universal grinding medium for decorative and industrial pigment pastes; recommended for tinting machines
High effective for difficult wettable pigments; high gloss; excellent colour properties
Reduces surface defects; excellent compatibility; for high-end applications with excellent gloss
Highly efficient flow promotor with excellent degassing properties
Highly effective leveling agent; good wetting behaviour; degassing properties
Highly effective; good compatibility; short incorporation time and fast mode of action
Excellent leveling and wetting properties; no foam stabilization; good recoatability
Optimizes flow and gloss; enhances degassing; facilitates pigment wetting
Enhances flow and leveling; prevents surface defects; crosslinkable
Excellent slip and scratch resistance; degassing; thermostable up to 400 °C
Highly effective; good spray mist absorption; prevents orange peel; no foam stabilization
Excellent substrate wetting; no foam stabilization; good recoatability
Defoamer for high quality pigmented systems
Highly effective in wall paints; no settling tendency
Very good deaerating in forced drying and stoving systems; easy to incorporate; for clear coats
Premium quality defoamer and deaerator; excellent re-flow effect; for high viscous and air less applied systems
Heavy duty defoamer; recommended for preparation of pigment concentrates
Contains APEO's; easy to incorporate; enhances surface and through drying
Free of APEO's; enhances surface and through drying
Co-free drier; allows good set- and through drying; very good hardness development

	Additive name	Dosage	w/b s/b	Auto	Industry	Architecture	
Anti-floating	ADDITOL®* XL 203	0,5 – 5,0% pigment	s w				
	ADDITOL® XL 204	0,5 – 6,0% pigment	s w				
Pigment wetting	ADDITOL XL 250	0,5 – 5,0% pigment / extender	s w				
	ADDITOL XL 251	0,5 – 5,0% pigment / extender	s				
	ADDITOL XL 255N	0,2 – 2,0% inorg. 1,0 – 5,0% org. pigment	s				
Special Pigment wetting	ADDITOL VXL 4992	0,5 – 2,0% pigment / extender	s				
	ADDITOL VXL 6244N	0,5 – 2,0% pigment / extender	s				
Dispersing Pigment slurries	ADDITOL VXL 6237N	3,0 – 10% inorg. 10 – 50% org. pigment	s				
	ADDITOL XL 260N	3,0 – 15% inorg. 15 – 60% org. pigment	s				
	ADDITOL VXL 6212N	3,0 – 10% inorg. 10 – 50% org. pigment	s				
	ADDITOL XW 330	0,1 – 0,4% pigment / extender	w				
	ADDITOL VXW 6200	0,5 – 4,0% inorg. 4 – 15% org. pigment	w				
	ADDITOL VXW 6205	0,5 – 4,0% inorg. 4 – 15% org. pigment	w				
	ADDITOL VXW 6394	10 – 30% inorg. 30 – 75% org. pigment	w				
	ADDITOL VXW 6208	3,0 – 10% inorg. 15 – 50% org. pigment	w				
	ADDITOL VXW 6208/60	3,0 – 10% inorg. 15 – 50% org. pigment	s w				
	ADDITOL VXW 6374	3,0 – 10% inorg. 15 – 40% org. pigment	w				
	ADDITOL XL 6521	3,0 – 10% inorg. 15 – 60% org. pigment	s				
	ADDITOL XW 6545	3,0 – 10% inorg. 15 – 50% org. pigment	w				
	Grinding media	ADDITOL XW 6504	Grinding medium	w			
		ADDITOL XW 6528	Grinding medium	w			
ADDITOL XW 6529		Grinding medium	w				
ADDITOL XW 6535		Grinding medium	s w				
ADDITOL XL 6515		Grinding medium	s w				
ADDITOL XL 6509		5,0 – 10% inorg. pigment 30 – 60% matting agent	s				
Pigment wetting Anti-settling	ADDITOL XL 6514/80	0,2 – 1,0% inorg. pigment 1,0 – 5,0% org. pigment	s				
	ADDITOL XL 6514/50	0,2 – 1,0% inorg. pigment 1,0 – 5,0% org. pigment	s				

