

NEXT GENERATION COBALT-FREE PAINT DRIERS



ADDITOL® DRY CF100
ADDITOL® DRY CF103
ADDITOL® DRY CF200
ADDITOL® DRY CF300

Compliance without Compromise
...look to our new offering for our cobalt free
paint and Ink driers series
ADDITOL® dry CF Series



ADDITOL® dry CF Series – allnex's next generation cobalt-free paint drier technology



ADDITOL® dry CF Series is allnex's next generation cobalt-free series of paint driers that have been designed for global* availability and premium performance.

Key performance highlights

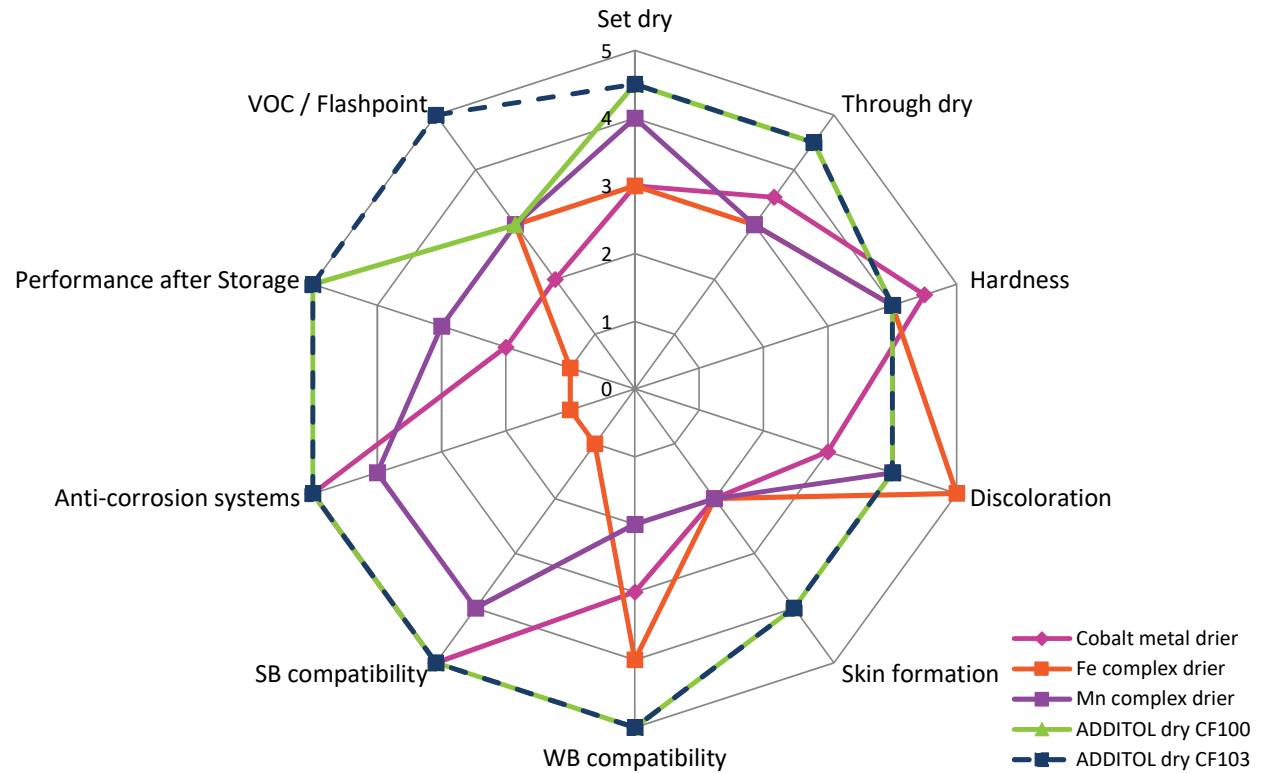
- Excellent performance stability – formulated paint remains stable for extended periods and typical loss of coatings performance is NOT seen with these driers
- Low discoloration – improved yellowing over traditional cobalt driers
- Universal use – compatible with water-based, solvent-based, high solids and ultra high solids paint formulations
- Improved corrosion resistance for DTM applications
- Early hardness development
- Improved surface wrinkling allowing for high end film appearance
- Used to develop low VOC alkyd paint formulations
- **Our newest product, ADDITOL dry CF103, now being introduced to our expanding portfolio has all the performance benefits of the previous CF products, while now having the lowest VOC, reduced odor and high flashpoint. Shows improved performance in bio-based and long oil based systems**

