

Chromate Free Performance for Steel



BeckryPrim Chrome Free Primers

BeckryPrim Chrome Free Primers are the result of more than 10 years of extensive studies on more than 770 systems.

Examples of our range:

• Universal Polyester Primer (BeckryPrim 243)

BeckryPrim 243 family of Chromate Free primers

is derived from our best knowledge. It satisfies all

the RC5 specifications according to EN-10169 (over

specific Chromate-free pretreatments).

BeckryPrim 243 TU:

- ... can be cured either in induction or convection ovens,
- ... is specially designed for tile and building market,
- ... is suitable for all lines, and available in convenient delivery formats (drums, containers, tanks...),
- ... gives the best corrosion resistance of all the chromefree range,
- ... is compatible with all thermosetting topcoats as well as the PVdF finishes,
- ... can be applied at 5 and 15µ DFT,
- ... is suitable for a wide range of substrates,
- ... shows a high coverage.

BeckryPrim 243 T:

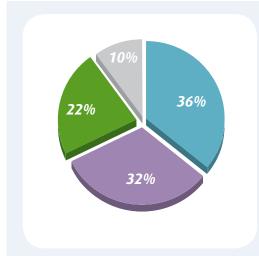
- ... is based on a specific high molecular weight polyester resin,
- ... shows exceptional adhesion and flexibility on all substrates,
- ... is compatible with all thermosetting topcoats,
- ... gives excellent performance for building application where the corrosion resistance is fundamental and for industrial application where the highest flexibility is required (domestic appliance for example).

• High Build PU Primer (BeckryPrim 266)

BeckryPrim 266 family of Chromate Free High Build PU primers is designed for high corrosion resistance systems and satisfies all the RC5 specifications according to EN-10169 (over specific Chromate-free pretreatments).

- ... can be cured either in induction or convection ovens,
- ... can be applied up to 30µ DFT,
- ... is specified for high thickness and high chemical resistance systems, especially in combination with our BeckryDuro topcoats family,
- ... is suitable for severely corrosive environmental conditions,
- ... is DBTL free.

For any specific demand, or a complete overview of the available range, do not hesitate to contact our local offices.



In 2010, Becker Industrial Coatings sold more than 4 000 tons of Chromate Free Primers, on european steel Coil Coatings lines!

• BeckryPrim 266 • BeckryPrim 243 T	36% 22%
• ReckryPrim (DF211 DF219 DF220 DF221)	10%

Beckers **leading** the **future**









For almost 150 years the Swedish Beckers Group has specialized in the paint industry. Originally a local Swedish company, since the 1970's Beckers has expanded and is now a truly global company.

As the leading business unit of the Beckers Group, Becker Industrial Coatings holds the number 1 position in Coil Coatings in Europe.

Becker Industrial Coatings has been continuously growing for the last 20 years. Today we are present in 15 countries with around 20 sites. Our decentralized organization ensures rapid decision-making and strong local support for our customers. Our ambition is to offer global solutions and provide reliable customer services.

At Becker Industrial Coatings, as a pioneer company and a leader in Coil Coatings activity, we believe in partnerships with our customers, bringing sustainable solutions.

Primers:

A must for steel substrates for Coil Coatings: primers offer several functions, from protection of the metal surface against corrosion to ensuring the topcoat adheres to the substrate, and even, in specific cases, contribution to the surface structure or the colour...

For a long time, anticorrosive agents have been chosen from amongst the chrome VI containing pigments, but Beckers has been proposing chrome-free primers for many years in anticipation of the need of the market to minimize the environmental impact of its activity, conforming to the last health and safety regulations.

They trust in us!

















An extensive study...

Becker Industrial Coatings has been working on Chrome Free technology for almost 30 years:

We recognized in the late 80's that chromates would not be sustainable in the future.

We introduced our first commercial product as early as the mid 90's.

In 1997 we anticipated the need of the market to maintain its green credentials in an ever changing world and to further improve this technology, hence we initiated an extensive study consisting on:

- 3 substrates (HDG, Galfan, Galvalume),
- 15 pretreatments (of which 9 were Cr Free),
- 59 primers, both commercial and experimental (of which 29 were Cr Free),

- 3 topcoats (HDP, PvdF, PVC Plastisol),
- Natural tests (Bohus Malmön, on the Swedish west coast, north and south facing),
- 770 systems exposed out of the 7 965 possible combinations,
- 10 years exterior exposure.

In 2001, we completed the experiment with a Chrome Free Pigment evaluation:

- Over 20 Cr free pigments evaluated in a polyester primer formulation,
- Both singly and in conjunction with other Chrome Free pigments,
- Accelerated tests (neutral salt spray, prohesion, humidity) and Natural tests (Bohus Malmön north and south facing) were performed.

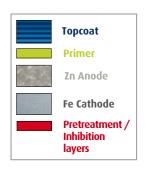


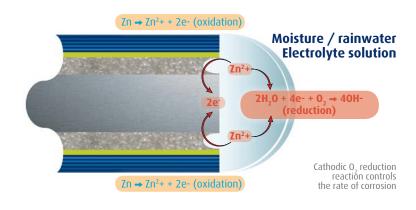
Storm After storm



... from the basics of corrosion mechanisms...

Edge Corrosion





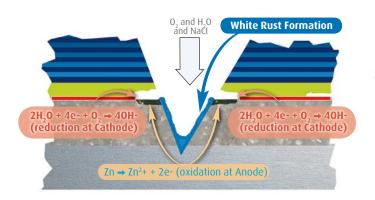
Dissolution of Zinc at
Anode and Reduction of O₂
at Cathode

Zn → Zn²+ + 2e⁻ (oxidation)

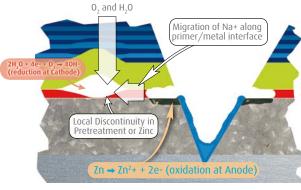
2H₂O + 4e⁻ + O₂ → 4OH(reduction)



Scribe Corrosion



Blistering





... through a whole, flexible, universal range...

To bring the best solutions to the different markets and customers, Becker Industrial Coatings has developed several universal Chrome Free primers, suitable for a wide range of substrates and pretreatments, to be applied in either conventional or high build systems, compatible with most of the topcoats, answering to logistical concerns (from drums to bulk delivery), and also some specific primers.



For example:

- smooth and orange peel primers for domestic appliance with high formability and very good chemical and heat resistance,
- primers with high reactivity that can be applied on very high speed lines, with conventional, induction or NIR curings,
- pretreatment primers to apply without surface treatment on different substrates. The products that are available include both waterborne and RadCure technologies.

We can always develop a bespoke product for a specific application.

So now?

The primer reacts to stop some (or all) of those reactions, and thus stops the corrosion.







... taking into account Environmental concerns!

As a leading manufacturer, the Beckers Group maintains a commitment to protect the environment and minimising the environmental impact of its operational process.

Removing the Chrome VI from the finished products reduces significantly the risk of exposure of the operators to hazardous components (either during the paint production process or on application lines and downstream processing).

Effluents produced on line are free of harmful chromate containing chemicals and thus need less intensive treatment before discharge.

During the lifetime of the prepainted metal and/or recycling, no chromium derivatives are released.







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Beyond The Surface

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