* ADDITOL additives

Acrylics, thermopl.	Acrylics, stoving	Acrylics, thermopl. w/b	Acrylics, stoving, w/b	Alkyds air-drying	Alkyd/Amino systems	Alkyds air-drying, w/b	Alkyd/Amino systems, w/b	Dispersion paints	Dispersion lacquers	2K-Epoxy-systems	Epoxy esters, stoving	Epoxy esters air-drying	2K-Epoxy systems, w/b	PE/Amino systems, oil-free	NC combi systems	Phenolic systems	Polyurethane systems	Powder Coatings	Acid curing systems	Hybrid systems	UV s/b and 100%	UV w/b	2K-Polyurethanes, w/b	Characteristics	% Active matter	Additive name		
●	●	●	●	●		●	●			●	●	●		●	●	●	●		●	●		●		Silicone containing polymer; cationic; high molecular	40%	ADDITOL XL 203		
●	●	●	●	●	●	●	●	●	●		●	●		●	●					●			●	●	Silicone containing phosphoric acid ester; anionic	55%	ADDITOL XL 204	
●	●	●	●	●	●	●	●				●	●		●	●							●	●	●	Phosphoric acid ester, neutralized by amine; anionic; low molecular	55%	ADDITOL XL 250	
●	●			●	●					●	●	●		●			●								Polyadduct containing acid groups	80%	ADDITOL XL 251	
●	●			●	●					●	●	●		●			●								Modified alkyd resin; neutralized	55%	ADDITOL XL 255N	
																									Modified polyester	50%	ADDITOL VXL 4992	
																									Salt of a polyadduct	70%	ADDITOL VXL 6244N	
●	●			●	●					●	●	●		●			●		●						Wetting/dispersing agent; cationic; high molecular	30%	ADDITOL VXL 6237N	
●	●				●									●	●		●								Urethane modified acrylic copolymer; nonionic; high molecular	30%	ADDITOL XL 260N	
●	●				●									●	●		●								Urethane modified acrylic copolymer; cationic; high molecular	30%	ADDITOL VXL 6212N	
		●						●																	Polyacrylic acid-ammonia salt; anionic; low molecular	30%	ADDITOL XW 330	
		●						●	●												●				Acrylic copolymer-ammonia salt; anionic; medium molecular	40%	ADDITOL VXW 6200	
		●						●	●												●				Acrylic copolymer-sodium salt; anionic; medium molecular; VOC-free	40%	ADDITOL VXW 6205	
		●						●	●															●	High molecular weight polymer; nonionic	40%	ADDITOL VXW 6394	
		●	●			●	●	●	●				●								●				●	Nonionically stabilized polymer; diluted in water	50%	ADDITOL VXW 6208
										●			●												●	Nonionically stabilized polymer; diluted in metholy propanol	60%	ADDITOL VXW 6208/60
		●	●			●	●						●								●				●	Wetting and dispersing agent; free of alkylphenol etholyates; no VOC	50%	ADDITOL VXW 6374
●	●			●	●									●	●		●								●	Modified block copolymer; high molecular; cationic	60%	ADDITOL XL 6521
		●	●			●	●	●	●				●								●				●	High molecular weight polymer; reduces surface tension; nonionic	50%	ADDITOL XW 6545
																										Water dilutable grinding medium for cationically stabilized systems	35%	ADDITOL XW 6504
		●	●				●																		●	Polyester modified acrylic polymer; co-crosslinkable	35%	ADDITOL XW 6528
		●	●				●																		●	Polyester modified acrylic polymer; co- crosslinkable, highly reactive	35%	ADDITOL XW 6529
●	●	●	●	●	●	●	●	●	●		●	●									●			●	●	Special modified polyester with strong pigment wetting capacity; universal due to auto emulsification in sb systems	45%	ADDITOL XW 6535
				●	●																					Modified alkyd polymer; universal use in DECO and Industrial systems	100%	ADDITOL XL 6515
●	●			●	●						●	●		●	●		●								●	Copolymer with acidic groups	65%	ADDITOL XL 6509
●	●			●	●									●	●		●									Salt of a basic aminoamide with an acidic polyester	80%	ADDITOL XL 6514/80
●	●			●	●									●	●		●									Salt of a basic aminoamide with an acidic polyester	80%	ADDITOL XL 6514/50

Description

Anti-floating additive to improve significantly floating of inorganic and organic pigments.

Anti-floating additive to improve significantly floating of inorganic and organic pigments and prevents the formation of Bénard cells. It has a strong pigment wetting character and helps to reduce dispersing time.

Pigment wetting additive with very strong pigment affinity especially to inorganic and metallic pigments. Besides reduced dispersing time it improves gloss and color strength as well as material flow.

Low molecular pigment wetting additive to improve gloss and color strength. It allows the reduction of dispersing time and mill base viscosity.

Pigment wetting additive to improve gloss and color strength; for all types of pigment recommended. It may be used for direct grinding or pigment paste process.

Multi-purpose additive for UP - putties with strong wetting power for inorganic pigments and extenders. It reduces dispersing time and improves degassing and rheology.

Multi-purpose additive for UP - putties with strong wetting power for inorganic pigments and extenders. It reduces dispersing time and improves degassing and rheology.

High efficient, high molecular weight dispersing additive for all types of pigment. Recommended for direct grinding as well as for binder free pigment concentrates.

High molecular weight dispersing additive for difficult wettable pigments. Recommended for direct grinding processes.

High molecular weight dispersing additive for difficult wettable pigments. Recommended for direct grinding processes.

Improved compatibility in acrylic systems.

Low molecular weight wetting and dispersing additive especially for inorganic pigments and extenders. Strongly recommended for titanium dioxide white.

Powerful dispersing additive especially for inorganic pigments. It reduces dispersing time and offers very good pigment stabilization. Especially recommended for glossy paints.

Powerful dispersing additive especially for inorganic pigments. It reduces dispersing time and offers very good pigment stabilization. Especially recommended for glossy paints. VOC - free.

Very sufficient, high molecular weight dispersing additive for all types of pigment. Due to its non ionic polymer structure it is highly recommended in formulations containing sensitive resins. Further it can be used for the production of highly loaded, binder free pigment concentrates.

