

# CYTEC



## Liquid Coating Resins Product Range

*Pioneering Sustainable Change*

## 2 Introduction

### 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 formulations of eco-friendly systems, in compliance with 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, solvent-borne, high solids and water-borne 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.

#### Working together for a Sustainable Change.

Cytec is helping the coating industry to improve its environmental footprint by developing new technologies with distinct ecological advantages.

Cytec's new developments in water-based systems, energy curable resins, low VOC and HAPs-free, renewable raw materials and powder coatings, are only some of the possibilities we offer you to make a difference towards a **Sustainable Change**.

**This brochure is a small selection of our product portfolio classified by applications. For further info on our complete product portfolio, please contact us directly to help you find a solution or go to [www.cytec.com](http://www.cytec.com).**

## Nomenclature and Names

Trade Names	Descriptions
ADDITOL®	Dispersing, leveling, defoaming, drying additives
BECKOPOX®	Water-borne and solvent-borne epoxy resins and hardeners
CYMEL®	Amino crosslinkers
DAOTAN®	Water-borne polyurethane dispersions
DUOFTAL®	Solvent-borne hydroxylated polyesters for isocyanate crosslinking or amino resin crosslinking
DUROXYN®	Water-borne and solvent-borne epoxy ester resins
MACRYNAL®	Water-borne and solvent-borne acrylic polyols for isocyanate crosslinking
MODAFLOW®	Flow and leveling additives
PHENODUR®	Water-borne and solvent-borne phenolic resins
RESYDROL®	Water-borne modified alkyd resins
UCECRYL®	Water-borne acrylic emulsions
VIACRYL®	Water-borne and solvent-borne physically drying/self-crosslinking and baking acrylic resins
VIALKYD®	Solvent-borne alkyd resins



## Additives for Coatings

Application	Technology	Product	Features
Pigment dispersing additive for WB Coatings	High polymeric non-ionic	ADDITOL® VXW 6394 ADDITOL PW 6394w	For pigment slurries and direct grinding. High pigment loading and excellent color performance.
Grinding medium for WB and SB Coatings	Auto emulsifying air drying polymer	ADDITOL XW 6535 ADDITOL PW 6535u	Extreme pigment loading capacity. Low mill base viscosities.
Flow and Leveling for non-aqueous Coatings	Modified acrylic copolymer co-crosslinkable	MODAFLOW® 9200	High end flow promoter with outstanding efficiency in short wave reduction.
Defoamer silicone-free	Hydrophobic polymer	ADDITOL XW 6544 ADDITOL DF 6544w	Strong defoaming and air release efficiency. Anti-pinhole effect.
Combination drier Co-Li-Zr	APEO-free emulsion	ADDITOL VXW 6206 ADDITOL DR 6206u	Very fast drying and hardness development.
Multipurpose system additive	High polymeric non-ionic	ADDITOL XW 6545 ADDITOL PW 6545u	High pigment loading for direct grinding. Excellent substrate wetting.



## Crosslinkers

Application	Technology	Product	Features
Can, Coil, General Industrial, Automotive	Highly Methylated Melamine	CYMEL® 303LF	Delivers high crosslink density, film hardness, flexibility, solvent resistance and chemical resistance. For use in both WB and SB systems.
Can, Coil, General Industrial, Automotive	Highly Butylated Melamine	CYMEL 1156	Delivers the same properties as CYMEL 303LF but resulting films will be softer and more flexible. For use in SB systems only.
Can, Coil, General Industrial, Automotive	Methylated, High Imino Melamine	CYMEL 327	Provides excellent film hardness with some sacrifice in flexibility. Lower temperature cure in WB systems achievable (<140°C). For use in both WB and SB systems.
Can, Appliance Finishes	Methylated/Ethylated Benzoguanamine	CYMEL 1123	Provides superior chemical and corrosion resistance particularly for can coatings and appliance finishes. For internal use only.
Metal Primers and Wood Finishes	Methylated Urea	CYMEL U-65	Fast cure (ambient possible). For use in both WB and SB systems. Not for external use.



