

Beckers Magazine



Editor-in-chief: Bernd Vogel
Editor: Annika Bergman
Editorial team: Astrid Schenk, Bengt Ingman
For requests please contact: annika.bergman@beckers-group.com

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Layout: Reklambryggan AB
Editorial service: Translingua AB

We look back on 2016 in the knowledge that our operations are increasingly successful, sustainable and international!

Over the past twelve months, we have expanded our presence in South America with new plants in Mexico and Argentina. In India, we put our second production site into operation, and we significantly expanded our Polish plant. Beckers will continue to implement this successful strategy of expansion and growth for the coming years.

CHANGE DEMANDS FLEXIBILITY

The coil coatings industry is currently undergoing a period of change. Acquisitions by major industrial paint companies are transforming the business environment throughout

the industry. However, Beckers does not need to worry: As a mid-sized company with a leading position in coil coatings, we are well equipped to face competitors. We can react more flexibly and rapidly to customer requests, we offer a superior service, and have a well-documented capacity for developing innovative products. Furthermore, our global presence offers us quicker access to markets where the sheer size of the biggest players may make them more sluggish.

COMMITMENT TO SAFETY

Beckers is a modern, innovative, flexible and independent company with sound values developed over our 150-year history. As a responsible company, Beckers always considers its broader impact on society and the environment. One example of our commitment is the “Global Safety Day” dedicated to Environmental Health and Safety (EHS) that Beckers recently organized.

SMART MEDIA

New technologies are transforming our relationships across the value chain, and mobile connectivity has become fundamental in accessing up-to-date information. To address this need, we have introduced our **Beckry®Therm App** to provide an even greater accuracy in computing energy savings. When planning specific building projects, customers and end-users

can now quickly determine the potential energy savings offered by our broad range of heat-reflecting coil coatings solutions.

Today, we are well equipped to navigate in a world that is constantly changing, a world affected by increasing urbanisation, accelerating climate change, rapid demographic shifts and turbulent social change. I am particularly proud to introduce our new **Beckers Sustainability Index** tool (Beckers SI). Beckers SI is a highly practical innovation that enables customers to define relevant criteria when selecting the most appropriate sustainable coil coatings system.

I hope you enjoy this latest issue of Beckers Magazine!



Dr. Boris Gorella
CEO Beckers Group





Front page

*Bombardier FLEXITY Outlook
STIB-MIVB, Brussels
Photograph courtesy of Bombardier*



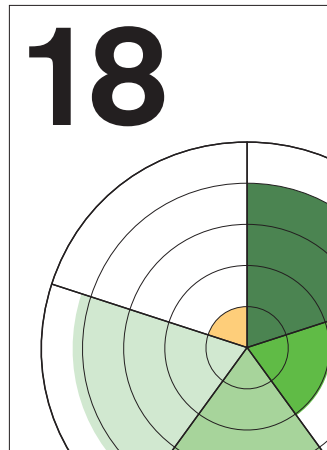
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Beckers officially inaugurated its new site in Monterrey, Mexico on April 7, 2016. CEO Dr. Boris Gorella welcomed the many distinguished guests to the celebration and emphasized during his address the strategic importance of the new site and the commitment of Beckers to the Latin American market. The guests on their part expressed a keen interest in the state-of-the-art facility during their visit.

Frank BEAUREZ



Beckers ramps up activities in Latin America

The factory is capable of annually producing 5 000 tonnes of coatings and perform up to 300 colour matchings. Backed by the group's global network Beckers Mexico supplies top-quality coatings based on consistent product standards to its customers. Says VP Latin America Frank Bearez: "Our main goal is to ensure that our customers get the timely service and support their need. At the same time we want to

welcome all Latin American companies seeking Beckers' expertise and service. My staff and I look forward to meeting with customers to demonstrate our know-how, flexibility and ability to cooperate in the best possible way".

Beckers Mexico together with Beckers Argentina are fully prepared to serve the market. ■



Beckers VP Latin America Frank Bearez welcomes the guests.



Beckers CEO Dr. Boris Gorella talks about Beckers' commitment to the Latin American market.



Beckers CEO Dr. Boris Gorella flanked by Ternium CEO Maximo Vedoya (left) and Economic Development Secretary of Nuevo Leon Gvt Fernando Turner Davila (right) and other guests.



Official ribbon cutting ceremony. From left: Beckers President EA&A Christophe Sabas, SVP South Europe Latin America Jean-Pierre Genevay, Economic Development Secretary of Nuevo Leon Gvt Fernando Turner Davila, Mayor of Apodaca Oscar Cantu, Subsecretary of Economy of Nuevo Leon Gvt Samuel Peña, Beckers VP Latin America Frank Bearez.



The cladding is painted in the Beckry®Tex system, coated at ArcelorMittal Poland and profiled at Blachy Pruszyński.

Gearing up for CEE

The construction of a distribution and technical centre in Warsaw marked the birth of Beckers Poland in 2000, employing products manufactured mainly by Beckers Sweden. Today, Beckers Poland is dedicated to supplying our customers in Central Eastern Europe (CEE).

Danuta ZYDER

"Proximity to our customers is a key strategic element in enabling us to provide a superior level of customer service," states Danuta Zyder, Managing Director of Beckers Poland. To this end, 2006 saw the erection of a brand new coil coatings factory in Tarnów, with an initial paint production capacity of 2 000 tonnes a year. Responding to significant expansion of the coil coatings market in the CEE region during the period 2006-2013, further investment in capacity has seen a steady increase in annual output.

Expansion of Tarnów facility

In light of anticipated growth in the CEE market's demand for pre-coated steel, driven by the large and expanding domestic market, it became clear that even the extended capacity of Beckers Poland would still be inadequate to meet expected demand. To remedy this situation, a project to expand the Tarnów site was initiated in 2013 and completed this year. The project comprised the construction of a state-of-the-art office and warehouse, as well as the installation and implementation of new technology.

Designed and executed to Beckers' exacting standards, the new facility marks a substantial increase in production capacity, combining extreme efficiency with high levels of safety and exceptional ease of operation. The majority of this additional capacity will be used to manufacture products for the CEE market, although some will be dedicated to intra-Group production.

Equipment upgrade

The new extension has doubled the size of the original warehouse and offices to an impressive 3 100 square metres. The walls of the extended office building are clad in ArcelorMittal's Granite Quartz steel panels, painted at ArcelorMittal Poland using Beckry®Tex C topcoat, and formed at Blachy Pruszyński.

The new production complex features high-speed dissolvers, a high-speed and other horizontal mills and increased numbers of let-down tanks, as well as filling machines, storage equipment and other improvements.



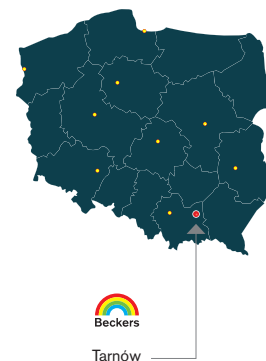
Celebrating the new extension. From left: Mayor of Tarnów Mr Roman Ciepiela, Owner Beckers Group Jenny Lindén Urnes, CEO Beckers Group Dr. Boris Gorella and Managing Director Beckers Poland Danuta Zyder.

Increased output, decreased impact

Thanks to the introduction of some smart sustainable technology, the new facility will achieve an overall reduction in environmental impact, despite almost doubling in size and a significant increase in production volumes. These improvements include the installation of a condensation boiler as a master boiler for heat recovery, replacement of the original transformer with a new energy-efficient version, an upgrade of the dust-collection system in the older part of the facility and a number of other adjustments to existing systems.

These sustainability gains are being accomplished in parallel with capacity optimization measures relating to the production of large batches, ensuring cost efficiencies in the manufacturing process that translate into a more competitive product offer.

Like the Tarnów facility, Beckers Poland is determined to expand to meet customers' current and future requirements for sustainable, high-quality, cost-efficient coatings. We have a mission: to add new colour to the CEE! ■



Colourful exterior components for enhanced automotive appeal

Mikael LUNDSTRÖM



Beckers' cooperation with the automotive industry dates from the late 1940s, with its first paint deliveries to the SAAB factory in southern Sweden. The first cars were assembled in 1949, all in the same colour – green. This was the sole option for SAAB cars until 1953. By the 1960s, Beckers was supplying Sweden's two leading carmakers, SAAB and Volvo, with primers and top coats.

Fast-forward a few decades to the 1980s, when Beckers entered the new automotive sector of coated plastics for exterior components such as bumpers, which had become a common OEM product. This was when we introduced Beckry®Flex, a complete system designed to meet the rigorous technical demands made on the exterior plastic components of a car during normal usage. Our Automotive Plastics Exterior (APE) business has enjoyed strong growth in Europe. As well as Volvo, Beckers also supplies GM, the VW-group and several OEMs. Today we can offer both solvent-based and water-based systems – and green is just one of countless options!

We reached the next milestone in the development of our APE business in 2014, when presented with the opportunity to produce and supply our products in China. In 2015, Beckers became a chosen supplier of the Beckry®Flex system for the Volvo/Geely CMA (Compact Modular Architecture) project, supplying the two factories in Luqiao and Zhangjiakou tasked with producing bumpers. The paint will be produced at Beckers' Guangzhou site which, by the close of 2016, will be certified in compliance with the TS16949 automotive quality standard, to satisfy OEM requirements.