High molecular weight dispersing additive for all types of pigment. Due to its non ionic polymer structure it is highly recommended in formulations containing sensitive resins. It is recommended for both, direct grinding and pigment concentrate processes.

High molecular weight dispersing additive for all types of pigment. Due to its non ionic polymer structure it is highly recommended in formulations containing sensitive resins. It is recommended for both, direct grinding and pigment concentrate processes.

Highly recommended in 2K Epoxy formulations.

Wetting additive to improve gloss and color strength of difficult wettable pigments. It allows an improved material flow.

Powerful, high molecular weight dispersing additives for very difficult wettable pigments. Especially recommended for all carbon black pigments in order to achieve perfect color properties and extreme high gloss.

Multi-purpose dispersing and substrate wetting additive for all types of pigment. Non ionic, high molecular weight polymer for formulations containing sensitive resins. Especially recommended in 1K and 2K Epoxy formulations.

Special grinding medium for cationic systems.

Co - crosslinkable grinding medium with high pigment loading capacity. Due to its special composition and reactivity it can improve chemical resistance and corrosion protection. Broad compatibility.

Co - crosslinkable grinding medium with high pigment loading capacity. Due to its special composition and reactivity it can improve chemical resistance and corrosion protection. Especially recommended for low bake conditions.

Universal grinding medium for the production of pigment pastes used in all types of tinting machines. For improved color properties and better exterior performance. Recommended for all architectural, decorative and many industrial pigment pastes.

Special, air drying grinding medium for the production of architectural, decorative and many industrial pigment pastes.

Very efficient pigment wetting additive for inorganic pigments, extenders and matting agents.

Wetting and anti-settling additive to improve gloss and pigment stabilisation and flow. Especially recommended in low VOC and high solid systems.

Wetting and anti-settling additive to improve gloss and pigment stabilisation and flow. Recommend for all solvent-borne paints and lacquers.

Acrylic flow promoters & leveling additives

Substrate wetting additives (anti-crater effect)

Silicone leveling additives (slip & scratch) (anti-orange peel) (anti-crater effect)

Hybrid polymer leveling

Additive name	Dosage	w/b s/b	Auto	Industry	Architecture
ADDITOL®* XW 395	0,2 – 1,0% binder	w			
ADDITOL® XL 480	0,1 – 0,5% total	s			
ADDITOL XL 490	0,1 – 2,0% binder	s			
ADDITOL XL 490/50BAC	0,1 – 0,5% total	s			
ADDITOL VXW 4971	0,2 – 1,0% binder	w			
MODAFLOW®* EPSILON	0,1 – 2,0% total	s			
MODAFLOW RESIN	0,1 – 1,0% total	s			
MODAFLOW 2100	0,1 – 1,0% total	s			
MODAFLOW 9200	0,1 – 0,5% total	s			
MULTIFLOW RESIN	0,5 – 3,0% binder	s			
MODAFLOW AQ 3025	1,0 – 2,0% total	w			
ADDITOL XW 6502	0,1 – 1,0% total	w			
ADDITOL XW 6508	0,1 – 1,0% total	w			
ADDITOL XW 390	0,1 – 1,0% binder	w			
ADDITOL VXW 6214	0,2 – 1,0% binder	w			
ADDITOL VXL 6230	0,1 – 1,0% total	s			
ADDITOL VXW 6396	0,1 – 1,0% total	w			
ADDITOL VXW 6503	0,1 – 1,0% total	s w			
ADDITOL XL 121	0,1 – 0,5% total	s			
ADDITOL XL 122N	0,05 – 0,3% total	s			
ADDITOL XL 123N	0,05 – 0,5% total	s w			
ADDITOL XL 125N	0,1 – 0,3% total	s w			
ADDITOL XL 132	0,1 – 5,0% total	s			
ADDITOL XW 329	0,1 – 0,3% total	w			
ADDITOL VXL 4930	0,05 – 0,3% total	s w			
ADDITOL XL 6524	0,05 – 0,5% total	s w			
ADDITOL XL 6526	0,1 – 0,5% total	s			