## Industrial Coatings

Application	Technology	Product	Features
Primer Air Drying	WB Alkyd 1K	RESYDROL® AY 6150/45WA	Good humidity and corrosion resistance. Easy application.
Primer Air Drying	WB Epoxy 2K	BECKOPOX® EP 386w/52WA + BECKOPOX® VEH 2188w/55WA	Outstanding corrosion performance. Flexible.
Primer Oven Drying	WB Epoxy Ester 1K	RESYDROL® AX 906w/35WA + CYMEL® 303 LF	Good corrosion resistance and pigment wetting. High reactivity.
Topcoat Air Drying	WB Alkyd 1K	RESYDROL AY 6150w/45WA	High gloss. Easy application. Good humidity resistance.
Topcoat Air Drying	WB Acrylics PU 2K	MACRYNAL® VSM 6299w/42WA	Good flow and leveling. High gloss and durability.
Topcoat Air Drying	SB High Solid Acrylic PU 2K	MACRYNAL® SM 2711/70BAC	Blending resin to improve drying and reduce hardener demand.
Topcoat Air Drying	SB Acrylic PU 2K	MACRYNAL SM 516/70BAC	Excellent flow and leveling in pigmented and clear coatings. High gloss and durability.
Topcoat Oven Drying	WB Alkyd 1K	RESYDROL AN 6618w/42WA + CYMEL® 303 LF	High gloss. Good pigment wetting. Low bake possible.
Monocoat (DTM) Air Drying	WB Alkyd 1K	RESYDROL AY 6150w/45WA	Good humidity and corrosion resistance. Easy application. High gloss.
Monocoat (DTM) Air Drying	WB Cationic Epoxy 1K	BECKOPOX EM 2120w/45WA	Unique 1K system with excellent corrosion and water resistance. Low temperature drying.
Monocoat (DTM) Air Drying	WB Epoxy 2K	BECKOPOX EP 2384w/57WA + BECKOPOX EH 659w/50WA + BECKOPOX EH 2189w/50WA	Solvent-free with excellent corrosion performance. Fast hardness development.
Monocoat (DTM) Air Drying	SB High Solid Acrylic PU 2K	MACRYNAL SM 2711/70BAC	Fast drying. High hardness. Very good corrosion resistance.
Monocoat (DTM) Oven Drying	WB Alkyd 1K	RESYDROL AN 6618w/42WA + CYMEL 303 LF	High film thickness. Good adhesion and pigment wetting. High gloss. Low bake.
Monocoat (DTM) Oven Drying	WB Acrylics 1K	VIACRYL® SC 6827w/46WA	Solvent and formaldehyde free. Excellent adhesion and chemical resistance.

### Guiding Formulation - HG 1087/1 DN - 50 g/l Monocoat anti-rust paint white gloss approx. 70 % / 60°

Weight %	Products
66.1	RESYDROL AY 6150w/45WA
0.3	Ammonia / 25 %
0.1	AMP-90 (1)
1.0	ADDITOL® VXW 4940N, ADDITOL® DR 4940w/N 1:1 diluted in water (drier)
0.3	ADDITOL XL 297, ADDITOL AS 297u (anti-skinning)
0.7	ADDITOL VXL 4930, ADDITOL FL 4930u (Slip and leveling)
18.2	TiO2 R 996 (2)
2.9	NUBIROX® 102 (3)
1.9	Blanc fixe micro (4)
0.5	ADDITOL VXW 6387, ADDITOL RH 6387u (anti-settling)
0.7	ADDITOL VXW 6208, ADDITOL PW 6208w (wetting)
0.4	ADDITOL XW 376, ADDITOL DF 376w (defoamer)
5.5	Deionized water
1.5	ACRYSOL® RM 6000 (thickener) (5)
100.0	