Proud to have already served the automotive market for almost 70 years, we are dedicated to ongoing development, enabling us to supply the best, most innovative and cost-efficient solutions for our customers. ■

As part of our ongoing commitment to enhancing customer profitability by offering sustainable and economically effective coatings solutions, Beckers' ACE (Agricultural, Construction and Earthmoving) and Truck Trailers teams have recently developed an innovative concept that promotes greater end-user autonomy and flexibility, as well as cutting waste – and thereby costs.

Julien CARLIER

Innovative case for the perfect mix

Based on our experience with Beckry®Mix* technology, this is a new mixing tool that can be deployed at the customer's own facility, enabling simple and trouble-free manufacture of the exact quantities of paint required for each specific assignment.

The system comprises a converter, a scale and Beckry®Mix software, all linked directly to a computer. Packaged in a smart black purpose-designed carrying case, this exciting innovation is in the form of a bespoke mixing system. The case contains some 2 450 colour standards with corresponding formulae for the Beckry®Mix software. The new Beckry®Mix case allows customers to select precisely the right colour, providing a specialized database with several already referenced OEM colours. These references are stored in a specially-developed Beckers device which is kept in the case. The customer can record the properties of every individual batch manufactured, as well as retaining a complete record of the quantities produced.



The enhanced flexibility and autonomy offered by this complement to the Beckry®Mix concept promises significant benefits to manufacturers of special-purpose vehicles. In line with our broad strategy for promoting sustainability, both within the Group and at our end-users, this new tool will enable customers to manufacture the exact quantity needed – no more, no less – ensuring minimal waste and greater cost efficiency. ■



The Beckry®Mix carrying case

* Beckers' Beckry®Mix system produces small batches in almost any colour with short delivery time

Beckers – a global partner to the rolling stock industry

With more than 30 years' experience in the highly specialized rail sector, Beckers has developed a global network supplying the customers with more sustainable and high quality paint systems.

Hubert BESSETTE

“This network currently comprises our production sites in Europe, South Africa and Asia, together with support from Beckers' sites worldwide,” notes Hubert Bessette, VP Industrial Coatings Railway, “providing the rail industry with a truly multinational partner.”

Rolling stock is exposed to every type of weather, extreme heat and cold and the unrelenting impact of UV radiation. Depending on type of rail vehicle and component, the selected coating system must fulfil distinctly different protective requirements. These range from corrosion protection to gloss and colour retention. They must also be resistant to graffiti (interior as well as external finishes), while providing advanced fire-and-smoke retardant properties.

Beckers' comprehensive product range features everything from primers and monolayer coatings, including specialities, available in both conventional and waterborne versions. These products

are approved by numerous European state rail operators, such as SNCF (the French national rail operator), as well as by the private rail-vehicle industry.

Our pioneering waterborne coating systems were originally developed for the French market almost 20 years ago. This technology is now used for all bodywork coatings for passenger railcars: interiors, exteriors and chassis underframes. More than 70% of European new production utilizes waterborne coating technology, a trend that is now gaining momentum across Asia.

Our waterborne products satisfy the most stringent industry standards and offer well-documented ease-of-application for industrial coating processes. Our ongoing development programme is focused on the production of high quality anti-corrosive primers and monolayer coatings that ensure enhanced corrosion protection to key vehicle components such as



The Bombardier FLEXITY Outlook low-floor tram operated by STIB-MIVB (the Brussels Intercommunal Transport Company). The tram is finished in a five-layer fully waterborne Beckers paint system.

chassis under-frames. The focus for topcoats and clear coats is superior chemical resistance and anti-graffiti properties.

We pride ourselves on being much more than a paint supplier, offering customers a dynamic partnership that comprises comprehensive technical and after-sales support. Our current and future customers and partners can work closely with our local team of rail industry experts,

backed by the Beckers Group's global coatings expertise. This on-the-spot assistance and support is particularly relevant when switching to waterborne technology.

Our global service offering, dedication to the individual needs of each customer, unrivalled technical support and research-driven product innovation is what makes Beckers stand out from the crowd. ■



Global Industrial Coatings Long Term Research Manager
Dr. Ruman Ahmed

Long Term Research LTR lab geared up for tomorrow's challenges

Established during 2014, Beckers' Liverpool-based LTR laboratory is responsible for long-term research activities within the company's global business segment, Industrial Coatings.

Rumman AHMED

The LTR laboratory is dedicated to developing next-generation technologies that directly correlate to and support the four market segments: Agricultural, Construction and Earthmoving (ACE), Truck Trailers, Automotive Plastics Exterior (APE) and Railway. The laboratory is tasked with strengthening Beckers' future product portfolio, sharpening our competitive edge in relation to our main competitors and reinforcing our current relationships with customers.

Providing cutting-edge research and development combined with precise testing and insightful troubleshooting, the LTR laboratory offers a comprehensive approach to resolving the current and forthcoming technical and product development challenges posed by an increasingly demanding industrial coating industry.

In starting the laboratory, our vision has been "to adopt a fresh perspective in looking at all

technologies (old and new), to improve effectiveness, efficiency and sustainability". This has meant revisiting the basics, to truly understand the mechanisms and kinetics involved in coating technologies. Examples of projects in progress include low-temperature-curing coatings, fast-curing coatings, developments in waterborne basecoats and corrosion-suppressant coatings.

Low-temperature-cure coatings

In today's coatings world, there is constant pressure to address and accommodate challenges relating to ever stiffer legislation, changing market trends, sustainability and time/cost savings. Consequently, interest is focused on the development of coatings featuring lower Volatile Organic Compound (VOC) levels, that permit reduced-temperature curing and that enable accelerated painting

processes, without compromising on overall performance.

Whilst current coatings technologies generally provide good performance, they may be unable to meet all these demands at the same time. Determined to address this challenge, the LTR is engaged in the development of a low-temperature, fast-curing coatings system that offers quick cross-linking density-development capabilities as well as featuring a very long pot life, low VOC contents, excellent chemical resistance and flexibility – and superior outdoor durability.

Research collaboration

Although a relatively new laboratory, the LTR has already initiated an impressive number of active collaborative ventures with various academic institutions and industrial organisations, all of which are integral to our core R&D perceptions and development. To understand and identify solutions to the current and future technological challenges posed by coatings, it is necessary to conduct exhaustive empiric studies of the various elements involved, with a view to adapting, modifying and improving the end product.

To assist in these endeavours, the LTR is collaborating with pre-treatment suppliers to deepen its understanding at this level, to further development and improve the science at the 'coatings-pretreatment-substrate' interface.

The LTR is also collaborating with a number of university research departments on the improvement and better understanding of corrosion protection, especially for the ACE segment. With access to these universities' state-of-the-art equipment and wealth of research know-how, we are able to conduct in-depth studies to secure our objectives and refine our coatings design and technical capabilities. Lastly, active collaboration with resin-manufacturers allows the LTR department to design and develop tailor-made resins which are critical to coatings performance. This gives us an enviable technological advantage and the ability to develop coatings matched to the ongoing challenges that lie ahead.

Spanning quite a range, these challenges include the need to meet solvent emission directives



Part of the LTR lab.

(lower VOC emissions), the demands for energy conservation, the requirement for safer chemicals/less hazardous materials (within the paint formulation), as well as having to implement internationally-agreed practice and respond to (and preferably anticipate) global market trends. All this without compromising on performance, either in terms of superior corrosion protection or the need for enduring chemical/mechanical/UV and abrasion resistance.

Ambitious aims

This small but ambitious laboratory, is naturally keen to ensure it will play a key role in the Beckers Group's future success. We plan to strengthen existing links and establish new ones at Beckers' Centres of Excellence, at universities and at other academic institutions, exploiting every opportunity for collaboration on research, with a view to addressing current technical limitations and to deliver solutions necessitated by ongoing changes in legislation and market trends.

The projects undertaken by the LTR team are and will continue to be focused on the ongoing fundamental challenges faced by customers, with a view to providing bottom-line solutions.

Strategic role

We are determined to ensure that Beckers consolidates its position as an active global player in the industrial coatings sector. Impatient to embrace this inspiring challenge, the team is keen to embark on what will surely prove an exciting and ultimately rewarding journey. ■

Product sustainability in focus

Over the years, all industries and their downstream markets have become increasingly aware of the challenges posed by sustainability. At Beckers, we asked ourselves: “What exactly is a sustainable product, how can it be measured – and what can we do to improve the decision data that will form the basis of our and our stakeholders’ progress as responsible corporate citizens?” During 2015 and 2016 we worked on a ground-breaking tool we call Beckers Sustainability Index. This tool will help us and our customers compare and contrast the sustainability credentials of our coatings, measuring not only material but also functional sustainability.

James MAXTED

It is said that “Beauty is in the eye of the beholder”, where value is determined in a subjective and qualitative sense. When considering the value of our coatings, their cost is naturally a key consideration. Increasingly, however, ideas of value also relate to the sustainability of a product – not just in terms of cost but in terms of responsible sourcing of raw materials, increased longevity and reduced environmental impact. These are all quantifiable attributes.

