

# Beckers Magazine



Beckers celebrates 150 years



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Layout: Reklambyggen AB  
Editorial service: Translingua AB

# Welcome to Beckers Magazine 2015

2015 marks an important milestone in Beckers' history, being the year of the company's 150th anniversary. Dating from its origins in 1865, the company has made a long, eventful and remarkable journey. I hope you will enjoy reading how Beckers developed from the vision and entrepreneurial spirit of its founder Carl Wilhelm Becker into the international group it has become today.

## **Market expansion**

Our businesses are well on track to attain their long-term strategic goals. In line with our growth strategy, we opened a new site in the commercially attractive Eurasian region at Gebze in Turkey this year. We also focused on untapped market potential, planning to further develop our production footprint in Latin America, where we are currently setting up our own sites in Mexico and Argentina.

## **Organizational realignment**

Earlier this year, we also introduced some changes to our organizational structure and key businesses, to better answer the demands of our customers. This involved adopting a more refined approach towards our Coil Coatings business, splitting the organization geographically into two regional clusters: Europe, Africa & Americas (EA&A) and Asia & Middle East (A&ME).

By integrating the Americas into the robust Europe Africa & Americas (EA&A) unit, we will facilitate knowledge transfer and enable it to gain critical mass. The Asia & Middle East regional cluster now also encompasses the Chinese coil coatings business, creating further synergies in the region.

As well as a new name, our business unit Industrial Coatings (formerly Special Coatings) now features a global organization, ensuring that we are able to serve our customers wherever and whenever they may need us. By focusing on our four core strategic businesses – ACE, Railway, Automotive Plastics Exterior and Truck Trailers – we demonstrate our commitment to serve our customers' best interests.

### **Sustainable innovation**

Beckers has a long history of excellence in technological innovation and sustainability. Since the establishment of the Long Term Development (LTD) unit for coil coatings R&D at our Liverpool site in 1991, our scientists have been developing the most effective and environmentally compatible products, as well as pioneering a range of innovative technologies.

Since then we have extended our centres of excellence to Asia and have also founded a new research lab for Industrial Coatings. Among the latest innovations from the LTD's research lab are 'green' or bio-based coatings, where we are making progress towards a sustainable vision. More about the history and progress of our R&D programmes in the following pages.

Recognizing the critical importance of sustainability, innovation and the development of new business in attaining our vision, we have refined our management structure and established a new senior position within the Group's executive management, that of Chief Technology Officer (CTO). The role of the CTO will be to drive Beckers' technical vision and act as key enabler, linking business strategy with a complementary innovation strategy.

### **Positive outlook**

As well as being the year in which we could celebrate our 150th anniversary, 2015 has been a successful and eventful year on the business front, marked by many positive developments. We feel well prepared for any challenges the future may bring and look forward to new achievements in the year ahead.

I hope you enjoy this latest issue of Beckers Magazine.



Dr. Boris Gorella  
CEO Beckers Group





**Frontpage:**

*Collection of photos from Beckers' archive.*



**Beckers new plant in Mexico**



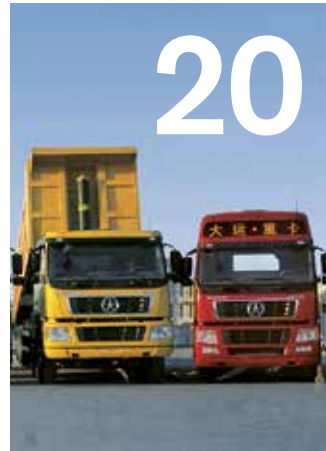
**Beckers Turkey conveniently placed to serve customers**



**Celebrating 150 years!**



**Interview with Mikael Nolborg**



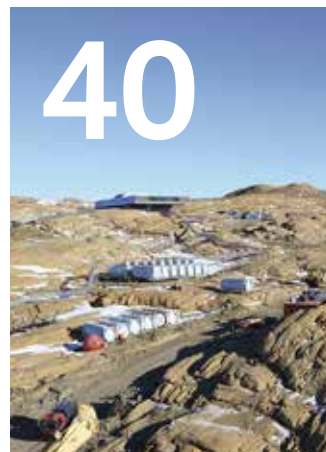
**Industrial Coatings**  
Beckers new global Business Unit



**CDF**  
Global Trend Collection – inspiration in a box



**Green Coatings**  
The level of interest is growing



**Zinc-magnesium coatings**  
– growing popularity



**Beckers in Vietnam**  
A young and dynamic country

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# Beckers poised to flourish in Mexico

With shared revolutionary pasts, a broad commitment to democratic ideals and famously diverse and dynamic cultures, Mexico and France have much in common. The opening up of the Mexican economy in recent years has led to a sharp rise in foreign investment and this, coupled with the potential represented by a young and talented population, makes Mexico an increasingly attractive market.

*Jean-Pierre GENEVAY*



*Beckers' new site in Monterrey, Mexico.*

**In a recent strategic** analysis of the global coil coatings market, Beckers was quick to determine that Mexico offered considerable business potential. In September 2014, Beckers' Board of Directors approved a comprehensive investment strategy that targeted Latin America as a vital area of investment, Mexico being a key element.

## **Tradition of Franco-Mexican cooperation**

French industry enjoys a long and successful tradition of cooperation with Mexico, which hosts no less than 1 600 French companies. The Board's decision to assign project responsibility to Beckers France Coil Coatings team was the natural choice,



given its contacts, market insights and cultural affinities.

As the leading steel producer in Latin America, the Ternium Group was Beckers' first choice as a potential partner for the launch of its coil coating products and services in Mexico: they are ideally suited to Ternium's flat carbon-steel product range. Numbering some 16 900 employees, with an annual production capacity of 11 million tons of finished steel products, Ternium has production facilities in Mexico, Argentina, Colombia, the southern United States and Guatemala.

In Mexico, Ternium's facilities include six coil coating lines in and around Monterrey, in the state of Nuevo León, as well as a bright new industrial centre in Pesqueria. These units produce high-end steel, targeting the automotive and construction industries, as well as general industrial sectors such as major Domestic Appliance OEMs in Mexico. Annual processing capacity is 1.5 million tons of cold-rolled steel and 400 000 tons of galvanized steel. With 3.2 million units produced in 2014, it is worth noting that the Mexican automotive industry now ranks as seventh largest car producer in the world!

## Steel demand on the increase

2015 is expected to witness further acceleration in the growth of the Mexican economy, driven by increased investment in infrastructure and general construction, as well as the ongoing solid performance of the US economy.



Ternium anticipates further expansion in the use of steel, fuelled by a gradual recovery in the construction sector (particularly residential projects) and broad development of industrial activities.

As in Europe some three years ago, the steel industry in Mexico, and thereby Ternium, confront a highly aggressive competitive environment, a consequence of increased steel imports from China, which have driven commodities prices down. In 2014, direct imports of steel products from China to Latin America rose 56% year-on-year, to a record level of 8.3 million tons, representing 12% of total regional consumption. The Mexican Secretary of Economy and the Chamber of the Mexican Iron and Steel Industry (CANACERO) are well aware of the situation and are planning measures against dumping and subsidized imports.

## Radical response to market challenges

Responding to these challenges, Ternium has adopted an aggressive strategy of differentiation to strengthen its position in the Mexican industrial market, focusing on the development of new products, new steel grades, high-end steel products (including new precoated grades) and the provision of enhanced services to leading industrial customers, based on a regional approach.

With its comprehensive range of coil coatings and long experience of downstream markets, Beckers is well qualified to support Ternium's growth strategy. Providing Ternium's Monterrey operations with local access to the complete spectrum of Beckers products and services, backed by the Group's global coil coatings expertise and European research capacity, will make a major contribution to the ongoing success and joint prosperity of both companies. ■



*Ternium a leading Latin American steel producer.*



*Interior at the new site.*



## About Ternium:

**Ternium** is a manufacturer of flat and long steel products with production centers in Argentina, Mexico, Colombia, Guatemala and the United States. It is one of the leading steel companies in Latin America with highly integrated processes to manufacture steel and value-added products. Ternium was formed in 2005 by the consolidation of three companies: Siderar (**Argentina**), Sidor (**Venezuela**) and Hylsa (**Mexico**). The company takes its name from the Latin words Ter (three) and Eternium (eternal) in reference to the integration of the three steel mills. Ternium has 16 900 employees and its headquarters is located in Luxembourg.



# Commitment the key to market leadership in Turkey

*Jean-Pierre GENEVAY*

**J**uly 23<sup>rd</sup> 2015 marked the grand opening of Beckers Coating Boya Sanayi ve Ticaret Ltd Şti., the Group's first full-service production unit in Turkey. The new unit represents a major advance in Beckers Group's logistics capability on the Turkish market. Conveniently located near Istanbul, the Gebze site is ideally placed to serve the majority of the country's coating lines.

Clearly emphasising the Group's strategic commitment to this important market, the inauguration ceremony provided

an excellent opportunity to bring together Beckers' coil coating customers in Turkey, as well as our partners in this important project. The assembled guests heard about the Group's investment in an on-site R&D Laboratory and the expansion of production facilities, all up and running in less than one year. Also highlighted was the installation of a Beckry<sup>®</sup>Mix unit, offering huge gains in service possibilities and more competitive sourcing, speeding lead times for local coil coaters, enhancing their competitive edge over other market players.

## Practical benefits

A practical demonstration of the Beckry® Mix concept's multiple flexibility and speed gains in producing a broad range of special colours and effects was enthusiastically received. One such unit has been installed at aluminium coil coater ALCOAT Metal Boyama Sanayi ve Ticaret AŞ, a producer of aluminium composite panels and corporate identity displays. During a tour of the plant, the Beckry® Mix unit demonstrated the impressively short time needed to produce a custom-formulated drum of paint.

During the day, topics addressed by speakers included the long and venerable history of the Beckers Group (which celebrated its 150th anniversary this year), its strong customer focus and passionate commitment. The occasion also allowed us to reiterate the many ways customers benefit from a close association with Beckers: access to the comprehensive Beckry® product range for buildings and general industrial applications, extensive R&D services and technical assistance, well-proven training programmes and unsurpassed product-integrity testing/ quality assurance.