* ADDITOL additives

* MODAFLOW flow modifiers

Acrylics, thermopl.	Acrylics, stoving	Acrylics, thermopl. w/b	Acrylics, stoving, w/b	Alkyds air-drying	Alkyd/Amino systems	Alkyds air-drying, w/b	Alkyd/Amino systems, w/b	Dispersion paints	Dispersion lacquers	2K-Epoxy-systems	Epoxy esters, stoving	Epoxy esters air-drying	2K-Epoxy systems, w/b	PE/Amino systems, oil-free	NC combi systems	Phenolic systems	Polyurethane systems	Powder Coatings	Acid curing systems	Hybrid systems	UV s/b and 100%	UV w/b	2K-Polyurethanes, w/b	Characteristics	% Active matter	Additive name			
						●	●						●											●	Acrylic copolymer; neutralized by amine; silicone-free; FDA-approved	58%	ADDITOL XW 395		
	●			●	●						●	●		●		●						●			Modified acrylic copolymer; low molecular weight; FDA-approved	70%	ADDITOL XL 480		
●	●			●	●					●	●	●		●	●	●	●	●	●		●			●	Modified acrylic copolymer	100%	ADDITOL XL 490		
●	●			●	●					●	●	●		●	●	●	●	●	●		●			●	Modified acrylic copolymer	50%	ADDITOL XL 490/50BAC		
			●				●																		●	Acrylic copolymer; neutralized by amine	50%	ADDITOL VXW 4971	
●	●			●	●					●	●	●		●	●	●	●		●	●	●				●	Acrylic polymer, high molecular weight	80%	MODAFLOW EPSILON	
●	●			●	●					●	●	●		●	●	●	●	●	●		●				●	Acrylic copolymer; high molecular weight; FDA-approved	100%	MODAFLOW RESIN	
●	●			●	●					●	●	●		●	●	●	●	●	●		●				●	Acrylic copolymer; low molecular weight; FDA-approved	100%	MODAFLOW 2100	
	●				●					●	●			●		●	●					●				Modified acrylic copolymer; low molecular weight; crosslinkable	100%	MODAFLOW 9200	
●	●			●	●					●	●	●		●	●	●	●		●		●				●	Acrylic copolymer diluted in xylene	50%	MULTIFLOW RESIN	
		●	●			●	●	●	●														●			Acrylic copolymer; neutralized by amine; silicone-free	25%	MODAFLOW AQ 3025	
			●				●																			Neutralized acrylic copolymer	65%	ADDITOL XW 6502	
			●				●																			●	Acrylic copolymer; neutralized by amine	44%	ADDITOL XW 6508
		●	●			●	●														●		●			Fluoro-modified acrylic copolymer; neutralized by amine	50%	ADDITOL XW 390	
		●	●			●	●	●	●				●								●		●		●	Fluoro-modified acrylic copolymer; neutralized by amine	57%	ADDITOL VXW 6214	
	●				●					●	●			●			●				●				●	Fluoro-modified acrylic copolymer	70%	ADDITOL VXL 6230	
		●	●			●	●	●	●				●								●		●		●	Highly fluoro-modified acrylic copolymer; neutralized by amine; low molecular weight	55%	ADDITOL VXW 6396	
		●	●			●	●	●	●				●								●		●		●	Silicone tenside	50%	ADDITOL VXW 6503	
●	●			●	●						●			●	●		●		●							Modified silicone	14%	ADDITOL XL 121	
●	●			●	●						●			●	●		●		●							Modified silicone	45%	ADDITOL XL 122N	
●	●	●	●	●	●	●	●		●	●	●	●	●	●	●		●		●	●	●	●	●	●	●	Modified silicone	50%	ADDITOL XL 123N	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●		●	●	●	●	●	●	●	Modified silicone	50%	ADDITOL XL 125N	
●	●			●	●					●	●	●		●	●		●		●							Silicone-modified acrylic copolymer	30%	ADDITOL XL 132	
		●	●			●	●		●				●								●		●		●	Modified silicone	50%	ADDITOL XW 329	
●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	Polyether-modified silicone	40%	ADDITOL VXL 4930	
●	●	●	●	●	●	●	●		●	●	●	●	●	●	●		●		●	●	●	●	●	●	●	Modified silicone	100%	ADDITOL XL 6524	
●	●			●	●					●	●	●		●	●	●	●		●	●	●				●	Modified acrylic polymer	100%	ADDITOL XL 6526	

Description
Multi-purpose leveling additive to improve surface conditions and prevent pin holes and crater formation. Also efficient against oil contaminations.
Low molecular weight leveling additive for improved surface and anti-crater effect. Very good compatibility in all major solvent-borne systems. Especially recommended for car refinish applicaitons.
Medium molecular weight acrylic leveling additive to improve flow and surface quality. Effective against film defects.
Medium molecular weight acrylic leveling additive to improve flow and surface quality. Effective against film defects.
Crosslinkable leveling additive to improve flow and surface quality. It prevents surface defects.
Highly efficient flow promoter with excellent degassing properties. Recommended for all solvent-borne systems, especially for pigmented top coats. Easy handling and incorporation.
Highly efficient flow promoter with excellent degassing properties. Recommended for all solvent-borne and high solid systems, especially for pigmented top coats.
Medium molecular weight, highly efficient flow modifier. Good compatibility and easy incorloration, fast mode of action. Recommended also in clear coat applications.
Low molecular weight, high efficient and crosslinkable flow modifier. It reduces film defects and strongly increases gloss levels. Recommended for al solvent-borne high end applications.
Highly efficient flow promoter with excellent degassing properties. Recommended for all solvent-borne systems, especially for pigmented top coats.
Medium molecular weight flow and leveling additive. It supports pigment wetting and allows a fast degassing process.
Special flow and leveling additive.
Low molecular weight, high efficient and crosslinkable flow modifier. It reduces film defects and strongly increases gloss levels. Recommended for al water-borne paints and lacquers.
Silicone free, substrate wetting and leveling additive with improvement of intercoat adhesion. It is crosslinkable and does not stabilize foam.
Silicone free, substrate wetting and leveling additive for difficult wettable substrates or not perfect cleaned surfaces. It is not foam stabilizing and does not harm intercoat adhesion.
Silicone free, substrate wetting and leveling additive for difficult wettable substrates or not perfect cleaned surfaces. It is recommended especially in solvent-borne systems.
Silicone free, substrate wetting and leveling additive for difficult wettable substrates or not perfect cleaned surfaces. Very low molecular weight allows fast mode of action. It is not foam stabilizing and does not harm intercoat adhesion.
Special silicone tenside with very strong influence on surface tension and excellent substrate wetting performance. It is not foam stabilizing and does not show problems in recoatability.
Silicone leveling additive that strongly increases slip and scratch resistance. Further it improves material flow.
Silicone leveling additive to improve surface quality, slip and substrate wetting. Very good compatibility.
Silicone leveling additive to improve slip and scratch resistance. It has degassing properties and is thermostable up to 400°C.
Troubleshooting additive with very strong anti-crater and anti-orange peel effect. It reduces Bénard cells formation and is recommended as post additive.
Special silicone leveling additive to enhance flow and reduce pin holes. Very good degassing effect. Especially recommended for Epoxy systems.
Silicone additive to improve flow and scratch resistance.
Universal, silicone leveling additive with very good compatibility. It is very well balanced in order to improve spray mist absorption, orange peel, cratering and leveling. Highly efficient and not foam stabilizing.
Silicone leveling additive to improve slip and scratch resistance. It has degassing properties and is thermostable up to 400°C. Highly efficient.
Very strong, crosslinkable flow and leveling additive with strong anti-crater and substrate wetting performance. It does not contain free silicone.