We have developed the **Beckers Sustainability Index (Beckers SI)** to measure the value of

sustainability. For our stakeholders, often faced with a myriad of criteria when trying to select the most appropriate product, this tool facilitates a comparison between different coating products and their contribution to sustainability.

The **Beckers SI** helps us integrate sustainability into our product development and our formulations, as well as delivering a concise, easily understood message to our stakeholders. Our bespoke development describes the scope and depth of what sustainable coatings should be, without becoming swamped in complexities

that are intelligible to environmental scientists alone.

The Beckers SI looks at product sustainability from two complementary viewpoints: material sustainability and functional sustainability. We view coating sustainability as a combination of the sustainable nature of the materials/processes used, coupled with the degree to which the coating adds sustainable value to the article being coated – whether a building panel, mobile phone case or component on a hydraulic excavator.

The Beckers SI tool rates material sustainability according to four indicators:

- 1) the minerals used (pigments and fillers)
- 2) the nature of the organic components used (such as the resin, pigments and solvents)
- 3) the coatings' climate change mitigation (including an impact analysis over the coating's life cycle) and
- 4) the content of toxic and persistent components present in the paint.

Functional sustainability is determined by how well the coating fulfils a number of industry-derived performance specifications. These have been selected because of their relevance to and impact on the service life and sustainability of the coated article. In the case of coil coatings, each function has been checked for its relevance by the independent construction consultant AECOM, using LEED and BREEAM Building Sustainability Rating Schemes' Credit Categories as a guide.

We can now use this tool in a systematic and quantifiable way to rate Beckers' products according to material and functional sustainability. This can be seen in the matrix below, which highlights some coil coating primers and topcoats. ►



“We aim to be at the forefront in developing sustainable products and our new Beckers Sustainability Index tool allows us to measure and communicate the real value of such development”

The more sustainable a coating (in terms of both material and functional stability), the closer it appears to the top right hand quadrant. This approach allows us to target sustainable coatings' development in a much more defined and measurable manner, enabling us to monitor progress in improving the sustainability of the coatings we develop and market, today and in the future.

The Beckers SI tool is **designed** to deliver a detailed assessment of product sustainability according to five key sustainability indicators. Each key indicator is sub-divided into a number of categories that are used to scrutinise the

coating formulation, either in terms of its material or its functional sustainability. These and other inputs are then combined to produce the total indicator score for the formulation. The Beckers SI can then be displayed as a single value (Index) or resolved into its score for material and function sustainability.

The illustration on top of next page is a Beckers SI output for a **Beckry® Pol bio polyester**, using mineral pigments which are largely recycled.

We firmly believe that the tool will facilitate decision-making for our customers enabling sustainability credentials to be calculated. On next page is also an illustration of Beckers SI where it merges the values of multiple coats jointly applied to a substrate, enabling the credentials to be calculated for a single entity.

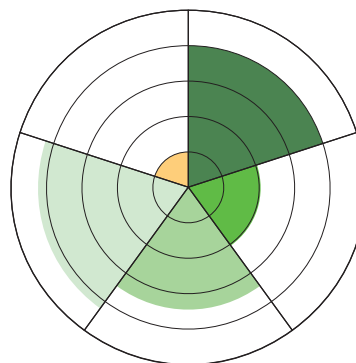
In addition to the index rating, the tool also generates absolute measures of sustainability per square metre of coated metal, to enable end-users and other stakeholders to understand the overall impact of a product.

We aim to be at the forefront in developing sustainable products and our new Beckers Sustainability Index tool allows us to measure and communicate the real value of such development. Using these tools, decision makers within various industries, for example the construction and building industries, can easily acquire the necessary data on the sustainability of coating systems for end products.

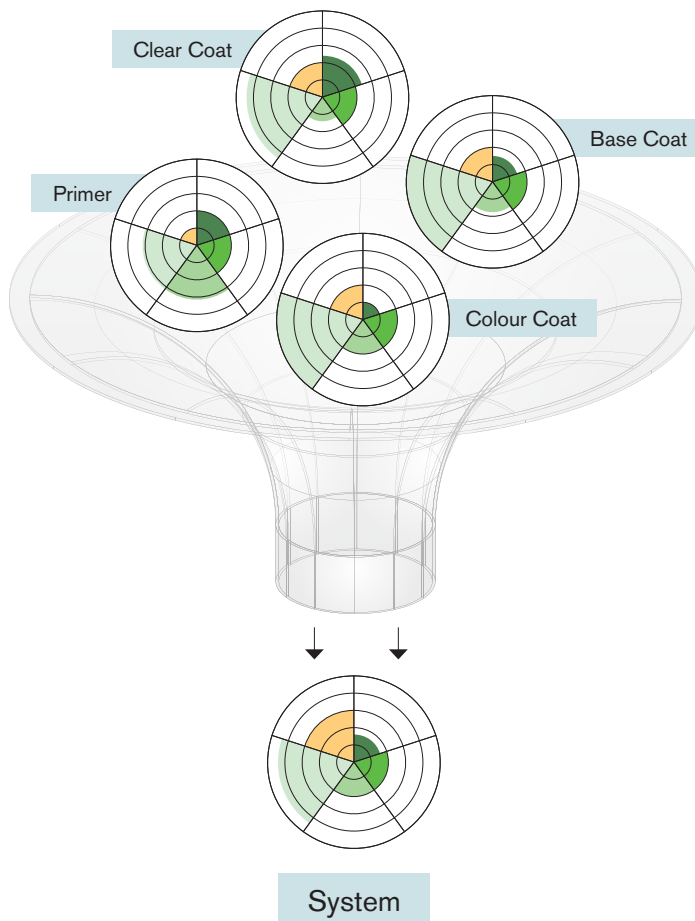
We are very proud of these innovative tools, which promote our ongoing commitment to sustainability. We plan broad utilization across the full range of Beckers coatings, demonstrating the importance we attach to the sustainability of our coatings. By providing objective analyses of sustainable values, we believe these innovative tools will highlight and quantify attributes that are of growing importance to the global coatings industry. ■

Material Sustainability Index 70
 Functional Sustainability Index 6

SI Indicator	Average Score
Sustainable Minerals	4,0
Sustainable Organic Components	2,1
Climate Change Mitigation	3,5
Non-Toxic & Non-Persistent Substances	4,3
Sustainable Function	1,0



Beckry® Pol bio polyester



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Knowledge exchange as performance enhancer

Beckers is convinced that the exchange of knowledge within our organisation enhances performance – benefiting all stakeholders. With over twenty production sites worldwide, easy cross-border access to Beckers' wide expertise ensures the right people are assigned to a new project from the very start, or when required to resolve a specific problem.

Michał STASIAK

Beckers operates three specialized laboratories: the two Long Term Development (LTD) laboratories for the Coil Coatings segment, located in Liverpool and Shah Alam, and the Long Term Research (LTR) laboratory in Liverpool, for the Industrial Coatings segment. All three are involved in developing innovative coatings, anticipating trends and responding to new or planned legislation. The laboratories are instrumental in enabling Beckers to develop increasingly sustainable solutions.

Of course, the ultimate key to continued success lies in our highly qualified and multi-talented workforce, at our various sites around the world, 20% of whom work in a technical capacity.

Chief Technical Officer Dr. Bernd Vogel: "A more informed workforce shares experience and knowl-

edge and we encourage peer-to-peer training. Transparency between sites on on-going projects and troubleshooting is beneficial for the end-result – while at the same time observing strict customer confidentiality".

The Coil Coatings technical teams meet regularly twice a year with representatives from most sites attending. Job rotation between laboratory staffs, for longer or shorter periods, is another highly appreciated form of knowledge exchange, providing an opportunity to share best practice, gain some practical training and to exchange ideas and insights. One example is that in conjunction with Beckers' recent expansion into Latin America, this in-house training has enabled the transfer of a wealth of coatings knowledge, to better serve our customers in this growing market.

The benefits of this internal exchange of knowledge are legion, as expressed in the words of the following Beckers employees:

Cristina Busqueta Technical Manager Beckers Mexico, visited Beckers France

What was the purpose of your training?

To study the manufacturing process of coil coatings, coating systems, product ranges, formulations and trouble shooting.

What experiences and insights do you take back to Beckers Mexico?

Job rotation gives an abundance of experience and I got to study best practice in laboratory and manufacturing processes. I was particularly impressed by the systematic product control and the infrastructure available to ensure product quality.

Eddie Baron Research & Development Manager Beckers North America, visited Beckers France, Beckers Poland and the UK LTD laboratory

What was the purpose of your training?

My trip to Beckers France included training on manufacturing and formulating phthalate free plastisol products. At Beckers Poland my training focused on Beckry®Tex product lines as well as new test methods and equipment. Finally, at our UK LTD facility I learned how to work with a number of instruments/methods including FTIR, Microhardness, Cross-sectional analysis, and Differential Scanning Calorimetry (glass transition temperature). I also received training on polyester chemistry, resin manufacturing/development, experimental design etc.

What experiences and insights do you take back to Beckers North America?