## Growth market

As the leading paint supplier to the European prepainted steel-and-aluminium market, the enormous potential of

the Turkish market presents us with an irresistible opportunity. As well as having a good number of coil coaters, the dynamics of Turkey's downstream market offer solid long-term potential, from the construction sector to coatings for end-users in sectors such as the domestic appliance market.

One result of a strategic global analysis conducted by Beckers in 2012 was that the market potential for coatings in Turkey was estimated to have a significant market potential. Investment in the new facility will ensure that we are well equipped to meet growing demand, confident that our operations in Turkey will offer the exceptional level of flexibility and local service that our customers in Europe have come to expect.

The Beckers Turkey team faces plenty of challenges. But strongly motivated, young, highly talented and keenly focused on operational excellence, it is determined to excel!

We shall succeed by delivering on our promises, by offering exceptional flexibility, availability and uncompromising professionalism – and by exceeding customers' expectations.

In celebrating the establishment of the 21st production unit in our global network, we have great pleasure in welcoming all our Turkish friends into the Beckers family! ■



Ribbon cutting ceremony inaugurating the new site. From left: SVP Jean-Pierre Genevay, CEO Dr. Boris Gorella, COO Dr. Karsten Eller and Site Manager Koray Savur.



The Beckry® Mix unit at Beckers Turkey.





*From left: Annika Bergman Beckers, Lindéngruppen CEO Erik Urnes, Caroline Harner Beckers, owner Jenny Lindén Urnes, Beckers CEO Dr. Boris Gorella and Beckers SVP Johan Sandström.*

# Beckers celebrates 150<sup>th</sup> anniversary

*Cornelia HUBER*

In 2015, Beckers celebrated an important milestone in its corporate history – its 150<sup>th</sup> anniversary. Established by German chemist Carl Wilhelm Becker in 1865 as a retail paint shop in Stockholm, Beckers developed over the years to become a global leader in industrial coatings. Today the Beckers Group is present on five continents.

**2015 presented** plenty of opportunities to celebrate the Group's anniversary as well as to reflect on the future. Throughout the year, Beckers employees organized local festivities at the sites for all staff to honour the occasion. In line with the company's understanding of social responsibility, the sites were also encouraged to give back to their communities and did so by making a donation to a local charity of their choice.

As well as local celebrations, the anniversary was also commemorated at an official event hosted by Beckers' parent company, Swedish Lindéngruppen. This took place in Stockholm on May 19th. Guests included a number of specially invited Beckers employees, friends and family of the owners, as well as business partners and stakeholders.

A gala dinner was held at Färgfabriken (The Paint Factory), a building that housed Beckers' old factory in the early 20th century, creating the perfect setting for this memorable occasion. Today, Färgfabriken – owned by Lindéngruppen – provides an elegant venue for numerous art exhibitions.

The evening's festivities were opened by Jenny Lindén Urnes, owner and chair of Lindéngruppen, who greeted her guests with an inspiring welcome speech. She

reflected on the company of which her father, Ulf G Lindén, became Managing Director in 1974, and which he later acquired, turning it into the multinational we know today. She also thanked everyone for their continued commitment to Beckers and highlighted the importance of sustainability as a corporate obligation and driver of future success.

Lindéngruppen CEO Erik Urnes as well as Beckers CEO Dr. Boris Gorella also addressed the audience and shared their insights into the company's past achievements and also talked about future goals.

The evening was filled with music by Swedish and South African artists, who provided a colourful potpourri and proved to be skilled stage entertainers. Paying homage to the company's Swedish roots, guests were treated to a delicious Scandinavian-themed dinner.

There was much laughter and many stories shared by those who had journeyed with Beckers through its many phases of development over the years, right up to the present day. The Beckers of today is a strong and successful company that looks forward to celebrating its 300th anniversary in 150 years' time! ▶



*Jenny Lindén Urnes, owner and chair of Lindéngruppen, welcomed the guests to the anniversary celebrations.*



*Färgfabriken formerly housed Beckers' old factory.*

**Beckers Group** is a private global industrial coatings company. The Group is active in three business units (Coil Coatings, Industrial Coatings and Consumer Design Finishes), with operations at 22 sites in 18 countries.

**Numbering** some 1 800 employees, Beckers generated sales of SEK 5 billion in 2014. Founded in Stockholm in 1865 by German chemist Carl Wilhelm Becker, the company has been wholly-owned by the Lindén family since 1985.



Carl Wilhelm Becker.

## Historical review

### Early history

Beckers was founded by Carl Wilhelm Becker, a German chemist who worked as a travelling salesman for the paint industry. His work took him to Russia and Scandinavia. Through his visits Becker developed a particular fondness for Sweden, where the paint market was poorly developed. Seizing the opportunity, he settled in Stockholm in the mid-19th century, founding his own company “AB Wilhelm Becker” and opening a retail paint shop.

Becker initially sold paints, pharmaceuticals and chemicals. After a few years the company added the manufacture of brushes to its portfolio and, barely ten years after its foundation, initiated production of paints and varnishes.

### From retail to industrial paint

Over the years, the company diversified and, in addition to the retail paint segment, branched into industrial paints, which proved highly successful.

The acquisition of Märsta-based Färg & Ferniss Fabriks AB Arvid Lindgren & Co in 1951 was an important step, forming the basis for all future internationalisation. It also granted Beckers access to many well-known brands, setting the stage for the company to become a player on the industrial coatings market.



The first shop was at Malmtorsgatan 5, in Stockholm, Sweden.

### From a European to a global player

Over the next few years, Beckers grew through strategic acquisitions and joint ventures, first in Europe, then in Asia, and eventually in many other regions.

With the start of the new millennium, Beckers exited the consumer paint and some years later the industrial wood finishes markets, consolidating the company’s strategic focus on industrial paints for metal and plastic substrates.

Beckers continues to implement its strategic vision of becoming the most sustainable coatings company.



The acquisition of Färg & Ferniss Fabriks AB Arvid Lindgren & Co granted Beckers access to the industrial coatings market.

### Today

The company pursues its expansion into growing markets, including the UAE, selected Asian regions and other strategic regions, like Turkey and South America.

2015 marks the company’s 150th anniversary. The Beckers Group’s long history provides a firm foundation for the ongoing development of this global enterprise. From materials to technologies and design, Beckers is a leading innovator in today’s industrial coatings industry. ■



# Beckers Group launched its revamped corporate website in October 2015

**The new website** features a fresh design with refined options and some brand-new elements. Layout and content have both been optimized. New features include individual tabs for sustainability and innovation and a project gallery, showcasing completed customer projects.

Our new webpage has a more structured and intuitive navigation menu, while subtly employing features distinctive to the Beckers brand. It also gives a more refined presentation of the Group's three core businesses, to

better clarify and reflect the new organizational setup. Website content has been condensed, making the experience more user-friendly and rewarding, and site interactivity has been optimized.

We will expand our project gallery and look forward to collaborating closely with our customers in adding to the collection! If you are interested in being featured in our project gallery, please contact Beckers Corporate Communications at: [pressoffice@beckers-group.com](mailto:pressoffice@beckers-group.com)

# Interview with Mikael Nolborg Vice President Cold Rolled & Coated Products, SSAB

Johan SANDSTRÖM  
Annika BERGMAN



Photograph: Joakim Folke, ekgren & folke.

**The merger between SSAB and Finland's Ruukki was announced more than a year ago. What benefits have you reaped so far and what synergies do you anticipate?**

– Obviously it is a challenge to merge. However, although our two companies shared many similarities in terms of colour-coated products, our strengths lay largely in different

geographical markets. Both companies were focused on the Nordic countries, of course, but where the former SSAB focused more on Western Europe and Poland, Ruukki focused more on the Baltics, Russia and CIS. One clear benefit will come from the fact that both companies had leading product portfolios and that the new joint product portfolio will



“The best kind of product development is achieved when all stakeholders are involved – from supplier to customer!”

be 'distilled' into a really interesting range of high quality products that will benefit all our customers. Furthermore, the up-scaling of R&D that will derive from combining the two companies' know-how will accelerate the pace of product development, thereby enabling us to stay at the forefront of innovative and sustainable colour-coated solutions. We are also increasing the efficiency and enabling the improved development of our coating platform by concentrating our galvanizing and colour-coating operations to fewer lines, closing down a paint line and a galvanizing line. This change, being implemented right now, is of course complex, but we are determined to ensure that our customers are not negatively affected during the transition. Naturally, it is also important that we have suppliers that are both flexible and reliable.

We are also in the process of ensuring that our products can be manufactured at more than one dedicated site. Actually, we are combining the best qualities of both companies: Ruukki's short lead-times and delivery performance with the SSAB tradition of close cooperation with its partners. Combining these competencies can only make us better!

**What key factors will influence the coil coating industry in the short and long term? Have you noticed any particular trend?**

– The whole industry has of course felt the impact of cheap imports, including coated metals. The slowdown of China's domestic economy has made them more active on the international market. The only way forward

for premium steel companies is to differentiate from cheap imports by striking back with superior quality and best value for money, instead of trying to compete on price. We need to be unique and find niches where we can operate effectively, as with our GreenCoat®, functional, chromate-free and anti-graffiti coatings, where we are recognized as being at the cutting edge. It is in SSAB's DNA to cooperate closely and evolve with customers and suppliers. We believe this is the right way to go for the entire industry.

**How are SSAB's markets developing – rain-water systems, roofing, facades?**

– The markets are driven more by the economic factors affecting certain regions than by demand by individual markets for specific products – the market segments noted in your question go hand in hand rather than standing alone. Urbanization is clearly a driving force for the entire building industry, not only for residential but also for commercial buildings. Our West European markets are doing well right now, while the Russian and CIS economies are weak. And the Swedish market stands out somewhat at present, a consequence of the country's recent building boom in the bigger cities, which started from a very low level due to weak incentives over the past decades. ►



**What future do you see for bio-based solutions with regard to coil coatings in particular and to SSAB and the steel industry in general?**

– Bio-based products are important and, in common with any products that improve sustainability, are clearly becoming more so. However, to be accepted by our customers, the products have to be just as good as (or preferably better than) traditional solutions. To feel confident in a coating's properties, for example, we believe outdoor exposure is a vital aspect of testing. We can never compromise on performance or quality. For us, it is of paramount importance that the bio-based content of the coatings be increased.