	Additive name	Dosage	w/b s/b	Auto	Industry	Architecture
Defoamers (silicone free)	ADDITOL®* XW 375	0,1 – 0,6% total	w			
	ADDITOL® XW 376	0,05 – 0,5% paint	w			
	ADDITOL VXW 4973	0,1 – 0,6% total	w			
	ADDITOL VXW 6211	0,05 – 0,5% total	w			
	ADDITOL VXW 6235	0,2 – 1,0% powder	w			
	ADDITOL VXW 6381	0,1 – 0,5% total	w			
	ADDITOL VXW 6386	0,5 – 1,5% total	w			
	ADDITOL VXW 6392	0,1 – 0,5% total	w			
	ADDITOL VXW 6393	0,1 – 0,5% total	w			
	ADDITOL VXW 6399	0,5 – 1,0% total	w			
Defoamers (silicone)	ADDITOL XW 6544	0,05 – 0,5% total	w			
	ADDITOL XW 372N	0,1 – 0,5% total	w			
	ADDITOL VXL 4951	0,05 – 1,0% total	s			
	ADDITOL VXW 6210N	0,05 – 0,5% total	w			
	ADDITOL VXW 6356	0,05 – 0,2 % total	w			
Air release agents (silicone free)	ADDITOL XW 393	0,5 – 3,0% binder	w			
	ADDITOL VXW 4909	2,0 – 10,0% binder	w			
	ADDITOL VXW 4926	2,0 – 15,0% binder	s w			
	ADDITOL VXW 5907	2,0 – 3,0% binder	w			
	ADDITOL VXW 6397	0,1 – 1,0% total	w			
Air release agents (silicone)	ADDITOL VXW 6500	0,3 – 3,0% total	w			
	ADDITOL XL 6507	0,1 – 1,5% total	s			
	ADDITOL VXL 6501	0,1 – 1,5% total	s			
	CYCAT®* XK 406N	2,0 – 5,0% binder	s			
	CYCAT VXK 6395	0,4 – 8,0% total	s w			
	CYCAT XK 350	5,0 – 20% melamine resin	s			
	CYCAT XK 391	10 – 20% total	s			
	CYCAT VXK 6357	5,0 – 15% melamine resin	s w			
	CYCAT VXK 6364	1,0 – 7,0% melamine resin	s w			
	CYCAT VXK 6365	5,0 – 15% binder	w			
Catalysts	CYCAT VXK 6378N	6,0 – 8,0% binder	s w			
	CYCAT 296-9	0,5 – 5,0%	s w			
	CYCAT 500	0,5 – 5,0%	s w			
	CYCAT 600	0,5 – 5,0%	s w			
	CYCAT 4040	0,5 – 5,0%	s w			
	CYCAT 4045	0,5 – 5,0%	s w			