Each Beckers site excels at something, whether it is a specific type of formulation or overcoming a certain complication at the coater or in the field. My trips to France and Poland were valuable because I was able to learn new methods and ways of thinking that I was able to apply directly to issues we faced in the US. My visit to LTD however was the most valuable because my overall understanding of the systems we are developing has increased dramatically. Now I can look at a complication with a formula and feel more confident in assessing the root cause

from a chemical standpoint and then use that information to develop effective solutions.

Agnieszka Roślicka Laboratory Supervisor Beckers Poland, visited Beckers France

What was the purpose of your training?

The main purpose was testing new, black, reflective pigment in Beckry®Therm paint. I was investigating the best balance between pigments and checked its influence on TSR (Total Solar Reflectance) value. I also had the opportunity to use some new equipment.

What experiences and insights do you take back to Beckers Poland?

I gained valuable experiences: meeting and discussing with colleagues whom I had known only from emails and that I got to explore new subjects. To practice hands-on different ways of working is useful because you can apply ideas and solutions to your own workplace.

Deon Labuschagne Laboratory Manager Beckers South Africa, visited Beckers Poland

What was the purpose of your training?

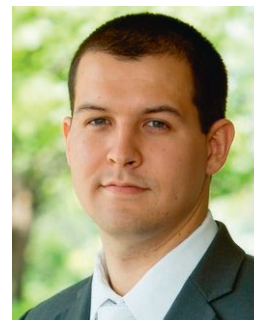
The main purpose of my visit to Poland was to gain knowledge on formulating and adjusting of Beckry®Tex.

What experiences and insights do you take back to Beckers South Africa?

By piggybacking on the years of experience on Beckry®Tex of my Polish colleagues I bring back a lot of know-how. Also spending a lot of quality time with colleagues in their laboratories and factories means you can pick up small ideas along the way that will make a difference in your own environment. ■



Cristina Busqueta



Eddie Baron



Agnieszka Roślicka



Deon Labuschagne

A European Union Regulation introduced on June 1st 2007, REACH (**R**egistration, **E**valuation, **A**uthorization and restriction of **C**hemicals) has replaced a number of European Directives and Regulations with a single system, designed to protect health and minimize the environmental impact of potentially harmful chemicals. Beckers considers REACH as key element in the context of responsible product stewardship. It supports our resolute commitment to safeguard health and environmental protection at the highest level.

Alan BUTCHART

REACH for a healthier environment

The European Chemicals Agency ECHA is implementing REACH, having been tasked with managing the technical, scientific and administrative aspects of the regulation. The primary aim is to provide a high level of health and environmental protection when chemicals are used by making those who place chemicals on the market responsible for understanding and managing the risks associated with their use.

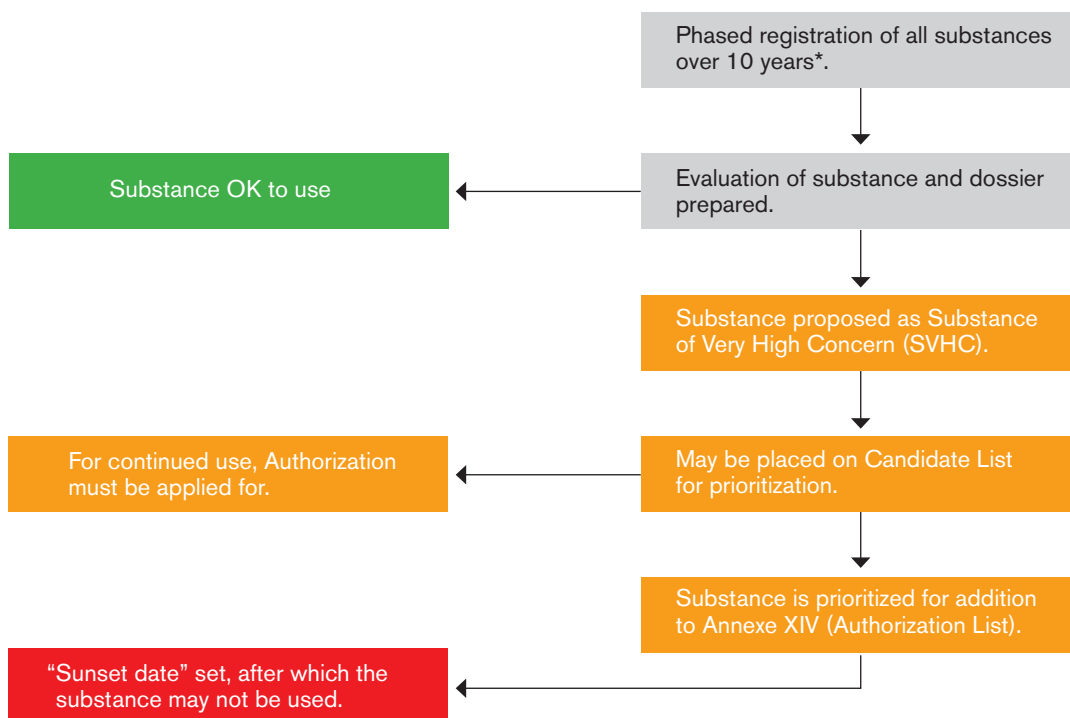
The REACH Regulation applies to substances manufactured or imported into the EU in quantities of one tonne or more per year. Initiated in 2008, the long and complex registration process is conducted in three phases over a period of ten years, encompassing some 30 000 chemicals used across the EU.

As of May 2016, according to the ECHA website, some 14 200 substances have so far

been registered. The intention is to facilitate the free movement of chemical substances within the EU market. REACH also hopes to enhance innovation in and the competitiveness of the EU chemicals industry and to promote alternative methods for assessing the hazardous properties of substances.

Like all chemical suppliers, importers and other users within in the European Union, Beckers as a downstream user observes strict compliance with all REACH requirements. The chart on next page illustrates the REACH process and the fate of substances registered.

When a material has been proposed as a Substance of Very High Concern SVHC it enters the orange part of the process outlined on next page. It will then generally take five years or more before it is placed on the Authorization List, at



* Registration is carried out by the substance manufacturer, the importer or their representative. So far, all substances used in quantities over 100 tonnes per year have been registered, as have substances used in amounts of more than one tonne per year, if carcinogenic, mutagenic or reprotoxic (CMRs).

which point companies must seek authorization to use the substance. In theory, the process can be speeded up, although this is unlikely.

Addressing the challenge of SVHCs

Not being involved in the manufacture of chemicals, Beckers is spared the burden of registration, apart from when importing substances from outside the EU. This said, the company must still ensure that the substances used are registered and approved for use in paints. Any failure to correctly register a chemical substance for a specific end-user application means lost sales for the original supplier. The use of benign substances presents no problem for Beckers, of course, as they are approved for use (green box in the above diagram).

Rigorous monitoring of potential hazards

The picture becomes more complex with more harmful substances. These may be nominated by Member States as Substances of Very High

Concern, for inclusion on a Candidate List. This normally arises when citizens of a particular Member State have come to harm from the use of a substance. At present, the Candidate List features approximately two hundred substances with more being added every year.

The possible risks associated with these substances along with any potential commercial impact are rigorously monitored. Feedback provided to the European Chemicals Agency is incorporated into its subsequent assessment. Substances cited on the Candidate List may remain on it but may still be used without authorization. Inclusion constitutes something like a 'notice of possible action'.

Through the European Coil Coating Association ECCA and the European Confederation of Paint, Printing Ink and Artists' Colours Manufacturing Associations CEPE, Beckers maintains a watching brief for substances that may face issues if the process goes further as certain substances will then be selected for prioritization by European Chemicals Agency. Once selected, the substance is evaluated and, after consultation, authorization may be required to enable continued use with a ►

“...REACH’s mission to promote a safer and healthier working environment fits well with Beckers’ current aims and long-term goals”

‘sunset date’ being set. After the ‘sunset date’ is reached, authorisation is required for use.

Three status levels

The list features three status levels, the first being: “Not yet recommended for inclusion for authorization”, meaning that the substance has yet to be considered by ECHA. The second level is “Recommended for inclusion for authorization”. This indicates that the substance has been considered, is under consultation and is waiting a final decision on its ‘sunset date’. The third level, “Included on the authorization list”, signifies that the substance requires authorization for continued use. A full list of substances and their status may be found at the ECHA website.

Costly process

Several companies have applied for authorization to continue the use of substances that have been included in the authorization list. An application for authorization must be made 18 months prior to the stated ‘sunset date’, and time is limited. This authorization is granted for a specific application only and does not constitute blanket authorization for general use. This has proved very costly (far in excess of ECHA’s estimated figure for consulting costs of €230,000) and an application could still fail! Authorization is designed to permit continued use until a suitable alternative can be developed. The European Confederation of Paint, Printing Ink and Artists’ Colours Manufacturers Associations (CEPE) has established a ‘Paint Formula Stewardship

project to aid the identification and substitution of substances that are likely to be classified as SVHCs.*

Case studies

Case 1

Strontium chromate and chromates

Beckers, in common with the rest of the coil coatings industry, has been especially alert to the need to address the issue of chromate pigments, and strontium chromate in particular. By the time ECHA had identified this substance as an SVHC, following its revelation as a carcinogen, chromate-free coatings were already being tested and providing excellent performance. This has enabled a smooth transition to chromate-free primers.