Steel is one of the most important materials in today's industrial world. Its carbon footprint is big, however. Nevertheless, steel is fully recyclable, which is why it is so important to increase the level of renewable content in coatings too. Sustainability tops our agenda and is a priority of top management, a subject on which the entire company spends considerable time and effort.

We are moving from a situation where certifications were 'nice to have', to one where they have become essential. One thing is certain – to move forward, we must enjoy the support of all our stakeholders. The whole chain, from supplier to customer, must be involved in responsibility for the entire life cycle of our products. The best kind of product development is achieved when all stakeholders are involved – from supplier to customer! It is safe to assume that the entire steel industry has this issue high on its agenda. And we of course welcome all initiatives from the coatings industry.

**As a member of the newly formed Committee of trade organization Svensk Bygglåt (Swedish Metal Sheet), what future do you see for steel and aluminium as building materials, in terms of sustainability?**

– The Committee's aim is to promote and highlight the unique and favourable properties of all metals – not just steel and aluminium – as building materials. From a sustainable perspective, one of the foremost qualities of metals is their almost infinite recyclability. Compared to the alternatives, metals are highly competitive building materials, from a costs and sustainability viewpoint. SSAB has always been a strong advocate of painted metals, and the Committee will endorse this stance. To further interest in the use of metals in construction, we publish MIA (Metals in Architecture), a magazine mainly directed at architects. We are also creating an online forum ([www.svenskbyggplat.se](http://www.svenskbyggplat.se)), featuring facts and inspiration for architects, property owners, tinsmiths and consumers. ■

**About SSAB:**

SSAB is a Nordic and US-based steel company. SSAB offers value added products and services developed in close cooperation with its customers to create a stronger, lighter and more sustainable world. SSAB has 17 000 employees in over 50 countries. SSAB has production facilities in Sweden, Finland and the US.

**Did you know?**

Domnarvets Jernverk, today a part of SSAB, was founded in 1878 in Borlänge, Sweden, only 13 years after Beckers. In 1968, Beckers supplied paint for the company's first color coating line in Borlänge.

**About**

**Mikael Nolborg:**

Mikael Nolborg has a background at McKinsey & Co and has held several positions in SSAB since 2008. Presently he is the Vice President Cold Rolled & Coated Products and member of the SSAB Europe Divisional Management Team.



# Beckers regroups for future growth

Cornelia HUBER

2015	Global Leadership Team (CEO, COO, CTO, CFO, HR)	
	Europe, Africa & Americas	Asia & Middle East
Coil Coatings	Christophe Sabas	Paul Menezes
Industrial Coatings	Christian Vogel	
Consumer Design Finishes	Christian Kober	

**In January 2015**, following the positive outcome of the annual strategic review, Beckers decided to refine the organization of its core businesses. The comprehensive analysis also confirmed the relevance of the Group's strategic vision. These structural improvements will enable Beckers Group to meet market needs better while also releasing previously untapped potential.

Beckers will retain the structure based on its three core businesses: Coil Coatings, Industrial Coatings and Consumer Design Finishes. Coil Coatings has been split into two business units, divided geographically into regional clusters: Europe, Africa & Americas (EA&A) and Asia & Middle East (A&ME). The previously separate regional unit for the Americas was integrated into the robust Europe & Africa (E&A) unit, to facilitate knowledge transfer and enable it to gain critical mass. The Asia & Middle East regional cluster now also encompasses the Chinese coil coatings business. Though separated geographically, both units will continue to work closely together.

Special Coatings has been renamed Industrial Coatings, becoming a global business units. This set-up will meet customers' needs better and deliver services and products faster. Consumer Design Finishes (CDF) has also introduced improvements at its two prime business lines, Consumer Electronics (CE) and Lifestyle Appliances (LA).

This reorganization will strengthen the Beckers Group in its business sectors across the globe, facilitate customer relations and ultimately contribute to achieving the company's strategic goals and business vision.

# New global strategy ensures enhanced service



Beckers new global Business Unit Industrial Coatings, formed in January 2015, is targeting four strategic industry segments: ACE (Agricultural, Construction and Earth moving equipment), Truck Trailers, Automotive Plastics Exterior and Railway.

*Eric FOUISSAC, Paul HUNT, Mikael LUNDSTRÖM, Hubert BESSETTE*

**Given that most** of our target customers operate regional or global businesses, requiring consistent support and quality wherever located, the adoption of a global structure for the new business unit was essential. During the year, Industrial Coatings

has consolidated its position as a committed partner to key players among the targeted industries. We should like to highlight some examples of how our focused approach is paving the way for successful and long-lasting partnerships with our customers.



Courtesy: Dayun

## AGCO – global partner in the ACE sector

AGCO is one of the world's leading manufacturers of agricultural equipment. AGCO Corporation manufactures combine harvesters, tractors, application equipment, seeding and tillage implements, attachments and material handling equipment, as well as precision-farming equipment.

The company owns numerous brands, including Massey Ferguson, Fendt, Valtra, Challenger, Gleaner, Fella and Sunflower. AGCO also provides farmers with grain storage, conditioning and structures solutions, under the brand name GSI. AGCO operates across the globe, with 22 manufacturing plants producing a complete range of agricultural equipment.

As a global industrial coatings company, Beckers has proved a natural choice of supplier for AGCO. For more than ten years, Beckers has been supplying a range of products to one of AGCO's main plants, located in Beauvais, France. The plant manufactures tractors, mainly for Massey Ferguson (85% of total production), as well as for Challenger and Valtra.

Beckers supplies two of its most technologically advanced products to the Beauvais plant, BeckryPrim 03DT6 and BeckryLac 80BR28 Very High Solid Content. These coatings help AGCO achieve a dramatic

reduction in VOC emissions, taking it a step further towards more sustainable production. These products are also formulated for use on robotic spray lines, enhancing the quality of the coating film and reducing paint consumption.

Valtra's hallmark is innovative technology that offers unrivalled operator comfort, as well as its unique and distinctive metallic finishes. Beckers supplies seven metallic colours for the Valtra range, the most popular being Beckqua® Flex Basecoat TS700-2604 Red Xirallic. The other six colours are Grey, Blue, Green, Black, Orange and White Pearl. We also supply four solid colours, Red being the most common. Plastic components (predominantly Telene) are finished in one of two waterborne systems, Beckqua® 500 2-K Primer TF700- and Beckqua® Flex 1-K Base Coat TS700-, or the solvent-borne Beckry® Flex 2-K Clear Coat TC162. Furthermore, Beckers has recently been approved as coatings supplier to AGCO's three production facilities in China.

Beckers is determined to be the first to offer AGCO a true global partnership geared to its coating needs, ensuring sustainable solutions and consistent and reliable product quality, worldwide. We have demonstrated our commitment by appointing a global key account manager to look after this very important customer, as well as dedicating resources specific to AGCO's requirements. ▶



Assembly line at AGCO's plant in Beauvais, France  
Courtesy: AGCO.



Courtesy: Dayun

## Dayun – newly-formed partnership for Truck Trailers

Beckers China formed a new supply partnership with Dayun Heavy Trucks in July 2015. Dayun Heavy Truck, part of Shanxi Dayun Automobile Manufacturing Co Ltd, is located in Shanxi province. A private enterprise established in 2004, Dayun ranks among the top ten truck and trailer producers in China, with exports to more than 20 countries in Africa, South America and Asia. The company's product range comprises tractor units, dump trucks, cargo vehicles, special vehicles and standard trailers.

Since August 2014, Beckers IC China has worked closely with Dayun, demonstrating the effectiveness of Beckers' Beckry®Dur "Value Line" product range when allied with

our trailer-painting experience and European know-how.

Featuring polyurethane technology, Beckry®Dur ensures high durability with outstanding chemical and property resistance. The Beckry®Dur "Value Line" topcoat has been developed specifically for the Chinese trailer market, where cost and consistent quality are crucial to market penetration.

Supported by the Beckers IC team and confident in the exceptional performance of the Beckry®Dur "Value Line" product range, Dayun is opening a new state-of-the-art manufacturing facility in mid-2016.

We are extremely proud that Dayun Heavy Trucks has chosen to work with Becker Industrial Coatings (Shanghai) Ltd., having awarded us approved supplier status for its trailer manufacturing facility in China.

## Automotive Plastic Exterior cooperates with SMR

With its massive 22% share of the market, Samvardhana Motherson Reflectec (SMR) supplies almost a quarter of the world's rear mirrors for light vehicles. As a Tier 1 supplier, SMR's customer base includes all major car manufacturers in North America, Europe, Asia and Australia.



Beckers has served the automotive plastic exterior Tier 1 suppliers since the 1980ies.

Equipped with state-of-the-art paint shops at all major plants, in addition to painted covers for exterior mirrors, SMR also provides fuel caps, door handles, licence-plate carriers and trim parts matched to the rest of the car body.

Beckers' co-operation with SMR in Spain started in 2014 when we introduced our Beckry®Flex system, developed for exterior plastic components. The system had already been successfully supplied as a finish for plastic components at Volvo, GM and the VW-Group. Beckry®Flex is a superior product that measures up to the demands made on the exterior plastic components of a vehicle subject to normal wear and tear from sunlight, the dirt and grime of everyday driving as well as chemical exposure.

Quite apart from the multiple benefits of Beckry®Flex's coating properties, customers find the system easy to use in their painting processes, contributing to productivity gains and cost savings.

Beckers has served this market segment for many years and has established highly skilled technical teams that are specialized in colour matching and product development. We also provide on-line site support, making us renowned for our customer-centred approach.

Today, we supply SMR with Beckers Beckry®Flex Basecoat DJ360, included in the Beckry®Flex system<sup>1</sup>, for both metallic and solid colours.

## Railway business on a roll in China

A leading promoter of sustainable mobility, Alstom Transport develops and markets the most complete range of systems, equipment and services in the railway sector. Alstom Transport solutions comprises rolling stock, signalling, services and infrastructure which can be offered separately, bundled or supplied as fully integrated solutions.

Alstom Transport is a long-standing customer of Beckers and we have delivered approved solvent-borne and waterborne products for numerous segments over the years: high-speed trains, locomotives, multiple units, passenger coaches, tramways and subway systems.