* ADDITOL additives
* CYCAT catalysts

Acrylics, thermopl.	Acrylics, stoving	Acrylics, thermopl. w/b	Acrylics, stoving, w/b	Alkyds air-drying	Alkyd/Amino systems	Alkyds air-drying, w/b	Alkyd/Amino systems, w/b	Dispersion paints	Dispersion lacquers	2K-Epoxy-systems	Epoxy esters, stoving	Epoxy esters air-drying	2K-Epoxy systems, w/b	PE/Amino systems, oil-free	NC combi systems	Phenolic systems	Polyurethane systems	Powder Coatings	Acid curing systems	Hybrid systems	UV s/b and 100%	UV w/b	2K-Polyurethanes, w/b	Characteristics	% Active matter	Additive name		
		●				●		●	●											●		●	●	●	Mineral oil, waxes	100%	ADDITOL XW 375	
		●				●		●	●												●		●	●	●	Mineral oil / wax emulsion	50%	ADDITOL XW 376
		●	●			●	●	●	●												●		●	●	●	Mineral oil, waxes	100%	ADDITOL VXW 4973
						●			●				●								●		●	●	●	Hydrocarbons; hydrophobic solid particles	100%	ADDITOL VXW 6211
													●													Defoaming compounds applied on silica; dry powder	60%	ADDITOL VXW 6235
		●				●		●	●				●								●				●	Mineral oil, waxes	100%	ADDITOL VXW 6381
		●	●			●	●	●	●														●		●	Hydrocarbons, waxes	100%	ADDITOL VXW 6386
								●	●																	Special mineral oil, waxes; low odour	100%	ADDITOL VXW 6392
				●		●		●	●				●													Special mineral oil, waxes; low odour	100%	ADDITOL VXW 6393
			●				●		●																●	Hydrocarbons; hydrophobic solid particles	100%	ADDITOL VXW 6399
						●			●				●										●	●	●	Polymer defoamer, VOC free	100%	ADDITOL XW 6544
●	●	●		●		●		●	●				●							●					●	Mineral oil, waxes; silicone containing	100%	ADDITOL XW 372N
		●				●		●	●				●		●											Fluoro-modified silicone	20%	ADDITOL VXL 4951
		●				●		●	●				●													Modified silicone; blend of hydrocarbons	100%	ADDITOL VXW 6210N
						●			●																●	Emulsion of special silicones	30%	ADDITOL VXW 6356
			●			●	●																			Foam reducing compounds	35%	ADDITOL XW 393
		●	●			●	●																		●	Special fatty acid ester	79%	ADDITOL VXW 4909
		●	●	●	●	●	●																●		●	Special fatty acid ester	100%	ADDITOL VXW 4926
		●	●			●		●																		Degassing / defoaming polymer; surface active	100%	ADDITOL VXW 5907
		●	●		●	●	●														●				●	Solution of defoaming polymers in special hydrocarbons; silicone-free	100%	ADDITOL VXW 6397
		●	●		●	●	●	●					●												●	Degassing polymers; hydrocarbons; silicone-free	100%	ADDITOL VXW 6500
●	●			●	●					●	●	●		●	●	●	●								●	Degassing / defoaming polymers; silicone-free	100%	ADDITOL XL 6507
●	●			●	●					●	●	●		●	●	●	●								●	Degassing / defoaming polymers; silicone containing	100%	ADDITOL VXL 6501
																										Phosphoric acid based catalyst	9%	CYCAT XK 406N
	●		●		●		●				●															Amine blocked sulfonic acid	25%	CYCAT VXK 6395
	●				●																					Organic acid based catalyst	62%	CYCAT XK 350
	●				●																					Organic phosphoric acid compound in solvent	21%	CYCAT XK 391
	●		●		●		●																			pTSA ester	90%	CYCAT VXK 6357
	●		●		●		●																			pTSA neutralized by amine	50%	CYCAT VXK 6364
	●		●		●		●																		●	Resinous, tin containing catalyst	1%	CYCAT VXK 6365
	●		●		●		●																			Organic phosphoric acid compound in solvent	30%	CYCAT VXK 6378N
	●		●		●		●				●			●												Weak phosphoric acid catalyst	50%	CYCAT 296-9
	●		●		●		●				●			●												Strong naphthalene sulfonic acid catalyst	40%	CYCAT 500
	●		●		●		●				●			●												Strong dodecyl benzene sulfonic acid catalyst	70%	CYCAT 600
	●		●		●		●				●			●												Strong alkyl benzene sulfonic acid	40%	CYCAT 4040
	●		●		●		●				●			●												Amine blocked alkyl benzene sulfonic acid catalyst	35%	CYCAT 4045

Description
Highly efficient defoamer for architectural and decorative paint mainly.
High efficient, easy to incorporate defoamer emulsion for architectural and decorative paints mainly.
Highly efficient defoamer with good compatibility and easy incorporation. Broad field of application.
Very strong defoamer for highly pigmented paints or pigment pastes.
Powder defoamer for flooring systems or epoxy cement applications.
FDA-approved defoamer for water-borne systems. Strongly recommended in all water-borne can and coils systems.
Defoamer for high quality lacquers with good compatibility. Homogenize prior use!
Defoamer for wall paints ! Homogenize prior use!
Highly efficient defoamer for architectural and decorative coatings. Low odor, especially for interior applications.
Defoamer for high quality pigmented systems with very good compatibility in many paint systems.
Very efficient defoamer and deaerator for high viscous systems with strong gas incorporations. Excellent re flow effect improves surface quality.
Defoamer with excellent long term stability, enhances flow and leveling.
Very efficient defoamer for solvent-borne paints and lacquers. Strong anti-blistering effect during processing and application.
Heavy duty defoamer recommended for preparation of pigment concentrates and strong foaming systems.
Defoamer for clear and top coats, easy to incorporate.
Defoamer to prevent pin hole formation and improves flow.
Defoamer and deaerator with broad compatibility and easy incorporation, crosslinkable.
Defoamer and deaerator with rheology improvement in order to allow better film build-up. Very fast mode of action, crosslinkable.
Defoamer and deaerator to reduce flash-off time. Recommended for spray applications.
Deaerator with strong efficiency in forced drying and stoving systems. Easy to incorporate and very good in pigmented formulations.
Deaerator with strong efficiency in forced drying and stoving systems. Easy to incorporate and very good in clear coat formulations.
Defoamer and deaerator for all industrial paints and lacquers, high efficient.
Defoamer and deaerator for all industrial paints and lacquers, high efficient, silicone containing.
Accelerates curing of phenolic and phenolic / epoxy systems.
Especially for low temperature stoving applications in general industry and OEM.
Mild catalyst for melamine systems with improved anti-corrosion performance.
Catalyst for 1K-systems.
Reduces stoving temperature/time.
Reduces stoving temperature/time.
Catalyst for water-borne PU-systems.
Catalyst for 1K-systems.
To accelerate the cure reactions of high imino and partially alkylated resins.
Especially recommended for electrocoating and electrostatic spray systems with improved water resistance.
Especially recommended for high solids formulations with hydrocarbon solubility.
Strong acid catalyst for highly alkylated melamine, benzoguanamine, glycoluril and urea resins.
For highly alkylated melamine, benzoguanamine, glycoluril and urea resins. Provides excellent stability in wb and high solid systems.