Case 2

Hexahydrophthalic anhydride HHPA

This material is used as a monomer in the synthesis of some of our resins. This has been identified as an SVHC, having been shown to cause severe (life-changing) asthma in a number of cases when used as a curing agent without proper controls. However, our resin suppliers have reassured us that, since they employ this HHPA polymer in molten form in a closed system, the risk of operatives being exposed to harm has been eliminated, obviating the need to seek REACH authorization. This is nevertheless the first case of its kind, so we await ECHA’s decision. Via the European Coil Coating Association ECCA, Beckers has expressed its concern to ECHA over the possibility that HHPA may become a restricted substance. This process is ongoing. ECHA has yet to reach a decision and, in the meantime, Beckers, our resin suppliers and the manufacturer of hexahydrophthalic anhydride must exercise patience.

Sustainability the key

Sustainability is a key element of our corporate vision, driving our business forward and creating a solid ethical basis for future expansion. Exemplifying some of the most stringent regulation in the world, REACH’s mission to promote a safer and healthier working environment fits well with Beckers’ current aims and long-term goals. ■

* Thanks to Wolfgang Lauterbach Beckers Germany and Eric Brasseur at ArcelorMittal for help with some of the details in this article.

2015 Sustainability Report published

The Beckers Group Sustainability Report has now been published for the fourth year in succession. However, this is the first time the Report has been prepared in compliance with GRI* G4 guidelines – in our view, the gold standard for sustainability reporting and disclosure. This marks still closer alignment with

our stakeholders, who are also engaged at this reporting level.

The Report can be found on our website under heading Sustainability. For the most sustainable read, choose the screen-friendly version.



*Global Reporting Initiative: An international independent standards organisation.

Hot opportunities in growth market

The Middle East is gearing up to host two globally significant events – the 2020 World Expo in Dubai and the 2022 FIFA World Cup in Qatar. Santosh Jose, Managing Director at Beckers UAE, comments on the challenges and opportunities for the coatings sector.

Santosh JOSE

Constructing the venues will involve a whole range of major and highly prestigious projects, as participants aim to create the most memorable architecture and most effective infrastructure. These events offer Dubai and Qatar a unique opportunity to place themselves firmly on the global map – and they mean to do so in style!

Construction boom

Hosting such major events is a first for the Middle East, generating a huge boom in investment. With more than 25 million visitors expected to attend each event, considerable emphasis is being placed on an upgrade of existing infrastructures, such as airports, hotels, power-generation systems, theme parks and so on, involving a likely net expenditure in excess of USD 100 billion. Countless contracts have been put out to tender and competition

between subcontractors is fierce. The host nations are determined that these events will create an enduring legacy, that will prove of lasting benefit to their citizens.

Sustainable approach builds long-term value

As a market leader in the global coil coatings sector, Beckers is naturally keen to secure its share of these ambitious projects, developing demand for the company's products and services and further enhancing its brand recognition in this exciting and fast expanding market.

Beckers prides itself on a sustainable approach, not only in terms of production methods and end-products, but in terms of pre-sale consultation and after-sales service, with a view to establishing a lasting customer relationship. We are determined to ensure the customer is

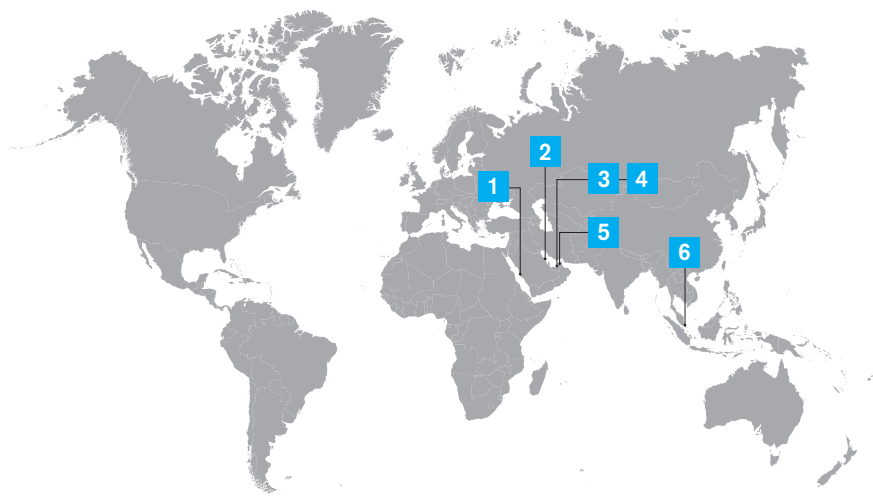
supplied with exactly the right product for the job, backed by our global research expertise and precisely formulated for local demands, ensuring mutual trust in seeking optimal solutions.

First and foremost, this is about establishing close contact with end-users, consultants, architects, customers, contractors and others, to gain an understanding of a region's physical and cultural profile, as well as acquiring first-hand local expertise of the economic and technical conditions and the business potential of upcoming projects.

Harsh climate requires tough solutions

Having determined the nature and volume of the demand, we soon started working with consultants and architects on specifications and warranties. The regional environment is very harsh, temperatures

Examples of flagship projects Beckers UAE is involved in:



rising to some 55° C, with only minor variations of between 3° C to 4° C, and very high levels of UV exposure and humidity. Consequently, end-users are demanding performance warranties in excess of 15 years, to ensure the sustainability of their projects.

Given such extreme and harsh physical conditions, products such as Beckry®Fluor 630 and Beckry®Duro, applied in multiple layers, are likely to offer the highest durability.

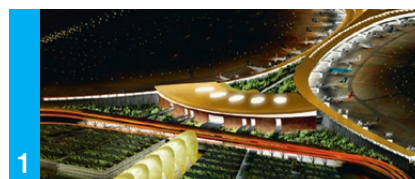
Personal service

Closely supported by our Global and Regional teams, seminars and meetings are being held to inform potential customers about our extensive range of high-quality products, all of which can be tailored to the specific requirements of each project. Beckers UAE stresses the importance of personal visits in Middle Eastern culture,

endorsing the need to visit key customers and to provide detailed after-sales support – and to be willing to address any issues or queries.

Strong growth potential

With ever more projects being announced, such as the tallest towers in the world (higher than Burj Khalifa), new and improved power plants, King Abdulla Economic City in Saudi Arabia, Lusail City in Qatar and so on, Beckers UAE is well positioned to grasp new opportunities to consolidate its position in the region. Looking to win many of the coatings contracts put out to tender, able to offer state-of-the-art products backed by the Group's internationally respected sales and technical support teams, Beckers UAE is on course to becoming a key element in securing Beckers leadership of the coil coatings industry. ■



1 Jeddah Airport.
Estimated cost: USD 8 billion. Beckers product: 120 micron Beckry®Fluor 630 system.



2 Sadara Chemical plant, Saudi Arabia.
Estimated cost: USD 20 billion. Beckers product: 120 micron Beckry®Duro system.



3 The Warner Bros Theme Park project, Abu Dhabi.
Estimated cost: USD 700 million. Selected Beckers products: Beckry®Fluor 630 and Beckry®Duro.



4 New Abu Dhabi Mid-Field Terminal.
Estimated cost: USD 3 billion. Beckers product: Beckry®Fluor 630 (four-coat).



5 Motion Gate and Bollywood Theme Park, Dubai.
Estimated cost: USD 3 billion. Selected Beckers product: Beckry®Fluor 630.



6 Thomson Line Depot, Mandai, Singapore.
Estimated cost: USD 263 million. Beckers product: Beckry®Therm PVDF.



The paint preparation area

Sustainable development at LTD lab

Dr. Chris Lowe, Beckers Long Term Development Europe Laboratory
Manager in the UK, writes about a recent renovation project.

Chris LOWE

In a commercial and industrial context, the term ‘sustainability’ generally refers to the effectiveness and conservation of resources – including ‘human’ resources – the people who do the actual work. One of the best ways to secure superior quality and productivity, as well as the long-term sustainability of a business, is to provide a favourable work environment for staff. For laboratory staff, working with potentially hazardous chemicals, comfort and safety are especially critical.

Time for an upgrade

The LTD (Long Term Development) laboratory in the UK is one of Beckers’ key laboratories dedicated to coil coatings, tasked with the development of new products, processes and testing techniques. Having outgrown its original specifications, the LTD UK laboratory recently underwent an ambitious upgrade, involving total refurbishment and rationalization of the work area, to create a truly sustainable laboratory. This refurbishment programme was warmly welcomed by LTD UK personnel, who worked as an integrated team on the planning and the move out of the lab, working without a dedicated lab for ten weeks before returning to their new workplace. Everybody is justifiably proud of the new laboratory and the fact that little momentum was lost on projects in progress at the time.

Higher productivity and performance

Designed to secure positive benefits in terms of the work and general environment, by conserving resources and reducing the energy requirement, the upgrade is expected to increase productivity and enhance the lab’s performance. Today’s research laboratories are complex facilities that must keep pace with the latest technologies and research methods. Our new state-of-the-art laboratory will serve to inspire and facilitate the task of developing the sustainable products and processes of the future.