#### Material Sources:

- (1) Angus Chemie, Germany
- (2) Millenium Chemicals – Omya
- (3) Nubiola Spain
- (4) Sachtleben, Germany
- (5) Brenntag, Germany

## Architecture Coatings

Application	Technology	Product	Features
Wood Stain	WB Alkyd 1K	RESYDROL® AY 586w/45WA	Excellent adhesion and penetration on wood. Good open time and durability.
Wood Stain	WB Acrylic 1K	UCECRYL® B 3022	Excellent adhesion on all type of woods. Compatible with alkyd emulsions. Excellent durability.
Wood Trim	WB PUD 1K	DAOTAN® TW 5661/37WA	Excellent flow and applicability. Good blocking resistance. For indoor and outdoor.
Wood Trim	WB Alkyd Urethane 1K	RESYDROL® AZ 6190w/40WA	Early water resistance. Quick hardness development. High gloss.
Wood Trim	SB High Solid Alkyd 1K	VIALKYD® VAF 6091	100% solids used as blending resin for low VOC systems. Low color.
Wall interior paint and primer	WB Alkyd 1K	RESYDROL VAF 6111w/60WA	Partner for acrylic systems to improve adhesion and applicability. Low yellowing.
Wood impregnation	WB Alkyd 1K	RESYDROL VAL 5547w	Excellent penetration on wood. Low grain rising. Oil aspect. 100% solids.
Wood blocking	WB Cationic Epoxy Ester 1K	DUROXYN® EF 2107w/45WA	Excellent blocking properties. Quick and high hardness development. Good early water resistance.
Industrial Wood	WB PUD NMP-free 1K	DAOTAN® TW 6440/43WA	Quick hardness development and excellent chemical resistance. Warm aspect.
Industrial Wood	WB PUD NMP-free 1K and 2K	DAOTAN TW 6493/35WA	Quick hardness development and excellent abrasion resistance. Transparent on wood.
Industrial Wood	SB Alkyd Urethane 1K	VIALKYD TO 608/55SD60	Quick drying. Excellent chemical resistance.
Concrete Tiles	WB Acrylics 1K	UCECRYL® B 1470	Excellent durability. Good water resistance.

### Guiding Formulation Wood Stain - A 5693 P - VOC 60g/l - High gloss white paint

Weight %	Products
60.60	RESYDROL AY 586w/45WA
0.20	Ammonia / 25 %ig
0.45	ADDITOL® XW 6533, ADDITOL DR 6533u (drier combination)
0.20	ADDITOL XL 297, ADDITOL AS 297u (anti skinning agent)
0.20	ADDITOL VXW 6386, ADDITOL DF 6386w (defoamer)
32.00	Pigment paste (*)
0.05	Tint Ayd WD 2018 (optical brightener) (1)
6.30	Deionized water
100.00	

The pigment paste is carefully mixed into RESYDROL AY 586w and additives. Complete with water to adjust viscosity.

### (\*) Pigment paste:

Weight %	Products
17.4	Deionized water
3.6	ADDITOL VXW 6208, ADDITOL PW 6208w (dispersing agent)
1.7	Propylene glycol
0.8	ADDITOL VXW 6214, ADDITOL FL 6214w (leveling and wetting agent)
1.9	ADDITOL VXW 4973, ADDITOL DF 4973w (defoamer)
69.3	Kronos 2310 (2)
5.3	TAFIGEL PUR 80 (rheology modifier) (3)
100.00	

Add in listed order and then disperse on pearl mill for about 40 minutes.

### Material Sources:

- (1) Daniel Products Co., Inc. (Elementis) / Jersey City, New Jersey /USA
- (2) Kronos Titan GmbH / Leverkusen / Germany
- (3) Münzing Chemie GmbH/Heilbronn/Germany



## Plastic Coatings



Application	Technology	Product	Features
Interior Plastic Automotive	WB Acrylic PU 2K	MACRYNAL® VSM 6299w/42WA	High gloss. Excellent leveling and compatibility with WB polyester and PUD resins.
Plastic Primer	WB PUD 2K	DAOTAN® TW 1225/40WANEP	Excellent adhesion and chemical resistance. High flexibility.
Metallic monocoat	WB Polyester 2K	RESYDROL® AN 6181w/50WALG + CYMEL® 327	Low bake. Excellent adhesion on fibre and filler, reinforces plastics. Low thermo yellowing.