Shanghai Alstom Transport (SATCO) has received a €72m contract from Shanghai Songjiang Tramway Investment and Operation to deliver 53 Citadis trams for the two first tramways to be built in Songjiang,

a suburb of Shanghai. SATCO is a joint venture between Alstom and Shanghai Rail Traffic Equipment Development (SRTED).

Songjiang district is set to build six tramways, involving a total 800 km of track by 2020. The first two lines, T1 and T2, will involve 31 km of track, connecting 42 stations.

Alstom confirms that this is the first tramway project featuring Alstom Citadis technology in China. The company has so far sold more than 1 900 trams to 49 cities, with 1 600 Citadis trams already in operation.

Beckers China was awarded the contract to supply the paint for the trams' exterior coachwork, marking an important boost to our Railway sector development in China. The selected solvent-borne technology is based on the Beckers European products that are already fully approved by Alstom and other OEMs and rail operators, and already used on many Citadis trams in Europe and elsewhere. Our global presence has meant that colour matching could be assigned to our local team and the products will also be manufactured locally, at our Shanghai plant.

These first trams mark just the first step in the development of this technology in China. Other cities have already expressed interest. ■



Citadis Tramway. Courtesy: Alstom.

1. FD108 Beckry®Flex 1K adhesion promoter (Conductive or non-conductive), DJ360 Beckry®Flex 1K Basecoat (metallic or plain colours), TC152 Beckry®Flex 2K Clearcoat.

# Global Trend Collection

gives a glimpse of  
tomorrow

*Sara EK*



The annual launch of the latest Global Trend Collection marks a key event in the Beckers calendar. Featuring tailor-made samples for the CDF market segments Consumer Electronics and Lifestyle Appliances, the Global Trend Collection provides a tantalizing glimpse of how innovative coating technology can promote future product and design opportunities. Sheer inspiration – in a box!



**Consumer devices** are becoming increasingly similar in terms of function and features. The technical differences become less distinct by the minute, while the line between high-end, mid-level and low-end products is growing more and more blurred. To differentiate products, manufacturers need strong branding and have to fine-tune each product's aesthetic and ergonomic appeal. Mobile phones, coffee machines and many other daily use electronic gadgets have outgrown mere functionality: they are now also fashion accessories, making lifestyle statements about their owners.

Aesthetics are of crucial importance. Superior technology is no longer enough. Superior product design geared to contemporary lifestyles has become a key element in any successful marketing strategy.

## Going the extra mile

Beckers provides attractive products and advanced technologies – but a step further. We analyse and discuss trends with our customers, offering insights as to how fashion and product trends might develop over the coming years. The annual presentation of the Global Trend Collection is our way to share new and creative ideas with our customers at an early stage of the design process while at the same time it is an excellent way to engage the customer early on in the process.

We conduct ongoing analyses of what is happening in the wider world, ranging from economics, politics, sports and general culture to social and environmental concerns. We do this to better anticipate forthcoming trends, to better understand our customers and the way consumers think. Much input comes from various networks, seminars and other trend-defining data. We adopt a broad perspective, examining major trends and extracting what we believe is most relevant to our industry. Based on these major trends, we formulate a vision of the future.

This vision comprises three key elements: trends, narratives and palettes (colour). From this starting point, we



organize an annual global workshop, at which Beckers personnel from different geographical locations and professional disciplines gather to determine how this vision can be expressed through new technologies, colours and effects. Over the space of a few days, we establish the foundations of what will later become the samples found in the Beckers Global Trend Collection, introduced to our customers in conjunction with a 'trend-forecaster' video. The Collection and video offer customers an inspirational insight into the potential for future product designs.

Our in-depth trends research can provide any design-intensive industry with an invaluable source of inspiration. Although primarily intended as a market support tool for our CDF customers, Beckers' trend collections have the potential to serve a much broader range of industries. The inspirational video takes you a step into the future. The trend analysis and video's narrative can be adapted and applied to different ►



markets. The starting point may be the same, but the outcome will be unique for each target group. Our trend narrative has been used as a tool in tailoring sample collections for the Coil Coatings, Domestic Appliance, Automotive and ACE markets.

Contact us and learn how you can benefit!

Let us delve deep into Beckers' latest Global Trend Collection, "In the Capsule", which targets 2016/2017.

## In the Capsule – Global Future Trends 2016/2017

Identify the essential, embrace it, and eliminate the rest!

After years of global uncertainty and an unstable world mood we are finally entering an era of comfort and calm – all is at ease, relaxed and sunny. We are taking a step back, we are confident and positive. The speed of innovation is winding down and the alarming nature of the world's problems shifts from block blacks to milky greys. This is the beginning, the time to sketch out the new, refined and more sustainable state. It is thin, light and delicate – like an embryo taking shape into perfectness. One step at a time, one cell after the other – a new age is brought to life.

The previously scattered and differentiated narratives describing trends are dissolved and merge into a more streamlined approach. Not only will the narrative be more unified, it will also embrace and encapsulate the areas of communication technology, lifestyle appliances, architecture and automotive to mention but a few. Doing the right thing requires transdisciplinary thinking and working, providing inspiration and creativity together. We are facing a more holistic perspective and everything will emerge and take shape from a common visual platform – where we and it will all be comfortably embedded.

Colours are coming back, a much softer and balanced scale than previous seasons, milky and sugar-dusted. The colour green will be the new influencer – not as in green wash – more like a comforting addition to all shades.

Empathy is the capacity and driver to understand the world we live in. It effects how we exchange information and communicate our thoughts and feelings. Empathy is intra-subjective; it influences colours allowing us to see tones from other points of view: scientific, psychological, perceptual and therapeutic for example.

We are in the capsule, just before the moment of rebirth.

## Mindsets

Essential, Streamlined, Transdisciplinary design-thinking, Empathic.

## Colours

We find Whites, Darks and Pastels.

Whites for their lightness and for our wellbeing. It is airy, reflective and soft.

Darks are the complement to the Whites.

Darks for their weight and Blue for its hightechness. The complexity of the Darks talks in a quiet murmur.

Pastels are the empathy that creates smooth connections.

Pastels for their cosiness. It is pastry-like, sugar-coated and cloudy. ■



# Greetings from the CTO

Dear Readers,

**The position** of the Chief Technology Officer (CTO), which I assumed almost a year ago, is new in Beckers' 150-year history. As a member of the company's global leadership team, the CTO's role is to drive Beckers' technical vision and act as key enabler, linking Beckers' business strategy with our complementary innovation strategy. As CTO, my main responsibilities embrace the newly established New Business Development area (at Group level), as well as Innovation and Sustainability.

In developing new business, we build on our wealth of international experience in coatings markets and our unique technology platform, as well as a comprehensive analysis of new global business opportunities. Classic R&D, paired with our strong commitment to a diverse and open-minded corporate culture, is the key success factor, underpinning our customer-driven and innovation-intensive approach.

We will maintain an innovative edge by consistently adjusting our capability profile in terms of our site-specific development and support laboratories and – especially – our three strategic key R&D laboratories.

Our Long Term Development (LTD) laboratories in the UK and Malaysia are wholly dedicated to coil coatings, while our Industrial Coatings business is backed by our Long Term Research (LTR) laboratory in the UK. We are well aware of the need for a robust technology platform to

face the enhanced volatility in our global market environment and that all our new business development activities have an impact and must be compatible with our sustainable vision. We need to maintain our ability to look at the bigger picture. This may involve monitoring our suppliers and raw materials, or the development and supply of bio-based coatings. To promote awareness and stimulate market demand, we have launched a Sustainable Product Index, a grading system, rating the relative sustainability of our products. As well as offering a critical evaluation of product sustainability, this tool will provide clear guidance for our customers and concerning our future investment in R&D resources.

As mentioned above, my strategic imperatives as CTO are clear: to promote new business development, innovation and sustainability throughout the Group, while addressing the technological challenges posed by the global coating markets of tomorrow.

On a personal note, I would like to express my excitement about and commitment to shaping this new role within Beckers Group and the opportunity given to interact with you, its stakeholders. Though I may not have had the pleasure of meeting you yet, I trust it will be sooner rather than later.

*DR. BERND VOGEL*  
CTO



# Green Coatings go to market

In the Becker Magazine 2014, LTD introduced the concept of bio-based coatings; one of the strategic elements we are working on to improve the sustainability of coatings Beckers offers to the coil coating market. A year on from that how is this technology working out? James Maxted of the Long Term Development Group in the UK explains...

James MAXTED

**Over the last** couple of years the level interest in sustainable products and bio-based materials in particular has continued to grow apace. For example the range of raw materials, especially bio-based resins and polymers being offered in the coatings market place has exploded! Moreover EU support for R&D work in this area is now at a very high level; the EU Commission is spending €79 billion funding many different activities related to building a more sustainable and biobased economy. This activity provides a focus for a number of development pathways.

One way is an ever increasing number of bio-based/recycled raw materials that are now on offer; some as fungible (drop-in) alternatives, some as functional alternatives. This has certainly kept us busy as we look to assess their performance and fit in our product portfolios!

Another positive impact for us is that this activity very much supports the stance that Beckers have taken on sustainable devel-

In a sustainable society, nature is not subject to systematically increasing...



... concentrations of substances extracted from the Earth's crust



... concentrations of substances produced by society



... degradation by physical means

And, in that society...



... people are not subject to conditions that systematically undermine their capacity to meet their needs.

Figure 1 The Natural Step sustainability principles.

opment and especially our work within the Framework for Strategic Sustainable Development (FSSD; commonly known as the Natural Step). This is driven by the four system conditions for the sustainability, that together define the minimum conditions needed for a future sustainable society (Figure 1).

The FSSD involves defining an outcome which fully aligns with these sustainability principles. Once this outcome is defined, we then back-cast to what we do today (our baseline). By taking a critical look at the current situation (baseline mapping) we are encouraged to create and then prioritise practical and interconnected steps and milestones that will help us move towards the sustainability goal we have already defined. Sustainable development for us is therefore the journey we make by taking these steps moving towards our goal<sup>1</sup> (Figure 2).