Comfortable and safe

The new laboratory is a pleasant and efficient place to work in. The Paint Preparation area has been separated from the Paint Application

“This type of analysis must be conducted at 19° C, to determine nuances in the degree of cure achieved by a particular paint system”

area, doubling the area available for the LTD UK laboratory’s key task: the development and testing of new paints for the coil coating industry. Both areas feature excellent extraction systems. The Paint Preparation area is equipped with five Alsident arms, as well as three in the Paint Application area, combined with a dedicated extraction system for the ovens. This has made for a dramatically improved work environment. For additional safety, all samples are now stored in metal, fire-resistant cupboards, with a non-exceed limit of 250 litres per room. Consequently, only work-in-progress is stored in these cupboards, along with current raw material samples. Everything else is kept in an outside store, separated from the main building. To keep the risk of fire to a minimum, containers may not be opened inside the store.

Purpose built

The main laboratory area now hosts analytical activities as well as panel testing. The right wing houses the spectroscopy bench, with both IR and UV spectrometers. The left wing features a T-Bend press, a film-thickness meter and an emissometer (to measure IR emissivity). Tucked in the corner under its own extraction arm is the drop-shape analyser, which can help determine surface free energies (SFEs). The refurbished microscope alcove is now lit by an infinitely controllable light source, the walls having been painted a special grey to reduce reflection, to ensure that images of weathered panels taken by the macro camera in the same alcove are reproducible in terms of colour. ▶

Energy and cost-efficient

A temperature-controlled environment is essential when testing the mechanical performance of coatings on panels, since temperature and humidity both have a significant impact on the tendency of paint to crack or stretch when the substrate is formed. For this reason, the main laboratory's air conditioning maintains a constant temperature of 21° C. To limit the energy needed to maintain such a comfortable temperature, the air conditioning system incorporates a Lossnay heat recovery system that employs the heat from extracted laboratory air to warm the incoming outside air that is used to keep the environment fresh.



The newly refurbished main laboratory

Further energy efficiencies have been achieved by lowering the ceiling (reducing the volume of air to be heated) and adding more insulation. Lighting is another often ignored consumer of energy. The installation of LED lighting throughout the main laboratory and all other areas (such as the Paint Preparation area and general office) has yielded additional savings.

Constant temperature for consistent results

The heat recovery system operates alongside the air conditioning system in the offices and constant-temperature room. This latter space is where microhardness testing is carried out. This type of analysis must be conducted at 19° C, to determine nuances in the degree of cure achieved by a particular paint system. Much lower, and everything becomes glassy. Much higher, and we miss the changes in some of the lower glass-transition temperature (T_g) systems. For convenience, the Differential Scanning Calorimeter, which determines T_g and is often requested in conjunction with microhardness, is also situated in the constant-temperature room.

Stylish workplace

The general laboratory office is where people tend to write up their technical reports. In winter, prior to the lab's refurbishment, this could prove a chilly assignment (!). Thanks to the new air conditioning and heat recovery system, it is just a distant memory. New blinds and office furniture have completed the transformation, making the place a pleasure to work in.

The new entrance, previously off to one side, now opens up into the centre of the main laboratory space. The visual impact of the vibrant new colour scheme, combined with the strict symmetry of the entry passage, is nothing if not dramatic!

The Natural Step

In designing and building the new laboratory, Beckers was guided by the four principles of sustainability defined in The Natural Step's Framework for Strategic Sustainable Development. For those working in the new lab, this



New workspace

translates into a warmer, fresher, brighter and more colourful environment. There has also been a great improvement in personal safety, with significantly revised work practices, to reduce exposure to solvents and make their storage more secure. Energy efficiencies have been introduced where feasible and appropriate, and much of the existing equipment (such as fume cupboards, ovens and office furniture) has been retained.

Pragmatism rules

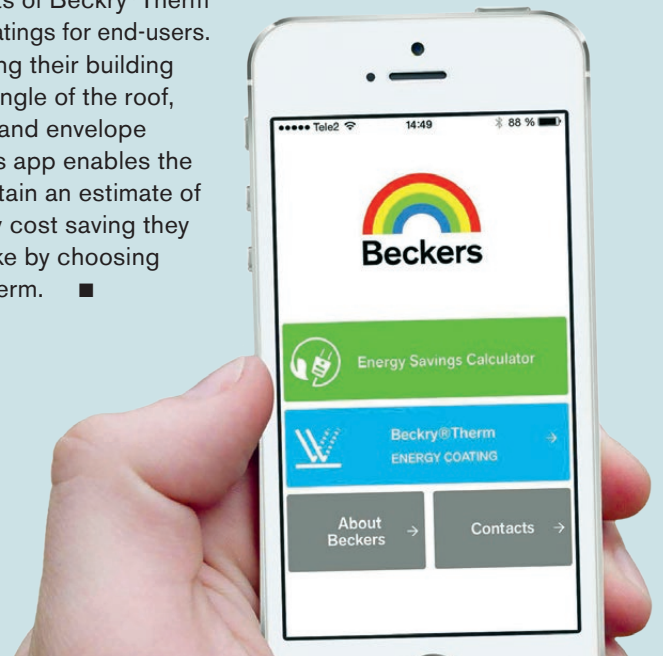
Of course, some things proved impractical or too costly – or both. Using the hot air from the ovens to heat the laboratory was not deemed cost-effective by the building services engineers. The use of air conditioning or heat recovery in the Paint Preparation and Paint Application areas had to be ruled out, because solvent-laden air could corrode the delicate walls of the Lossnay heat-recovery system, as well as the internal workings of the air conditioning systems.

Nevertheless, the UK's LTD lab has undergone a major transformation. The professional competence for which the LTD UK laboratory is already internationally recognized is now impressively mirrored by the professional appearance and technical sophistication of the building in which it is housed. ■

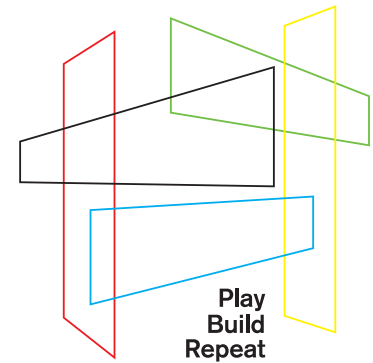
Coatings expertise in your pocket – the Beckry®Therm App

Beckers Group has released an energy savings calculator app called Beckry®Therm for mobile devices, based on a calculating model previously developed by Beckers Group (LTD UK) together with Oxford Brookes University, School of Architecture.

The app can be downloaded to mobiles or tablets free of charge from App Store or Google Play. The app demonstrates the benefits of Beckry®Therm energy coatings for end-users. By selecting their building location, angle of the roof, insulation and envelope colour, this app enables the user to obtain an estimate of the energy cost saving they would make by choosing Beckry®Therm. ■



New game plan for storytelling



Christophe PERIN

In their role as creative innovators and originators, architects often determine the scale, form, location and (increasingly) sustainability of construction projects, as well as the choice of materials and many other design decisions. Key specifiers in the construction process, they are also often keen advocates of new construction methods and technologies. For the world's material suppliers, this creative and inspirational segment of the construction industry constitutes a highly attractive customer base, offering considerable global market potential.

In marketing terms, it also presents a real challenge. The creative mind of an architect is not easily wooed by the conventional marketing tools and technical literature normally deployed by materials suppliers, such as the paint and construction-materials industries. A more radical and innovative approach is required.

Creative collaboration

An important European aluminium coil coater and long-standing Beckers customer, is keen to promote its Aluminium Composite Panels (ACPs) for façade applications to architectural, building and engineering-construction firms around the globe. One of the companies the coil coater wanted to approach is a prestigious firm of architects

with offices worldwide. But how best to do this? The company turned to its coil coatings supplier Beckers for advice and marketing support.

Creative play

Aware that architects are less amenable to conventional marketing techniques and dry technical argument than their industrial counterparts, it was clear that something more radical would be needed to engage their professional interest. Initial brainstorming concluded the need to adopt a conceptual approach for introducing the coatings and advanced ACP construction material, while ideally maintaining that element of relaxed creativity so crucial to architectural innovation.

After further brainstorming, an elegantly simple concept emerged: construct a physical model to demonstrate the comprehensive range of colours, the abrasion and corrosion-protection benefits, the available finishes and textures and the many functional applications. And simple meant simple! We chose to imitate a popular children's educational toy: the Kapla® building block set.

The Kapla® construction game comprises sets of rectangular wooden pieces (11x2 cm) that can be assembled to create anything you care to think up. Interestingly, this was the brainchild of a Dutch History of Art student*, who wanted a simple tool to help conceptualize his project of building a castle during its initial stage!

Obviously, we'd need more than wood to promote the combined benefits of aluminium composite panels and Beckers' advanced coatings. The solution was to glue a range of carefully selected aluminium samples onto a set of 140 wood blocks (we made five sets in all).