## Automotive Car Body Coatings



Application	Technology	Product	Features
Primer Surfacer	WB urethane mod. Alkyd 1K	RESYDROL® AZ 6620w/36WA + CYMEL® 303 LF	Very good stone chip properties, excellent gloss and leveling.
Primer Surfacer	SB Polyester 1K	VIALKYD® AN 950/70X + CYMEL 370	Well balanced overall properties.
Basecoat	SB Polyester 1K	VIALKYD® AN 950/70X + CYMEL MI-97-IX	Good CAB compatibility, good pigment wetting and outdoor durability.
Basecoat	WB PUD 1K	DAOTAN® TW 6464/36WA + CYMEL 327	Excellent appearance and metallic effect, good adhesion to plastic.
Clearcoat	SB High Solid Acrylic 2K	MACRYNAL® SM 2930/70BAC	Excellent outdoor durability, very good chemical resistance and mechanical properties.
Clearcoat	SB High Solid Acrylic 1K	VIACRYL® SC 2960/75SNA + CYMEL 203	Very good etch and scratch resistance properties.
Topcoat	SB mod. Acrylic 1K	VIACRYL® VSC 5754/60SNABAC + CYMEL 203	Excellent outdoor durability, very good chemical resistance properties, high gloss and hardness.
Topcoat	WB mod. Acrylic 1K	VIACRYL SC 6807w/43WA + CYMEL 327	Excellent leveling, high gloss and very good outdoor durability.

## Automotive Refinish Coatings



Application	Technology	Product	Features
Primer Surfacer	SB Acrylic PU 2K	MACRYNAL SM 513/60LG	Fast drying. Good sandability.
Base Coat	WB PUD 1K	DAOTAN VTW 1262/35WA	High flexibility. Good shear stability.
Clear Coat / Topcoat	SB High Solid Acrylic PU 2K	MACRYNAL SM 2810/75BAC	Excellent high chemical, solvents and weathering resistance.
Clear Coat / Topcoat	SB Medium Solid Acrylic PU 2K	MACRYNAL SM 516/70BAC	Good outdoor stability. High gloss.

### Guiding Formulation – MR 1122/2 - 2 Pack High Solids Clear Coat VOC 380 g/l. Tack free time at room temperature: approx. 6h

#### Comp A.

Weight %	Products
76.05	MACRYNAL SM 2810/75BAC
6.73	Xylene
6.73	Methoxy propyl acetate
6.73	Butyl acetate
2.00	CYASORB CYENERGY® L143-50X
0.17	ADDITOL® VXL 4930, ADDITOL® FL 4930u (slip and leveling agent)
1.48	METATIN® 712/1% in xylene (catalyst) (1)
0.10	Diethyl ethanolamine (catalyst)
100.00	

#### Comp B.

Weight %	Products
28.18	Desmodur N 3300
10.75	Butyl acetate (2)
2.69	Solventnaphtha 150/180
4.48	Xylene
46.10	

#### Processing :

Mix comp. A in mentioned order and homogenize well for 30 min.  
Add comp. B immediately before application and homogenize.

#### Material Sources:

- (1) Acima Ag, Buchs SG, Switzerland  
(2) Bayer AG, Leverkusen, Germany

## Coil Coatings

Application	Technology	Product	Features
Primer and topcoat	WB Polyester 1K	RESYDROL® AN 6618w/42WA + CYMEL® 303LF	Solvent-free polyester with high crosslinking speed.
Primer and topcoat	SB Polyester 1K	DUROFTAL® PE 6163/66SNABG + CYMEL® 303LF	Excellent flexibility and outdoor resistance.