*Registration in progress

ADDITOL® dry CF Series - Product Line

Primary Driers		Secondary Driers	
ADDITOL® dry CF 100	ADDITOL® dry CF 103	ADDITOL® dry CF 200	ADDITOL® dry CF 300
Cobalt-free Primary Drier	Cobalt-free Primary Drier	Cobalt-free Auxiliary Driers	
Universal drier – can be used with solvent-based, water-based, high solids and ultra high solids systems		Used with ADDITOL dry CF 100 or ADDITOL dry CF 103 in both solvent and water-based systems. Combined with CF100 & 103 both products provide optimum balance of drying speed and through dry	
<ul style="list-style-type: none"> • Best dry time and reduced skinning tendency • Long lasting performance • Best for deco applications 	<ul style="list-style-type: none"> • Lowest VOC drier • Low Odor • High flashpoint • Designed for Industrial Inks and Coatings 	<ul style="list-style-type: none"> • Zirconium/Lithium • Can be used in systems where cure at lower temperatures is needed • Best set dry 	<ul style="list-style-type: none"> • Barium/ Zirconium • High gloss systems • Good pigment wetting • Best through dry
Minimal color impact, Clear and pigmented systems, Excellent hardness development, Used to formulate Low VOC coatings, Exceptional storage stability, No impact on final coating appearance			
Current allnex customers using ADDITOL® cobalt containing combination driers should expect to be able to drop in these products with no to minimal reformulation. Replace ADDITOL VXW 6206 with CF 100&200 and ADDITOL VXW 4940N with CF 100&300			

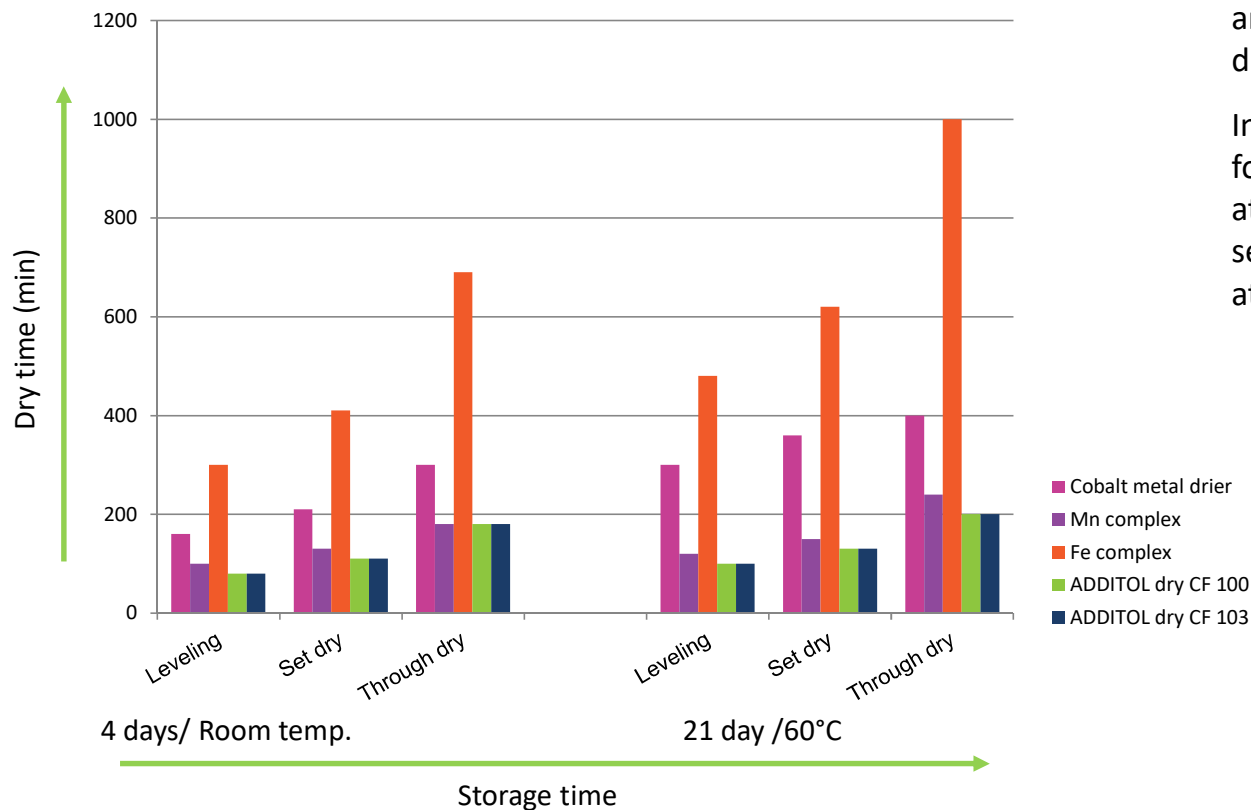
ADDITOL® dry CF Series – performance in paint allnex's next generation driers versus competitive cobalt and cobalt alternative driers



allnex's dedicated additives R&D team has been able to meet the industry challenge of bringing a more environmental friendly product to the market that out performs the product it is replacing.

ADDITOL® dry CF Series – Spotlight on Stability Performance

Drying performance and stability test in a HS long oil alkyd white paint
(Auxiliary driers are Ca and Zr; accelerated ageing in a hot box 60°)



allnex's cobalt-free driers in a typical alkyd system – show the storage stability of the paint formula and excellent dry time achieved using the ADDITOL dry CF Series driers.