Building the argument

The box set provides valuable visual support when presenting architects with the argument for employing ACPs and advanced coatings. The argument and the inspired Kapla® construction involve a seven-stage progression, resulting in the physical construction of a tower.

Each stage builds a key element of the argument for adopting coil-coated ACPs. The first stage addresses the environment in which the tower is built. We supply paint systems formulated to meet the full range of environmental challenges, whether industrial, coastal, rural or urban, and



Storytelling engages the creative mind



have decided to build the tower on a game board featuring alternative construction scenarios. The second stage features a brief presentation of the aluminium coil coater and Beckers. The third stage presents the benefits of the ACP concept. The fourth stage presents the nature of coil coatings and a key benefit: protection of the metal substrate. The fifth stage addresses the extensive range of colours and textures available. The sixth highlights the functionality and versatility of coil coatings, while the seventh and final stage looks ahead to the future of our industry.

We hope the interactive nature of this presentation will open the door to future collaboration on technical issues and the development of new material capabilities. The complete 140-piece set, featuring an extensive presentation of Beckers' and the coil coater's joint expertise, will be distributed to selected firms of architects.

This innovative marketing approach aims to stimulate potential major players, such as architectural firms and engineering consortia, to specify this exciting new construction material for future projects.

We expect to launch the road-show in October or November 2016. ■

*Kapla is short for Kabouters Plankjes (Gnome Planks) in Dutch, and was invented by Tom van der Bruggen in 1987.



Innovative venue for creative harmony

The Consumer Design Finishes CDF unit supplies smart coating solutions for the fashion-sensitive lifestyle appliance and consumer electronics markets. CDF handles complex global projects for multiple stakeholders across time zones. Our coatings help leading brands achieve iconic status by transforming their feel, visual impact and functional appeal.

Emily WU

The days when manufacturers could tell their customers “You can have any colour you like, as long as it’s black” (attributed to Henry Ford) are long gone. Today’s consumers still want functionality, reliability and value for money – but they want more. They want products that enhance their personal identity and express their individuality: products that are a lifestyle and fashion statement. This is what CDF is all about – to ensure an optimal balance between fashion and coatings.

Radical forum for ideas

In striving to anticipate lifestyle trends, we cooperate closely with a broad range of specialists, especially product designers. Beckers often hosts entire teams of designers, who may stay for days at our sites while new colours and textures are discussed, designed and applied. These design meetings are often punctuated by long breaks, as samples are prepared. This created a clear need for something more relevant and more radical than the typical conference room.

CDF decided to design a venue that would stimulate a creative exchange of ideas while also providing an environment in which people can mix in a relaxed atmosphere. Naturally, we have also taken the opportunity to showcase a selection of Beckers’ state-of-the-art coatings on a range of advanced products.

Multipurpose design

To meet these multiple requirements, the new venue comprises three areas. In the first, the visitor is presented with a display of Beckers’ coating applications, demonstrated in the form of items such as part of an excavator, a motorcycle helmet and a painted metal panel. Adjacent is a functional room for meetings, of simple design and with good lighting, to facilitate presentations and product evaluations. There is also a more casual and colourful space, with comfortable sofas to relax in, an Xbox and much more...

The rooms display sample panels that cover a broad range of tactile and visual properties, attached to the wall with magnets, to permit simple removal for ease of inspection. To provide a concrete demonstration of our coatings in everyday use, the showroom features several end-user products. These include a Dyson fan and Dyson

vacuum cleaner, coffee machines from Saeco & Keurig Coffee, the above-mentioned Microsoft Xbox, Nolan helmets and more.

Historical context

Milestone events in the company’s 150-year history are depicted on the ceiling and wall of the main display hall. The ceiling is worth special mention, designed to simulate an electronic circuit board, mirroring Beckers’ interaction with the consumer electronics industry. A wall-mounted TV displays a video loop that highlights Beckers’ global sites, business segments, products and trend collections.

Welcoming atmosphere

In the cosy area, designers and other creatives can take some time out from brainstorming, try their hand at playing the guitar, relax with a video game, listen to music or enjoy coffee while chilling on a comfortable sofa. A small library of design books and magazines offers inspiration and food for thought while samples are being prepared.

Naturally, this new Guangzhou showroom is not for CDF alone. All Beckers’ business segments are keen to make use of these new facilities and benefit from the unique opportunity they offer to develop and evaluate innovative coating solutions in a relaxed and creative environment. CDF is determined to contribute to a more colourful and sustainable world. This new venue is designed to promote this vision. ■

”This is what CDF is all about – to ensure an optimal balance between fashion and coatings”





A reliable supplier today and for the future

Our industry and markets are experiencing a period of radical transition in numerous areas at the same time. New technologies and business models are replacing mature concepts, transforming social and organisational assumptions, while driving change in terms of the environment, energy and digital technology.

Jean-Pierre GENEVAY

For Beckers, this involves much more than the consistent upgrade of production technology. It involves full integration of business models, organisational structures, design concepts and marketing across the company, to secure pole position in a digital world where the distinction between the industrial and service sectors is becoming less clearly defined.

To achieve group-wide operational excellence and maintain our competitive edge, we must be innovative, reliable and not just meet but strive to exceed customers' expectations. We must also be agile and alert to the market's changing demands, focused on providing complete and sustainable solutions that add value to our customers' businesses.

The market

The coil coatings market has been globalized for some years now. All businesses operating on this market face a new and more complex global scenario, with increasingly fierce competition, more stringent demands, tougher constraints and multiple new inputs.

Performance must be assured in an international environment where uncertainty and technical, economic and legislative change has never played such an important role or evolved at such a pace. As a leading manufacturer of coil coatings, Beckers believes innovation, product quality and the provision of a broad range of advisory and technical services means more to our customers than bargain-basement pricing.

We believe the future of pre-coated metal must be based on an up-market strategy, where technical development focuses increasingly on the integration of more and more sustainable products. This is in complete contrast to a strategy based on low-cost products.

Flexibility the key

To meet the multiple and ever-changing demands of customers, we must constantly refine our organisational structure and production facilities to ensure optimum flexibility.

Optimized production

Large centralized production facilities that supply

standardized products across vast geographical areas have outlived their usefulness. Industrial dinosaurs, they are unable to fulfil today's demands for sustainability. As an early proponent of sustainable business models, Beckers has long favoured regionally-based medium-sized facilities, featuring the flexibility essential to meeting the varied requirements of local customers.

Equipped with the latest highly-automated technology, our production sites can respond to the rapidly shifting demands of volatile and unpredictable markets, supplying everything from short series to big batches. Backed by our fully integrated ERP (Enterprise Resource Planning) systems, inter-site compatibility across our globally distributed production network ensures prompt delivery, even when local production may be temporarily disrupted for some reason. All Beckers paint formulations are fully transposable, making inter-site transfers trouble-free. For example as you can see below, our European sites have presently a combined installed paint capacity of 135 000 tonnes, featuring a 70% utilization rate. ▶

	Polyesters	Plastisols	Primers	Backing coats	PVDF	Polyurethane	Beckry® Mix
Beckers France	●	●	●	●	●	●	●
Beckers Germany	●		●	●	●	●	●
Beckers Italy	●		●	●			●
Beckers Poland	●		●	●		●	
Beckers Sweden	●	●	●	●	●	●	●
Beckers Turkey	●		●	●		●	●
Beckers UK	●	●	●	●	●	●	●



Beckry® Mix

Freedom to innovate

A privately-owned company, unconstrained by short-term interests, Beckers is free to implement business strategies geared to long-term growth, ensuring the stability of the company and cementing its market recognition as a reliable partner – that plans to stay around for the future.

As a customer-driven business, Beckers is determined not only to meet but to exceed expectations. To achieve this goal, the high quality and dedication of our employees, linked to a willingness to embrace and implement new technologies, is paramount.

At the core of our workforce, 200 chemists are engaged in developing optimal and sustainable coatings solutions that address a whole range of customer priorities – economic, social and environmental. The latest advances and insights in paint technology are freely disseminated throughout the company, an information-sharing process that promotes innovation and speeds time-to-market.

Freedom to mix

On hearing that we can supply our products in kit form, readers may well wonder whether the ideas of a certain globally-recognized Swedish supplier of home furnishings and furniture might possibly have influenced us!

Known as Beckry® Mix, this concept involves the provision of a core stock of mono-pigmented bases and a number of specially-developed intermediates, accompanied by the installation of our dedicated user-friendly software for paint formulation and process management. This provides customers with the ultimate in flexible production.

With some twenty Beckry® Mix systems already installed adjacent to their coil coating lines, our customers can rapidly produce small and medium batches of specific colours and textures, precisely matched to local demand. Additional benefits include tight stock control and optimization, the elimination of surplus quantities and the potential for recycling.

Looking ahead

In common with many other companies, Beckers employs traditional supply-chain management tools for electronic data interchange (EDI), vendor-managed inventory (VMI) and so on. Increasingly, however, we are convinced that the future lies in an integrated network with our partners.

Further digitalization will help us stay in permanent 24/7 contact with our regional customers and, ultimately (if they so wish), enable access to their own line-management systems.