As we look to the future we might envision coatings that are ideally as close to completely renewable as possible, with the organic components sourced either from recycled or (bio) renewable feedstocks. Our ideal is to use resins that would be 100% bio-based and/or partly recycled, without the need to use feedstocks that compete with the demands for food production. The coatings would be pigmented and filled with materials which are close to 100% renewable or recycled rather than mined and extracted. The energy involved in their manufacture and the manufacture of the final coated product would be minimised, efficiently used and renewably generated. Waste from any of these processes would also be minimised, biodegradable or

recyclable. The coatings must offer the same service life and functionality as products do today without any compromise in performance.

If this then is a vision of the future, as we backcast from this to today, how do coil coatings fare?

In 2008 the then ECCA President Arto Ranta Eskola, stated<sup>2</sup> “Coil coating is still the most efficient, economical and environmentally sensitive means of applying paint to large areas of metal”.

However in the same article it was acknowledged that like any operation, the coil coating process does still have environmental impacts such as energy, resource consumption, waste and emissions that could be reduced further and which all need working on now to deliver a more sustainable, lower-impact future. That is the vision towards which all players in our industry need to work.

Our own baseline mapping, not surprisingly, reveals coil coatings are currently still strongly dependent on petroleum based raw materials and minerals that have to be mined, extracted and processed. In these respects they will be considered non-sustainable according to the FSSD's sustainability principles if the concentrations of such materials builds up a rate faster than nature can deal with them. This clearly prompts us to look at bio-based and recycled materials as alternatives for our coatings raw materials.

Therefore following the FSSD approach in our development work has really helped us to focus on the important steps we need to begin to take as we move to more sustainable coil coatings.

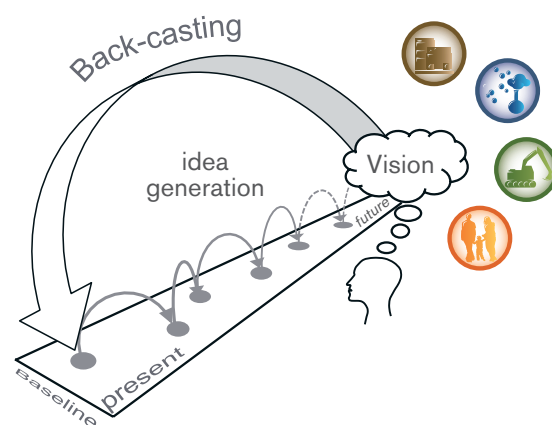


Figure 2 FSSD Backcasting methodology.

For example, we have now a fully developed RUV2/3 exterior coil coating topcoat with bio-content in excess of 20% (on the dried film). This has now been exposed in a range of common RAL shades for 2 years with very promising results albeit at this early stage. Whilst it is not meeting all the objectives of our final vision above, we believe this to be a very good first step.

We have also been busy developing a topcoat system for domestic appliance (white goods) end use. For this market it is very important to achieve a high degree of formability and resistance to staining of various household cleaners and chemicals. A delicate balancing act is therefore needed to achieve the optimum glass transition temperature (T<sub>g</sub>); high formability typically demands lower T<sub>g</sub> whilst good stain resistance requires high T<sub>g</sub> (Figure 3).

Effective solutions are found by controlling the hard component (aromatic) to soft component (aliphatic) balance and the molecular weight of the principal resin. In moving to bio-based resins, we have discovered the challenge is to achieve this same balance point whilst maximising bio-content. ►

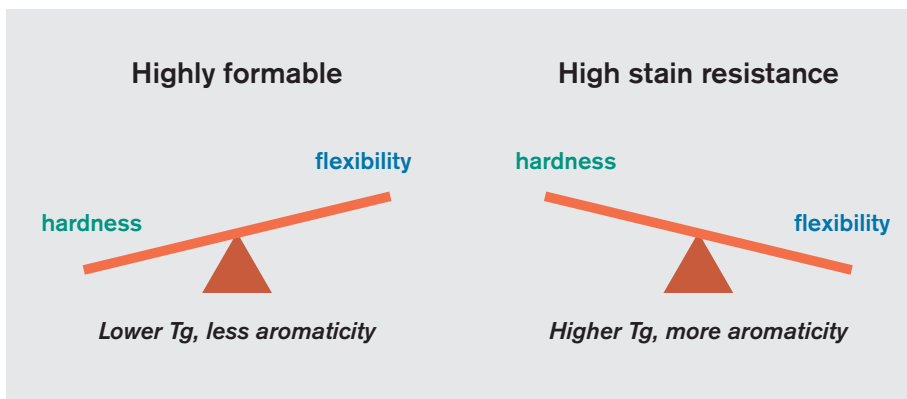


Figure 3 Balancing formability and hardness.

**Formulating coatings** for higher bio-content tends to drive down the hard block aromatic (petroleum based) content, so finding bio-based resins that deliver sufficiently good hardness and formability presents a considerable challenge.

To meet this challenge we have had to undertake a number of experimental designs (DOE) to screen potential bio-based monomers with the objective of understanding which biobased diacids and diols had the strongest influence of glass transition temperature, formability, stain-resistance to name but three key properties.

Putting these results together in a further DOE enabled us to build an optimised resin structure and paint formulation, with carefully balanced bio-content, formability and stain resistance. This gives a formulation with optimised properties as described in the table and stain resistance as shown on next page.

This work has revealed that it is possible to off-set some of the petroleum based aromatic groups with bio-based diols and to a lesser extent biobased diacids and importantly increase the bio-content. The work has shown that we can reduce the overall petroleum based aromatic content, compensating for the reduction in Tg this

might bring by use of the more rigid biobased diols.

Our development work has highlighted the need for caution even though some of the new bio-based monomers look familiar. We have learned that relatively modest compositional changes can impact chemical pathways for degradation, or the performance of a domestic appliance coating in ways not encountered before. This emphasises the importance of actively pursuing careful and thorough laboratory tests and for

exterior products extensive outdoor testing.

From a cost perspective, whilst it is true to say bio-based products are generally more expensive than their petroleum based analogues, we consider that in the longer term this can change as the price of unsustainable production is factored in, e.g. carbon taxes, regulation, not to mention long term increases in basic crude prices as this finite resource becomes depleted. On the flip side, as these new technologies are scaled up, this will naturally drive the cost down. In some cases the biobased routes reduce the necessary number of manufacturing steps and hence embodied energy costs and waste issues are also reduced.

Another, very recent and important development as bio-based coatings move to market in this area, is the growing awareness of the importance of national and international standards that help in the definition, measurement and verification of such coatings<sup>3</sup>. Clear, commonly agreed and independ-

Parameter	Specification	Achieved Value
Bio-based content	Dried film	20 - 30%
Thickness of Organic Coating	EN10169-2: Section 6.2.1.2	18-20 µm + 5-10 µm primer
Colour	EN10169-2: Section 6.2.1.2	Bright white
Specular Gloss	EN13523-2	80 ± 5 % (60° head)
Cupping Test (adhesion)	EN10169-2: Section 6.2.1.5a	No loss of adhesion at 7.5 mm
Cupping Test (flexibility)	EN13523-6	No cracking at 7.5 mm
T-Bend Test (adhesion)	EN10169-2: Section 6.2.1.5b	No loss of adhesion at 0T
T-Bend Test (flexibility)	EN13523-7:	No cracking at 0.5T
Stain resistance	EN13523-18	Performance as standard
Rapid Deformation	EN13523-5	No loss of adhesion at 80 "lbs
Glass Transition Temperature	ASTM E1356-98	> 30° C (DSC)
Micro-indentometry	ISO 14577-1	> 180 N /mm <sup>2</sup> / < 20% Creep 1
Scratch Resistance	EN10169-12: >2500 grams	≥ 2800 grams
Taber Abrasion Resistance	ASTM D4060-14	< 15 mg (CS10, 250 revs, 1kg)

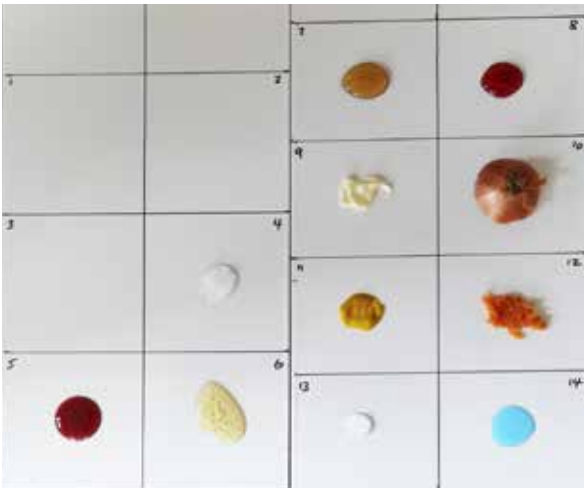
ent statements are becoming vitally important in enabling us to communicate business to business about our coatings' environmental impacts. It is not enough simply to say our coatings are bio-based; this has to be proven and declared in a manner that all of our stakeholders in our value chain understand. So we welcome such initiatives that Europe is taking in this respect.

Whilst there is still some way to go to achieve the full sustainability vision we have described for our coil coatings in the long term, we believe that the step-wise improvements in sustainable develop illustrated here with Beckers bio-based coatings amply demonstrate how we are working to make our ambition a reality. ■

**References.**

1. J. Holmberg, K-H. Robèrt, Backcasting from Non-overlapping Sustainability Principles – a Framework for Strategic Planning. International Journal of Sustainable Development and World Ecology. 7:291-308.2000.
2. European Coil Coating Industry, Coil Coating – Sustainable business. Sustainability Report 2008 -Environmental Statistics of the European Coil Coating Industry.
3. www.cen.eu/news/brochures/brochures/CEN\_Bio-based-products\_2014.pdf. Accessed August 2015.

Bio-based Domestic Appliance Topcoat: Grease and Stain Tests



Reagents

1. Butter @ 40 °C (molten)	2. Soya oil @ 40 °C
3. Lard @ 40 °C (molten)	4. Citric acid @ RT
5. Red wine @ RT	6. Beer @ RT
7. Cola @ RT	8. Blackcurrant juice @ RT
9. Butter @ RT	10. Onion @ RT
11. Mustard @ RT	12. Ground carrot @ RT
13. pH 10 Buffer Soln. @ RT	14. Detergent @ RT

For the third year in succession, the Beckers Group has published its Sustainability Report, prepared according to the G3 guidelines outlined by the internationally recognized Global Reporting Initiative.