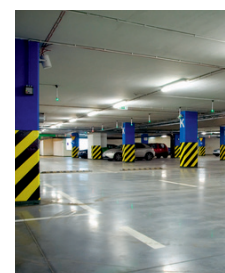
## Can Coatings

Application	Technology	Product	Features
Interior cans – BisA and BADGE free	SB Phenolic 1K	PHENODUR® PR 722/53BG/B	Cost efficient with well balanced technical performance.
Interior cans – coloring resin – BisA and BADGE free	SB Phenolic 1K	PHENODUR® PR 308/62MP	Tinting resin for gold lacquers.
Exterior and Interior cans – BisA and BADGE free	SB Polyester 1K	DUROFTAL® PE 6160/50MPAC	Oil-free, saturated polyester, FDA and EU food contact compliant, excellent flexibility.
Interior cans – BisA and BADGE free	SB Polyester 1K	DUROFTAL VPE 6104/60MPAC	Oil-free, saturated polyester, FDA and EU food contact compliant, well balanced technical performance.
Interior cans – BisA and BADGE free	SB Phenolic 1K	PHENODUR PR 612/80B	High solid, low viscosity type for gold lacquers. Excellent flexibility.
Interior cans – BisA and BADGE free	SB Phenolic 1K	PHENODUR PR 516/60B	High reactivity, water dispersable, for gold lacquers with polyester and epoxy resins.



## Concrete Coatings

Application	Technology	Product	Features
Interior abrasion resistant	WB Epoxy 2K	BECKOPOX® EP 384w/53WAMP + BECKOPOX® EP 147w + BECKOPOX EH 623w/80WA	Universal system for floors and walls. Fast drying.
Interior chemical resistant	WB Epoxy 2K	BECKOPOX EP 147w + BECKOPOX EH 623w/80WA	Excellent chemical resistance and hot tire pick-up resistance.
Exterior weather and hot tire resistant	WB Acrylic 1K	UCECRYL® B 3025	1K system with excellent hot tire resistance.



Guiding Formulation Low Thickness - A 5678 - EP-2 Component-top coat, grey, water dilutable. gloss approx. 90 % / 60°. Pot-life approx. 4 h

Weight %	Products
27.40	BECKOPOX EH 623w/80WA
28.00	Deionized water
1.00	SURFYNOL® SE-F (wetting agent) (1)
29.30	KRONOS® 2059 (2)
0.60	BAYFERROX® 920 (3)
1.25	BAYFERROX® 306 (3)
3.90	MICRO TALC® IT extra (4)
3.90	PLASTORIT® 0000 (5)
0.40	AEROSIL® 200 (6)
1.25	COLLACRAL® PU 85 (thickener) (7)
1.30	ADDITOL® VXW 4926, ADDITOL DF 4926u (defoamer)
0.40	ADDITOL XL 132, ADDITOL FL 132s (leveling agent)
1.30	Ethanol
100.0	

Weight %	Products
61.7	BECKOPOX EP 384w/53WAMP
14.0	BECKOPOX EP 147w*
24.3	Deionized water
100.0	

\* Pre-emulsify BECKOPOX EP 147w with a part of deionized water before mixing with EP 384w

Material Sources:

- (1) Air Products and Chemicals Inc., Allentown, PA, USA
- (2) Kronos Titan GmbH, Leverkusen, Germany
- (3) Bayer Ag, Leverkusen, Germany
- (4) Norwegian Talc Minerals, Bergen, Norway
- (5) Naintsch Mineral Werke GmbH, Graz, Austria
- (6) Degussa, Frankfurt-Main, Germany
- (7) Basf Ag, Ludwigshafen-Rhein, Germany

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# CYTEC

Delivering Technology Beyond  
Our Customers' Imagination™

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Pub. No. LCR-0004-C-EN-EU-04B

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