In the second series you can see that when a formulated paint is stored for an extended period at elevated temperatures only the ADDITOL dry CF series remains stable for all three measured attributes.



ADDITOL® dry CF Series – Typical areas of use



The ADDITOL dry CF Series will find typical use in the following segments:

- Architectural enamels and trim paints
- Wood finishes – clear and pigmented
- Oxidatively drying industrial coatings
- Light duty marine & protective enamels
- Inks of various types

For use in oxidative drying systems based on water and solvent-borne:

- Alkyds
- Urethane alkyds and oils
- Copolymer alkyds
- Epoxy esters
- Varnishes
- Natural and Bio-based Oils

ADDITOL® dry CF Series – Conclusions



allnex has developed ADDITOL dry CF Series as a next generation cobalt-free paint drier solution. This series is able to meet impending regulations against the use of cobalt while still exceeding the performance of both, the traditional cobalt containing products and the commercial cobalt-free systems.

The ADDITOL dry CF Series of cobalt-free paint driers will help paint formulators as they:

- Overcome deterioration of paint performance seen when traditional systems are stored for extended periods
- Can be used to develop low VOC paint formulations
- All the products in the series have universal usage in either water-based or solvent- based formulations
- Excellent corrosion performance makes it perfect for DTM systems
- Minimal colour impact allowing greater freedom in formulation of paints
- **ADDITOL dry CF103, has been designed for Ultra low VOC, low odor and high flashpoint, while still providing outstanding performance like ADDITOL dry CF100, that has shown to be the leader in cobalt-free driers technologies**

CONTACT



For further technical information and inquires please contact your regular allnex representative or Technical Service & Business Development Managers:

Please Visit our website at www.allnex.com

Technical Data Sheets

ADDITOL® dry CF100 - [ADDITOL dry CF100](#)

ADDITOL® dry CF103 - [ADDITOL dry CF103](#)

ADDITOL® dry CF200 - [ADDITOL dry CF200](#)

ADDITOL® dry CF300 - [ADDITOL dry CF300](#)

Other Important Places to Visit

Watch our short Video Introduction to our ADDITOL® dry CF Series

[Introduction ADDITOL dry CF Series](#)

Visit our On-line Additive Selector Tool

[allnex Additive Selector Tool](#)

Link to allnex Additive Selector Tool

[Additives Selector Tool](#)

ADDITOL® dry CF 100 and CF 103 Application



Application

- Can be added directly to the paint system at any stage of production
- Dosages of 0.3 to 0.9% calculated on solid binder are recommended for medium solids and water-borne alkyds
- Ultra high solid alkyds require up to 1.3% calculated on solid binder-
- When being used for direct cobalt replacement in existing formulations: ADDITOL dry CF 100/103 can be used in FOD at same levels as a cobalt 10%
- The new products can be combined with all common secondary and auxiliary driers, e.g. aluminium, barium, calcium, lithium, potassium, strontium, zinc or zirconium.
- In some cases the auxiliary driers have to be adjusted when switching from cobalt to our new products (we have seen that higher levels of zirconium are needed).

allnex's ADDITOL® CF series Starting Point Formulas

SPF based on SETAL® 312 SM-88 Cobalt free

Brush able glossy white topcoat

Mill base:	17,00	SETAL® 312 SM-88
	3,34	Shellsol D40
	0,38	Ca 10% (auxiliary drier)
	33,04	Kronos 2190
	53,76	
Let down:	30,55	SETAL® 312 SM-88
	54,05	Millbase
	4,00	Shellsol D40
	1,66	Zr 12% (auxiliary drier)
	0,42	ADDITOL® dry CF 100 (co free drier)
	0,25	ADDITOL® XL 297 (anti skinning agent)
	9,07	Shellsol D40
	100,00	

SPF based on RESYDROL® AY 6150w/45WA Cobalt free

DTM anti-corrosion monolayer, glossy

Mill base:	66,10	RESYDROL® AY 6150w/45 WA
	0,30	Ammonia /25%
	0,10	AMP-90 (multipurpose additive)
	0,30	ADDITOL® dry CF 100 (co free drier)
	0,45	ADDITOL® dry CF 200 (auxiliary drier)
	0,30	ADDITOL® XL 297 (anti-skinning additive)
	0,70	ADDITOL® VXL 4930 (slip & leveling additive)
	18,20	Kronos 2190
	2,90	Nubirox 102
	1,90	Blanc fixe micro
	0,50	ADDITOL® VXW 6387 (anti-settling additive)
	0,70	ADDITOL® VXW 6208 (dispersing additive)
	0,40	ADDITOL® XW 376 (foam control additive)
Let down:	5,75	water deion.
	1,5	Acrysol RM 6000/Fod. (thickener)
	100,0	

allnex's next generation cobalt free driers are compatible in WB as well as SB, HS & UHS alkyd paint formulations.

SETAL 312 SM-88 is a solventborne alkyd
RESYDROL AY 6150W/45WA is an alkyd dispersion

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The Coating Resins Company

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