# New Sustainability Report published

**The Report highlights** key achievements during the year, including new products and process developments, while also clarifying the company's global goals and describing local initiatives. It also provides a review of Beckers' sustainability initiatives and action taken during 2014. The measures implemented during 2014 have already generated tangible improvements compared to the preceding year.

## Highlights from the Report include:

- Bio-based coil coatings
- Global system for environmental health and safety
- Global loss-prevention standard

A short overview in some of our local languages is also available.



**You can reach us at** [sustainability@becker-group.com](mailto:sustainability@becker-group.com)  
Both the Report and an English version of the leaflet may be downloaded from our website: <http://www.beckers-group.com/sustainability/sustainability-report>





*Outstanding service and product knowledge goes way back at Beckers. Photo at Beckers Sweden, 1960ies.*

# Innovation incubator, research facility – or both?

*Chris LOWE*

Established at its Liverpool site in 1991, the main focus of the Long Term Development (LTD) Laboratory was and is the development of new technology geared to generating new products for Beckers. But its mission has expanded...



Garnett Simmons.

**The LTD Laboratory** was initially planned as a department devoted to coil coatings, managed by a full-time manager in the UK and staffed by temporary secondees from all five Becker companies, all of whom had special interests in the field. This proved impractical, however, and the new entity came to comprise a manager, two secondees and three full-time UK staff. Conceived close to the company's 125<sup>th</sup> anniversary, this departure from general fundamental research to development targeted at a specific industry segment constituted a radical initiative. Twenty-five years later, as we celebrate our 150<sup>th</sup> anniversary, it is pleasing to note that the concept has proved a successful innovation in its own right. It has now been copied in Asia and back in the UK, where the Long Term Research Laboratory was set up last year, focused on new development for business unit Industrial Coatings.

### The need for 'everlasticity'

The LTD's first manager was Dr Garnett Simmons, who skilfully assembled a permanent staff consisting of Graham Knight, Chris Lowe and Julie Holden. Igor Flis, from Sweden, was the first secondee. The driving philosophy behind the LTD was and still is: "Look at all things new and old with a questioning eye. If something appears to offer a potential improvement in efficiency, environmental friendliness or 'everlasticity', then try to develop it into a product" – clear proof that the LTD laboratory was working on sustainable products before the term had even been coined!

Some of the first projects put under the microscope, so to speak, were more durable plastisols, PVC-free plastisols, chromate-free primers and radiation-curable systems. More durable plastisols made it to the market in 1998, followed by phthalate-free plastisols in 2006. Chromate-free primers are now almost 'de rigueur', apart from in countries with largely marine environments. PVC-free plastisols never quite made it due to rheological issues, while radiation-curable systems are still looking for an opening – although a UV-curable Edge Protection

Lacquer applied via a guillotine (used to cut metal strip into lengths) did make it to pre-commercialisation.

### The launch of Beckry®Tech

Perhaps the most commercially successful product to emerge from LTD so far has been Beckry®Tech 2001. Based on a polyester using only aliphatic diols and di-acids, thus avoiding moieties that absorb UV light, this product was announced to the market in the late 1990s, after careful development demonstrated its efficacy under conditions of high UV intensity coupled with high humidity, namely in Florida. Collaboration with Alcoa saw this new super-durable system used for petrol stations, where the bright colours enabled by this technology allowed end customers to dress their retail outlets in a livery that would retain its original freshness much longer than before.

However, it was early variations in the performance of Beckry®Tech 2001, arising from 'adaptations' of the recipe to local conditions by local formulators, that set us on the pathway that we still follow today and that underlies the development of a technology into an innovative new product. That is parallel studies devoted to understanding the science governing a technology are arranged with academia.

### Research collaboration

In developing Beckry®Tech, we have benefited greatly from collaboration with the French Centre for Accelerated Weathering (CNEP), which has used its own SEPAP technique, in conjunction with IR spectroscopy, to characterise degradation. We have also been collaborating with Queen Mary University of London for over 20 years. Queen Mary has employed a variety of techniques, including infra-red photo-acoustic spectroscopy, confocal raman spectroscopy, atomic force microscopy and chemical force microscopy, to investigate the chemistry of degradation in polyester melamine coatings, polyurethane coatings and plastisols. With such

an in-depth background, we are confident in our ability to explain how we achieve super-durability to our customers' technical departments. It was from the Beckry®Tech platform that Beckers Sweden launched Beckry®Duro, a polyurethane cross-linked super-durable coating, which Ruukki (now SSAB) enthusiastically adopted.

We should not forget the work conducted by Danielle Maffeis, our first Italian secondee, on UV-curable primers for HDG. Panels coated on the Cockerill Pilot Line in 1995 may still be found on the exposure racks in Liverpool. Topcoated with Beckry®Tech, the longevity of these panels has been amply demonstrated. A low temperature bake after cure prevented the commercialisation of this product. A quick mention should be made here of Jean-Dominique Paoli, our final French secondee, who assumed the mantle of Radiation Cure expert in 2005 and who has been at the forefront of developments in this area ever since.

During the 1980s, Beckers developed several topcoats for use under polymeric laminates, such as plasticised polyvinylchloride and polyethylene terephthalate (PET), destined for interior use. The LTD laboratory got involved in collaboration with Dupont Teijin films to develop an external laminate system known as Lamicoat IV. Dupont Teijin improved the durability of the PET, which could also be

printed. LTD developed a primer and topcoat as part of an outdoor durable system. It was this activity, along with a desire to understand adhesion failures in early radiation-curable systems, that led us to collaborate with the Materials Department at the University of Surrey, to study the fundamentals of surfaces and adhesion using XPS and ToFSIMS. This experience allows us to communicate as equals when discussing both metal and polymeric surfaces with most experts in the coil coating industry.

Studies of mechanical properties and how they change with temperature using Dynamic Mechanical Analysis led to projects at the University of Exeter, Imperial College London and Helsinki University of Technology, the last through the Finnish company MatOx Oy. These have helped our understanding of how glass transition temperature is impacted by humidity, enabling the prediction and clarification of interactions with the surrounding environment and their effect on formability. Computer modelling of polyester melamine systems came close to reality, further deepening our understanding. With the help of Susan Willis, and her team at the newly installed Resin Laboratory in Speke, we are now starting to look in depth at structure property relationships. Using different monomers, we can try a range of combinations and test them under standard conditions. ►



The LTD team of 2006.

## Energy-efficient thermal coatings

James Maxted joined LTD in September 2000 and began the research that culminated in Beckry®Therm. This technology depends on determining the absorption and reflection spectra of pigments so that they can be selected for the correct colour in the visible wave length range, while featuring a suitably reflective nature in the Near Infra-Red region so that they can reflect as much as possible of the solar radiation that is incident on the coating, yet have no impact on the perceived colour. Beckry®Therm was launched in 2006 and has begun to develop into an important technology for the outside of buildings constructed from precoated metal, in areas with high intensities of solar radiation, such as southern Europe, the southern states of the US, South Africa,

Australia, the Middle East and Malaysia. It has been demonstrated that a roof that reflects over 70% of NIR radiation can yield considerable savings on air conditioning. Customers such as ArcelorMittal and Alcoa make great use of this technology in countries with high levels of solar radiation. SSAB took the technology a step further by using Beckry®Low-e on the inside, reducing the heat radiated into the room when the wall is hot and reflecting heat back into the room when the wall is cold.

The converse of Beckry®Therm, known as Beckry®Therm Absorption, has been developed for temperate climates in which buildings need to absorb solar radiation during cold spells in order to supplement heating delivered by fossil fuels. This technology has now successfully completed long-term durability testing (two years in Florida) and can be used with products such as SolarWall® from Conserval, which can cut heating bills dramatically. Collaboration with Tata Steel's research labs led to this technology being used on its Sustainable Building Envelope Centre in Shotton, where a green façade is heating air in an efficient way. Kingspan has used an alternative technology on a silver coloured wall at its headquarters in Ireland.



Bohus Malmö Storm



Bohus Malmö Sun

## Development of chromate-free coatings

In 1997, Paul Heffer started an ambitious programme to compare chromate and chromate-free primers under various topcoat technologies. The project was taken over by Bill Lee and, in 2008, he began his review of the performances of over 750 systems exposed at the Bohus Malmö site in Sweden. His conclusions indicated that chromate-free systems were definitely capable of approaching the performance of systems containing chromate, especially if care is taken over cure conditions. Further long-term projects, designed to look at a range of alternative chromate-free technologies with a view to fully reproducing the performance of chromate-containing primers, are now

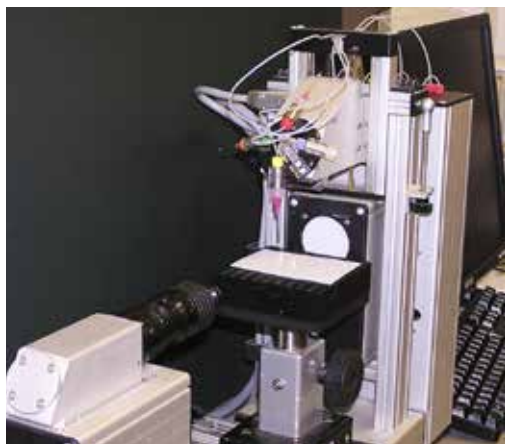
being evaluated after ten years' exposure. The importance of this early work to the development of several commercially available chromate-free primers for the Nordic market by Beckers Sweden cannot be overstated.

Sonny Ngo arrived in 2001 and was assigned the task of introducing powder coatings to the coil coating industry. Application techniques such as 'Powder Cloud' and 'Electro-Magnetic Brush' were considered and powder coating technology was adjusted, so that it could be applied and cured on coil coating lines. A product was run on a pilot line using Powder Cloud technology which resulted in a fully-cured 40 micro-meter-thick coating in a dwell time of around 60 seconds. As a follow-on from this project, ArcelorMittal has been working with Beckers France in an effort to introduce extrusion coatings into its product mix.

Sonny then moved on to high solids PVdF, which has proved equivalent to standard PVdF after two years' Florida exposure, and is now ready for launch in the US.

More recently, Sonny and his team have developed a pre-treatment primer that has run well in line trials on HDG, during which cleaning (and especially rinsing prior to coating on the pre-treatment section) was carefully controlled.