	Additive name	Dosage	w/b s/b	Auto	Industry	Architecture
Driers	ADDITOL®* VXW 4940N	2,0 – 3,0% binder	w			
	ADDITOL® VXW 4952N	2,0 – 3,0% binder	w			
	ADDITOL VXW 6206	1,0 – 3,0% binder	w			
	ADDITOL VXW 6240	0,5 – 2,5% binder	w			
Rheology modifiers	ADDITOL XW 6533	4,0 – 6,0% binder	s w			
	ADDITOL XL 270	0,1 – 2,0% pigment	s w			
	ADDITOL XL 280	5,0 – 10,0% pigment	s			
	ADDITOL VXW 4934	1,0 – 10,0% binder	w			
	ADDITOL VXW 6387	0,1 – 5,0% pigment	s w			
	ADDITOL XW 6536	0,1 – 5,0% pigment	w			
	ADDITOL VXW 6360	0,1 – 3,0% total	w			
	ADDITOL VXW 6388	0,1 – 3,0% total	w			
	ADDITOL XL 109	0,1 – 2,0% binder	s w			
	ADDITOL XL 197	0,3 – 1,5% binder	s w			
Anti-skinning agents	ADDITOL XL 297	0,2 – 2,0% binder	s w			
	ADDITOL XL 180	0,1 – 1,0% total	s			
Adhesion promoters	ADDITOL XL 186	0,3 – 1,0% total	s			
	ADDITOL VXL 4950		s			
Preservers	ADDITOL VXW 6370	1,0 – 3,0% total	s w			
	ADDITOL VXW 6371	0,05 – 0,4% total	s w			
	ADDITOL VXW 6372	0,05 – 0,5% total	s w			
Reactive diluant	ADDITOL VXL 5915	max. 10% total	s			
Formaldehyde scavenger	ADDITOL VXL 5930	4,0 – 8,0% total	s			
Conductivity additives	ADDITOL VXL 4920	0,1 – 0,8% total	s w			
	ADDITOL VXL 6505	0,1 – 0,8% total	s w			
Anti-gelling agent	ADDITOL XL 150	0,1 – 5,0% pigment	s			
Hammer tone additive	ADDITOL VXL 5905	0,05 – 0,5% total	s w			
Release agents	ADDITOL VXL 1105	2,0 – 5,0% total	s w			
	ADDITOL VXL 6383	2,0 – 5,0% total	s w			
Wood treatment	ADDITOL SXW 6221		w			
Paint remover	ADDITOL XL 102	2,0 – 3,0% total	s			
	ADDITOL SXL 6525	0,1 – 2,0% pigment	s w			