Issam Baydoun was one of the last secondes to arrive. He came from Sweden in



*Just a drop – that is all you need to determine surface free energy, a parameter that critically controls wetting.*

## “Development continues, with the focus on improved durability and higher bio-content”

2004 to work on Dirt Pick Resistant Systems. He collaborated with colleagues in Malaysia and China to develop a waterborne third coat based around nano-technology, which made the surface hydrophilic and thus thermodynamically disposed to release oily particles when surrounded by water. This was promoted by Malaysia as Beckry® Fresh. An attempt to produce a two-coat system using an additive resulted in a self-cleaning system with almost equivalent dirt-shedding properties as the waterborne third coat. In his first LTD incarnation, Jim Smith discovered it was impossible to maintain system activity for longer than a few hours after the additive had been added to the paint, as it found the surfaces of pigments too attractive.

James Maxted has not been idle either. With his team which included Bill Lee he has developed two coatings based on partially bio-sourced polyester resins. Successful line trials have recently been conducted both for a bio-based RUV2/ RUV3 topcoat and a bio-based Domestic Appliance system. Development continues, with the focus on improved durability and higher bio-content.

Dating from 2008, Chan Mistry started investigating possible improvements to ►



Chris Lowe

Beckry®Tech, under the direction of James Maxted. The panels produced then are now yielding long-term weathering results (over six years) from places around the globe. After preparing the paints using a wide range of polyesters with different structures, Chan moved on to developing NOx Abatement systems.

An important chapter in the history and development of the LTD concept began just after Chris Lowe became manager. In 2009, it was recognised that there was a need for a similar organisation in Asia, to offer support in the Far East. An ideal candidate for the post of manager of the new LTD Asia facility, KC Chew, was identified in early 2010. After a six-month 'familiarisation' period at LTD UK, KC Chew began the hunt to assemble a team of chemists that would help him in his quest to develop technologies that were better geared to Asian market needs.

Teh Khong Wei seized an opportunity to return to Beckers and was instrumental in developing Low Temperature Curing Coatings which can save up to 30% in energy consumption on coil coating lines. Other projects at LTD Asia include a Universal Backer Sound Deadening Coatings and a revisit to the Dirt Pick Up Resistance theme with a Malaysian twist. Subsequent projects have been a little bit more hush-hush – but watch this space!

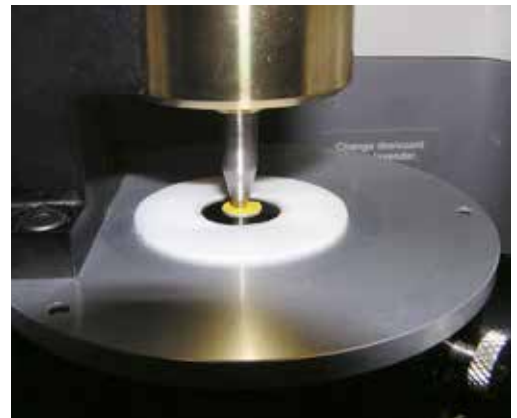
## Not 'just' a development lab

The LTD is more than a development laboratory. Embedding Alan Butchart's analytical department in the laboratory has made it possible to draw on an eclectic range of knowledge and skills from various formulators and to produce detailed forensic analyses on a broad range of problems, from paint production to in-field failure. A service unparalleled in the coil coating industry at large, it is available to all our customers. Alan has been ably abetted by several assistants since 2007. There is an equivalent service operated out of LTD Asia. After intensive

training at LTD UK, the LTD Asia staff shoulder the analytical burden for all the Asian companies. They conduct over 200 support projects a year, which compares to the nearly 500 that Alan and his current assistant conduct in Europe.

I should like to conclude this review of the LTD's foundation and progress with a mission statement: **"To set the standard for the marketing and technical efforts of the Beckers Group in the field of coil coating, through the practical development of new products, processes and test methods, in concert with pragmatic academic study, and to disseminate this knowledge throughout the Beckers Group"**.

We have done this to the best of our ability over the past 24 years and are determined to continue to do so in the years ahead. ■



*One bounce is all you need and the IR spectrum produced will reveal a multitude of information.*

# 2015 Paint Supplier Innovation Award



Photo: Managing Director Jean-Pierre Genevay, France and SVP South Europe & Latin America (third from left), accepts the Award on behalf of the company, and thanks the Beckers R&D teams and the Long Term Development (LTD) Group for making it happen.

**For the second year** in a row, ArcelorMittal, the world's leading steel and mining company, has presented its Paint Supplier Innovation Award to Beckers. The Award is granted in three categories: Sustainability, Functionalities & Performance and Aesthetics, highlighting key innovations in these fields. In 2015, ten suppliers competed with 27 projects. This is the second year in succession that Beckers has been selected to receive an award as most innovative paint supplier, in the category Sustainability.

The Award was presented for several relevant proposals that contributed to greater sustainability, proposals that were fully consistent with ArcelorMittal's expectations. The Award was also an acknowledgement of Beckers' ongoing contribution to the ArcelorMittal product development programme.



# Zinc-magnesium coatings are here!

The development of zinc-magnesium (ZM) coatings for thin sheet applications offers steelmakers significant commercial potential.

Frank MÜLLER

*Bharati, India's Antarctic Reserach Station. Panels on the facade coated by Salzgitter. Courtesy Käfer.*

**But what** does a zinc-magnesium hot-dip coating comprise? To comply with the SEW Stahl-Eisen-Werkstoffblatt (Steel-Iron-Material Specification) Prenorm SEW 022, the total content zinc-magnesium hot-dip coatings shall contain 1.5–8% aluminium/magnesium and the effective steel (ZM) thicknesses range from 0.4 to 3.00 mm.

## Development process

Development was initiated in Japan as early as 2000. The rising price of zinc forced coaters to search for an alternative alloy with similar or even better properties than the classical zinc coating. In 2007, the new zinc-magnesium alloy coating was launched on the market by a major European steel group and its popularity with the steel manufacturing industry grew rapidly. Sales volumes of ZM coated sheet almost doubled by year, becoming the fastest growing group of steel products. According to the latest reliable Western European

market data, ZM-coated products now account for a major part of the pre-coated sheets used by the building industry.

## Huge potential savings

Corrosion poses a serious economic problem. Reliable estimates indicate that the damage caused by corrosion costs some €100 billion a year – in Germany alone! In the industrialized nations, the cost of corrosion-related damage amounts to no less than 4 percent of GDP! Figures like these leave no doubt that investment in and the development of corrosion inhibition is both necessary and profitable.

## The outstanding properties of ZM for painted and non-painted surfaces

With a classic zinc coating, the

thicker the zinc coating, the greater the protection against corrosion. An increasing scarcity of raw materials, the rising cost of energy and ever-more demanding performance requirements, as well as consistently more stringent environmental legislation have led to some radical rethinking on the corrosion resistance of metal coatings on steel. This has generated demand for the development of new hot dipping processes, which can provide a thinner coating while simultaneously offering improved processing properties and equal or even superior corrosion protection. And the result of this demand? The ZM coating process!

Optimal corrosion protection is assured by combining the cathodic protection of galvanization with the barrier effect of the ZM alloy, requiring only half the film thickness of a classic zinc coating. The normal barrier effect is comparable to a zinc coating, but when subjected to progressive corrosion tests, ZM demonstrates a clearly



improved barrier effect, due to the compactness of the ZM coating.

As already noted, although thinner, the ZM coating nevertheless demonstrates a resistance to corrosion fully comparable with its all-zinc counterpart, especially in an environment of sodium chloride solution. Lab tests (48-hour salt spray tests) revealed that the zinc-coated samples became completely covered with white rust, while the ZM-coated sheet metals remained virtually unaffected.

At a zinc coverage of  $10\mu\text{m}$ , red rust was detected within a mere 72 hours, whereas it took no less than 500 hours before the same was detected on sheets featuring a  $7\mu\text{m}$  ZM coating.

This zinc-magnesium alloy can be overcoated using all the usual coil coating systems. Normally, ZM coatings can be used in thicknesses of  $70\text{--}140\text{g/m}^2$  ( $5\text{--}10\mu\text{m}$ ). This is a more sustainable volume than zinc, which normally involves a thicker coating ( $275\text{ g/m}^2/20\mu\text{m}$ ).

On both painted and unpainted substrates, the zinc-magnesium coating shows a better galvanic protection and covers cut edges, scratches and abraded areas with a solid protective film. The oxygen/iron reaction is delayed and the corrosion creep is reduced on overcoated surfaces.

## Areas of application for thin ZM-coated sheet

- Architectural design, building industry
- Automotive industry
- Contracting equipment
- Domestic appliances
- Domestic technology
- Storage technology
- Equipment technology
- Agriculture

## EU directive

The corrosion protection offered by ZM coatings ( $130\text{--}140\text{g/m}^2$ ) already

satisfies today's stringent EU directives. Approvals in compliance with corrosion protection class III to DIN 55928 part 8 or corrosive category C3 to DIN 55634 have been secured.

ZM coatings assure the user of multiple benefits with almost the same processing parameters.

## Benefits of zinc-magnesium metal coatings

- Excellent corrosion protection, even in highly corrosive surroundings.
- Similar level of protection with a lower film thickness, or considerably enhanced corrosion protection if coated in a thickness comparable to a zinc coating.
- Greater flexibility in product design and corrosion-resistant properties.
- Reduced creep corrosion of scratches and cut edges on organic coated surfaces.
- Harder surfaces with lower abrasion (stamping tools), better formability.
- Depending on the roll forming process; no need of emulsions and reduced cleaning process of unpainted substrates.
- Extended lifecycle and usability.
- Resource efficient.