* ADDITOL additives

Acrylics, thermopl.	Acrylics, stoving	Acrylics, thermopl. w/b	Acrylics, stoving, w/b	Alkyds air-drying	Alkyd/Amino systems	Alkyds air-drying, w/b	Alkyd/Amino systems, w/b	Dispersion paints	Dispersion lacquers	2K-Epoxy-systems	Epoxy esters, stoving	Epoxy esters air-drying	2K-Epoxy systems, w/b	PE/Amino systems, oil-free	NC combi systems	Phenolic systems	Polyurethane systems	Powder Coatings	Acid curing systems	Hybrid systems	UV s/b and 100%	UV w/b	2K-Polyurethanes, w/b	Characteristics	% Active matter	Additive name	
						●														●				Combination drier; 3% Co / 3%Ba / 5%Zr in form of emulsion		ADDITOL VXW 4940N	
						●															●				Combination drier; 3% Co / 2% Mn / 4% Zr in form of emulsion		ADDITOL VXW 4952N
						●															●				Combination drier; 5% Co / 0,22%Li / 7,5%Zr; free of nonylphenol ethoxylates		ADDITOL VXW 6206
						●															●				Combination drier; 4% Co / 3,7% Ba / 6,5% Zr; water-free form of delivery		ADDITOL VXW 6240
						●															●				Special accelerated cobalt free combination drier; contains Mn and Zr		ADDITOL XW 6533
●				●		●					●	●	●								●				Modified silicone; amine neutralized	55%	ADDITOL XL 270
●				●		●						●			●						●		●	●	Specially modified montmorillonite clay	36%	ADDITOL XL 280
			●				●																		Modified wax emulsion	35%	ADDITOL VXW 4934
●		●	●	●		●	●		●		●	●	●								●		●	●	Special fatty acids; amine neutralized; silicone-free	60%	ADDITOL VXW 6387
		●				●		●	●				●								●		●	●	Special organic activated clay		ADDITOL XW 6536
		●				●		●	●				●								●		●	●	Polyurethane thickener	30%	ADDITOL VXW 6360
		●				●		●	●				●								●		●	●	Polyurethane thickener	35%	ADDITOL VXW 6388
	●	●		●	●	●	●				●	●									●				Phenolic resin based anti-skinning agent	50%	ADDITOL XL 109
	●	●		●	●	●	●				●	●									●				Phenolic resin based anti-skinning agent; oxime-modified	45%	ADDITOL XL 197
			●			●						●									●				Anti-skinning agent; special oxime	100%	ADDITOL XL 297
	●				●						●			●	●	●	●			●		●			Phosphoric acid compound	98%	ADDITOL XL 180
	●				●						●			●	●	●	●			●		●			Phosphoric acid compound	90%	ADDITOL XL 186
																									Halogenated flash primer	43%	ADDITOL VXL 4950
		●				●		●	●				●								●		●	●	Combination of benzimidazole derivative and octylisothiazolinone	11%	ADDITOL VXW 6370
		●				●		●	●				●								●		●	●	Urea formaldehyde condensation product in combination with isothiazolinone	7%	ADDITOL VXW 6371
		●				●		●	●				●								●		●	●	Blend of chloro-methylisothiazolinone and methylisothiazolinone	2%	ADDITOL VXW 6372
																									Crosslinkable diluent	100%	ADDITOL VXL 5915
																									Formaldehyde scavenger	35%	ADDITOL VXL 5930
●	●	●	●	●	●	●	●		●		●	●		●	●	●	●			●	●	●	●	●	Quaternary ammonium compound	50%	ADDITOL VXL 4920
●	●	●	●	●	●	●	●		●		●	●		●	●	●	●			●	●	●	●	●	Quaternary ammonium compound	50%	ADDITOL VXL 6505
	●			●	●						●	●			●										Anti-gelling agent	32%	ADDITOL XL 150
●		●		●		●			●			●	●								●				Special silicone	10%	ADDITOL VXL 5905
●		●		●		●			●						●						●				Salt of a complex amino carbonic acid	50%	ADDITOL VXL 1105
●		●		●		●			●						●						●				Salt of an alkenyle succinic compound	80%	ADDITOL VXL 6383
																									Waterborne bee wax emulsion	25%	ADDITOL SXW 6221
																									Anion active blend of surfactants	27%	ADDITOL XL 102
●				●		●					●	●	●								●				Modified silicone; amine neutralized	55%	ADDITOL SXL 6525

Description

Contains APEO's; easy to incorporate; enhances surface and through drying.
Easy to incorporate; enhances surface and through drying.
Free of APEO's; enhances surface and through drying.
Enhances surface and through drying.
Allows fast set and through drying and excellent hardness development. Recommended for primers and top coats.
Multi-purpose additive to improve rheology and prevent from settling and floating. Also recommended in high gloss systems.
Rheology modifier to prevent powerful settling of pigments and extenders, improves sagging.
Reduces settling and sagging, enhances edge covering.
Rheology modifier to prevent pigment sedimentation and improves sagging and storage stability.
Special rheology modifier with extremely fast viscosity recovery. Recommended for all high wet film thicknesses e.g. in case of air less application. Prevents sagging and settling at low zero and low shear stress sufficiently.
Associative thickener to control rheology and flow. It improves applicability by roller or brush. Easy to incorporate.
Assosiative thickener to control rheology at low shear stress. Excellent against sedimentation and sagging.
To reduce oxidative drying force of thick layer systems. Also recommended for in-can preservation.
To reduce oxidative drying force in thick layer systems. Also recommended for in-can preservation.
Mainly in-can preservation, no influence on drying characteristics.
Enhances intercoat adhesion.
Enhancement of adhesion, especially intercoat adhesion.
Flash primer for plastics.
Preserver for wood coatings (fungi and algae).
For in-can preservation; low content of free formaldehyde.
For in-can preservation; no free formaldehyde.
Adjustment of reactivity in unsaturated polyester systems.
Reduction of formaldehyde emission in acid curing systems.
Increases conductivity of electrostatically applied lacquers.
Increases conductivity of electrostatically applied lacquers.
Reduction and stabilization of lacquer viscosity; even thickened lacquers can be redispersed.
Especially for hammer finishes.
For the formulation of strippable coatings; free of organically bound chlorine.
For the formulation of strippable coatings; free of organically bound chlorine; TSCA registered.
For semi-mat and open pore wood coatings; ready to use.
Improves efficiency of paint removers based on waxes/paraffines.
Rheology modifier and anti-settling additive with strong anti-floating effect. Recommended mainly for inorganic pigments and fillers.

Cytec Surface Specialties SA/NV

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