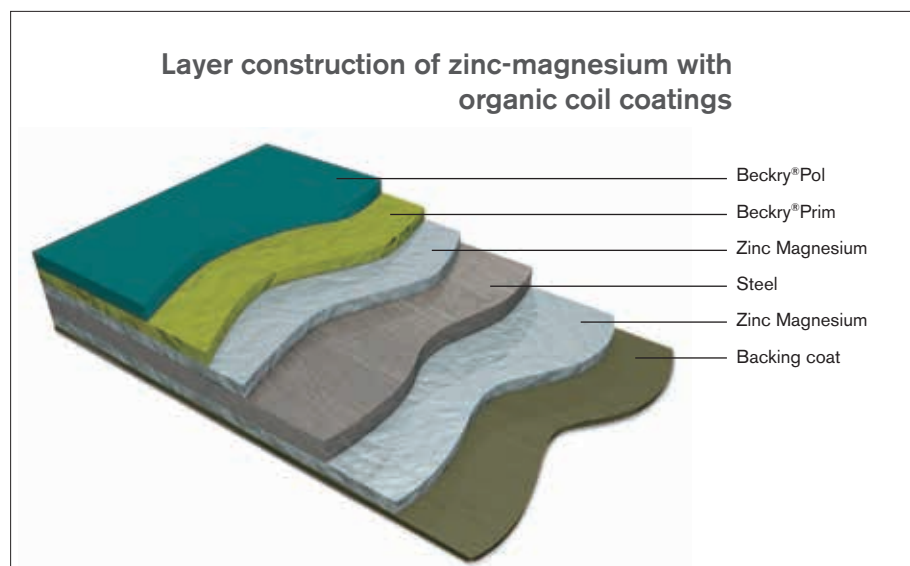
- Environmentally acceptable and energy-efficient production.
- More square meters of thin sheet metals by reducing the thickness of the zinc magnesium coating making the sheet thinner compared to standard. This could give an increase of as much as four percent surface per tonnage (savings may be reduced by customer specifications).
- Increased hardness of the sheets. With the reduced thickness of the metal coating the coater can keep the same coil weight while using a substrate with a thicker steel core.

Zinc-magnesium coatings for refined thin sheet metal have become indispensable to the market and continue to notch up new successes!

The steel industry's development of new substrates necessitates the introduction of a new coil coating application requirements profile, for reference, when applying topcoats to ZM primers.

Beckers has enthusiastically embraced this challenge, resulting in the successful development of **universal primers, backing coats and liners**.

All systems have already been supplied and are being used successfully at many of the European steel industry's production units. ■



# New Asian tiger?

*Desmond CHONG*

**A** diverse and multi-ethnic nation boasting a rich culture, Vietnam numbers close to 90 million people, more than 80% of whom are below the age of 55. Having witnessed a century of dramatic change, today's Vietnam is young, dynamic and forward looking.

Keen to attract international investment, the country is taking concrete steps to create a supportive business environment. Obviously, this is excellent news for any company hoping to expand its operations in this exciting growth market – and Beckers means to do just that.

Since start-up in 2006, Vietnam's coil coaters have been steadily increasing their capacity and technological sophistication. The initially modest levels of investment have also grown steadily, now involving serious financial commitments in the hundreds of

millions of US dollars, with a consequently dramatic boost in capacity and product quality. This rise in the national coating industry's capacity and product quality parallels corresponding growth in Vietnamese production of steel sheet. In 2014, the Vietnam Steel Association (VSA) estimated that indigenous steel sheet production capacity had risen to four million tons a year. This made Vietnam the largest producer of steel sheet among the ASEAN countries.

Beckers Vietnam initiated manufacturing operations in 2007. Demand for colour-coated products has risen steadily as market capacity has increased. Although relatively recently established, the business has experienced dramatic growth.

We now have more than 50 personnel serving customer requirements across the country. We have also invested in

state-of-the-art analytical equipment, to ensure that our lab team has the technical capacity to pursue innovative R&D and the ability to meet future market challenges.

As noted already, the market for special-coated steel sheet is expanding,



*Stirrers at Beckers Vietnam laboratory.*

fuelled by an increasingly imaginative approach to industrial architecture in Southeast Asia. In this context, Beckers' PVdF coatings open up a number of new application possibilities for steel sheet. Our Vietnamese customers are consequently keen to learn more about Beckry®Fluor, Beckry®Tex and Beckry®Therm.

demand by supplying superior products that add value to and create new applications for steel products. Our unique expertise in coatings technology, backed by Beckers' global organization and local service network, will give our customers that crucial edge. Flexibility and close collaboration will be the key to market success. ■

## Steeling the economy for future challenges

Recognizing a need to restructure the economy to boost its share of high-value-adding industries, Vietnam is committed to a number of ambitious infrastructure projects. A number of these will contribute directly to an expansion of the market for coatings. One such is the Formosa Hatinh project (Formosa Hatinh Steel Corporation), which marks a new milestone in the expansion of the Vietnamese steel industry. Located in Nam Dinh Province, the Hai Thinh seaport development project comprises construction of a steel metallurgy mill and rolling mill with a fully integrated seaport facility. The main dock is situated at Hai Thinh, with auxiliary docks (sited on the banks of the Ninh Co River) providing additional industrial and service support for the steel industry. It is hoped this fully-integrated complex will ensure exceptional production and distribution efficiency, encouraging domestic demand and boosting exports.

Of course, globalization poses challenges as well as opportunities – especially for an emerging-market economy like Vietnam. Relentless competition in the form of low-priced steel imports and the many barriers encountered on export markets are a daily reality for Vietnamese producers.

Beckers Vietnam is determined to contribute to flourishing indigenous



Entrance of Beckers Vietnam.



Part of the laboratory facility.

# Gearing up for growth in North America

With approximately 4.3 million tons of prepainted metal shipped in 2014, the North American coil coatings market is a significant one.

*Michael CONWAY*

**It noted its best year** in 2008, with shipments exceeding 4.7 million tons, just before the economic downturn of 2009. However, the market has enjoyed a steady recovery since 2009 and is forecasting a growth rate of two to four percent over the next few years.

By far the largest user of prepainted metal in North America is the Building & Construction segment, which accounts for more than 75% of its total usage in this market. To meet indigenous demand for prepainted metal, in excess of 70 coil coating lines are engaged in supplying prepainted metal to hundreds of end-users and metal service centers.

The North American market is expected to continue to grow, driven by the economic benefits of using prepainted metal, rising demand from end-user markets and stringent government regulations, which mandate the reduction

of Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs) in paints and coatings.

Beckers entered the North American coil coatings market in the early 2000s, through an acquisition of SICO Coil Coatings in Canada. With a manu-

facturing location in Toronto, Ontario, Beckers primarily served the Canadian market. Recognizing the importance of having a manufacturing capability in the US, to grow market share in North America, Beckers subsequently acquired Specialty Coatings in 2007. In addition to expanding its customer

## Beckers North America History

<b>2015</b>	Beckers North America announces new Management Team	
<b>2013</b>	Beckers North America consolidates Beckers Toronto facility into the Elk Grove Village, IL facility	<b>2012</b>
<b>2008</b>	Beckers acquires Sherwin-Williams Coil Coatings	
	Beckers acquires Specialty Coatings Company with locations in Elk Grove Village, IL & Fontana, CA	<b>2007</b>
<b>2002</b>	Beckers acquires SICO Coatings in Toronto, Ontario Canada	

1	<b>Beckry®Coat</b> Polyester, Epoxy or Urethane Backers for various applications	8	<b>Beckry®Tex</b> Super durable wrinkle polyester for roofing applications
2	<b>Beckry®Prim</b> Polyester, Epoxy or Urethane Primers for various applications	9	<b>Beckry®Tech</b> Super durable polyester for exterior applications
3	<b>Beckry®Pol 1100</b> Generic Polyester for various applications	10	<b>Beckry®Tech Cool</b> Super durable polyester shaded with solar reflective pigments
4	<b>Beckry®Pol 3300</b> Polyester for direct to metal screen frame & muntin bar applications	11	<b>Beckry®Fluor</b> PVdF system for high end exterior applications
5	<b>Beckry®Pol 5500</b> Polyester for Ceiling grid/ lighting fixture interior applications	12	<b>Beckry®Pur</b> Polyurethanes, often direct to metal applications, allowing severe forming profiles
6	<b>Beckry®Gard</b> Polyester for Garage door/ exterior service doors applications	13	<b>Beckry®Plast</b> PVC Plastisol for siding and roofing application
7	<b>Beckry®Pol ARS</b> Textured Polyester for various applications	14	<b>Beckry®Sil</b> Silicone modified polyester system

Table 1

base and product range, the acquisition included manufacturing locations in Elk Grove Village, IL and Fontana, CA. A year later, Beckers acquired the coil coatings business of Sherwin-Williams, further expanding its product portfolio. Today, Beckers operates two manufacturing facilities in the US.

Even though polyester coatings are those most commonly used in North America, Beckers offers a complete product portfolio to meet the full range of market needs. See table 1.

By comparison, supplying coil coatings in North America is unlike supplying coil coatings in other regions of the world, as the route to market in North America includes calling directly on the end-use customers to specify the use of our coatings. It is the end users, not the steel mills or coil coaters, that have the ultimate authority to decide what coatings will be used on the prepainted metal they buy. The key to growing market share in North America is an ability to offer value-added products and service, while managing complex relationships. We focus on providing

coating technology solutions to end-use customers, but we also need to work closely with end-users' supply chains, including the metal supply centers and coil coaters, to enhance process efficiency and productivity.

Key drivers for the North American coil coating market include:	
1.	Service & Product Availability
2.	Product Differentiation & Colour Matching
3.	Cost
4.	Performance & Warranties

To better serve the needs of this coil coating market, Beckers North America has implemented numerous measures over the past few years, determined to become a better supplier and partner to our customers. Challenges have included facilities consolidation, product portfolio optimization and rationalization, and process standardization. Though some of the decisions we had to take were not always popular, they were necessary to build a solid foundation

geared to the longer-term needs and requirements of the North American customer base. The next phase of our evolution in North America is driven by the implementation of many capital improvement projects, including a Beckry®Mix unit at our Chicago site, planned to be in operation by the end of 2016. These will enable us to respond better to customer needs, such as ensuring shorter delivery lead-times.

The Beckers North American management team has also evolved in recent years to better serve the market. To assure alignment and continuity with our operations in Europe, a new region, North Europe North America (NENA), has been created to better support Beckers North America's projected growth.

We have made good progress over the past few years in developing and executing a business plan that will ultimately allow us to meet our goals in North America. The organizational and strategic changes we have implemented thus far are beginning to show positive results. Through the hard work, dedication, and commitment of our employees, we are determined to emerge as a stronger organization positioned for a brighter future in serving the North American coil coatings market! ■



Beckers' site near Chicago.



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