Knowing the exact line requirements (precise surface data) will enable us to produce the right product, with the right properties and in the right quality, for delivery at the right time and at the right cost. This increased supply-chain precision will inevitably benefit both parties, having a positive impact in terms of generally greater efficiency and more tightly-controlled inventories.

In future, with the appropriate IT systems installed, this integrated network could provide customers with remote access to proprietary production

software, such as that used for Beckry®Mix. Integrated ERP systems will ensure accurate real-time information on an order's progress, from initial request to actual receipt of the batch by the customer.

We already use advanced software for contact with shippers and to monitor actual shipments, eventually planning to digitalize the entire supply-management process, right up to the arrival-alert on the line-manager's smartphone.

Similarly, IT links (extranet from our ERP system) can be implemented to ensure a rapid and accurate response to customer requests for new colour matchings, warranties and potential claims data, as well as for technical and safety-data sheets.

We also plan to explore digital strategies for improved marketing communication and for sharing data and reports, as well as ways to optimise conceptualisation, specification and innovation processes by means of a more dynamic interchange between our and customers' R&D teams.

Conclusion

With our smart and sustainable industrial footprint, flexible production and computer-controlled manufacturing systems, we believe we are well equipped to meet the coil coating industry's future needs. Not to mention a workforce that is highly qualified and highly motivated.

The comprehensive data generated by our ERP system at each stage of the value chain ensures rapid and appropriate implementation of customers' requests.

Having already achieved a considerable level of digital intimacy with our customers, we hope to build still more confidence, promoting shared insights and greater innovation throughout the supply chain, from R&D to production and marketing. A digital working environment empowers employees and business partners with more freedom to collaborate, connect and do business. This partnership will further our joint industrial objectives, adding value while contributing to a more sustainable world. ■



The future envisioned is one where digital intimacy will create an even more dynamic relationship between supplier and customer.

Consumer Design Finishes inspire new thinking on coil coatings

ArcelorMittal's Europe Flat Products Division has identified the Domestic Appliance market as an area of exciting growth opportunities. The company hosted its first Domestic Appliance conference last year in Germany for stakeholders to meet, discuss and inspire.

Christophe PERIN

This assessment is based on two key factors. First, this market has by tradition primarily utilized post-painted metal (the metal being painted after forming), the number of appliances facilities working with prepainted material remaining a minority. This seems to be changing, however, with a move to more and more pre-painted metal (the metal being painted prior to forming). This trend clearly opens up new high added-value markets for Beckers' coil coating customers, given that steel manufacturers will not only supply the virgin metal, but will be able to add colour, corrosion and abrasion protection and, where appropriate, specific textures. The second factor is the steady growth in the number of domestic appliances per capita, especially in Eastern Europe, where OEMs' major European operations are sited. At present, the Domestic Appliance market segment currently only represents about 4% of total pre-painted steel volumes. However, this

figure is expected to continue to rise by 25 % during the next 5 years. On October 15th 2015, ArcelorMittal hosted its first Domestic Appliance conference at its Eisenhüttenstadt facility in Germany. The conference confirmed the company's dedication to the segment, providing a dynamic forum where stakeholders from all over Europe could meet, share ideas and gain inspiration. Some 80 participants attended the event.

A choice of lifestyle

As a recognized innovator and major paint supplier to the ArcelorMittal Group, Beckers was asked to present its unique perspective on ways to promote growth in the demand for pre-painted coil by the DA segment, highlighting the benefits of trend analysis in determining the colour, finish and even surface texture of the end-product.

Once the scope and expectations for the conference had been finalized, the relevance of a presentation by Beckers Consumer Design Finishes (CDF) seemed self-evident. Each year, the Beckers CDF team launches a collection of new colours, visual effects and new textures for its key customers: the Consumer Electronics and Lifestyle Appliances manufacturers. Practical considerations, such as the challenge of applying CDF paints at 150 m/min on a high speed coil coating line, were not the issue. The aim was to demonstrate Beckers' understanding of trends in architecture, fashion and design, and the potential gains to be derived by transferring such expertise to the world of pre-painted steel.



Sara Ek shares some colourful insights with Philippe Gousselot Product Development Manager ArcelorMittal.

Future directions

The format chosen for this presentation was the 2015 Beckers video "In the Capsule", part review and part analysis of current and anticipated trends affecting colours and finishes for consumer electronics and lifestyle appliances. Introduced by Beckers' Sara Ek, from CDF Europe, the video was screened in three parts, allowing Sara to expand on context and content during the two intermissions.

The conference was a success. Kicking off with a lunch and tour of the Eisenhüttenstadt site, the conference programme featured a series of special presentations covering the Domestic Appliance market and its dynamics, as well as focusing on the ArcelorMittal product portfolio for this segment.

The CDF video was among the final presentations of the day. Initially intrigued and perhaps somewhat surprised by the format and style of the video, the conference participants soon became keenly interested, responding enthusiastically to the challenge to think "out-of-the-box". The presentation provided the attending OEM representatives with a hint as to ArcelorMittal's possible direction in terms of future developments within the Domestic Appliance segment.

The conference ended with a mingle, during which were presented the most innovative steel solutions developed for the Appliance industry, and also how the break-through automotive

steels could tomorrow find their space within our kitchen and laundry appliances in the style of a mini trade fair. Beckers CDF took the opportunity to display its Global Lifestyle Appliance Colour Book, while exchanging ideas and sharing feedback with conference participants.

Trend analyses of colour and lifestyle are invaluable to the many industries that cater to the subjective and emotionally-driven tastes of consumers. From designer clothing to automotive styling, the ability to anticipate future directions in lifestyle choices is crucial to commercial success. Until now, convincing the steel industry of the power and relevance of these 'soft values' has presented something of a challenge. Now, however, with the domestic appliance market's growing demand for pre-painted coil, steel suppliers are learning to appreciate the strategic importance of the analytical and product know-how. Allied with the proven industrial expertise of Beckers' two business segments, CDF and Coil Coatings, the resulting synergies offer exciting new business potential for the steel industry ■

Global Safety Day

Safety is critical to the efficient operation and profitability of a company. Known for its dedication to superior product quality and innovation, Beckers is also deeply committed to safety: product safety, employee safety, customer safety and environmental safety.

Jayakumar RAJAMONEY



Beckers Indonesia: Firefighting.



Beckers Nigeria: Roll call drill.

At Beckers, Environmental Health & Safety (EHS) is very much an on-going process. Naturally, the provision of safe and healthy working conditions to prevent injury and illness is first and foremost management's responsibility. But for optimum effect, employees must be actively engaged in implementing the health and safety programme.

to achieve a still higher level of EHS awareness. The key message for this event was the need for everyone to think, work and be safe – to take ownership.

Global EHS Director Jayakumar Rajamoney: "The motto of Global Safety Day was **"We own EHS"**, highlighting the need for each and everyone to claim ownership of the EHS commitment, not only for their own safety but for the safety of their colleagues, for Beckers and – ultimately – for the community in which they operate".

Beckers complies with and adheres to all the appropriate rules and regulations at every site and in all the communities and countries in which we operate. We are a responsible partner to all our stakeholders, serving the broader interests of society. Providing a safe working environment is central to our corporate vision. ■

Key EHS initiative

To highlight the importance of EHS throughout the organisation, Beckers organized a worldwide Global Safety Day in June this year. The day kicked off with a video message from senior management, followed by an on-site programme of EHS-related activities. During the day, employees were asked to fill in a questionnaire, the results from which will form the basis of a roadmap for a systematic approach to how best



Beckers France: How to operate a heart starter

Greetings from the CTO

Dear Readers,

In this latest issue of Beckers Magazine, I would like to take the opportunity to highlight some of our recent key technology developments, reconfirming our long-term aspirations concerning the sustainability-driven industrial coating markets of tomorrow. Despite recent volatilities in global industrial coating landscapes, Beckers is determined to maintain its strong commitment as a reliable partner in the development of cutting-edge solutions, in close cooperation with our customers.

In 2016, as a leading player, we have again asked ourselves: "What drives true innovation?" To address this question, we have launched a pilot for a new format. This has involved the establishment of an internal 'innovation dialogue' between our strategic R&D resources at group level and our local businesses, as well as a thorough review of all of our strategic innovation activities at group level.

Both initiatives have resulted in realignment towards a more consequent and forward-looking regional business focus and a new and truly comprehensive strategic R&D portfolio. This builds on industry-shaping development activities, that are geared to the essential future needs of our customers. We are also determined to pursue our strategy, by

ensuring a cross-business momentum that generates an even stronger focus on more sustainable coatings technologies.

First, this translates into a broad range of new developments facing imminent and challenging regulatory dynamics, such as the recent Chinese VOC regulation initiatives. Second, we have reaffirmed our strong commitment to further invest in our determination to secure leadership in the field of renewable-based coil coatings technologies.

In addition to this aspiration, I would like to highlight another key project, that we consider as a core building element in paving the way for our efforts in the area of business model innovation. Our dedicated team has further developed the new Beckers Sustainability Index tool and launched it towards a broad range of stakeholders and customers. This tool, based on but far exceeding classical LCA assessments, permits rapid classification of the sustainable impact of entire coatings system solutions (which may comprise as many as four coating layers), addressing both material and functional sustainability.

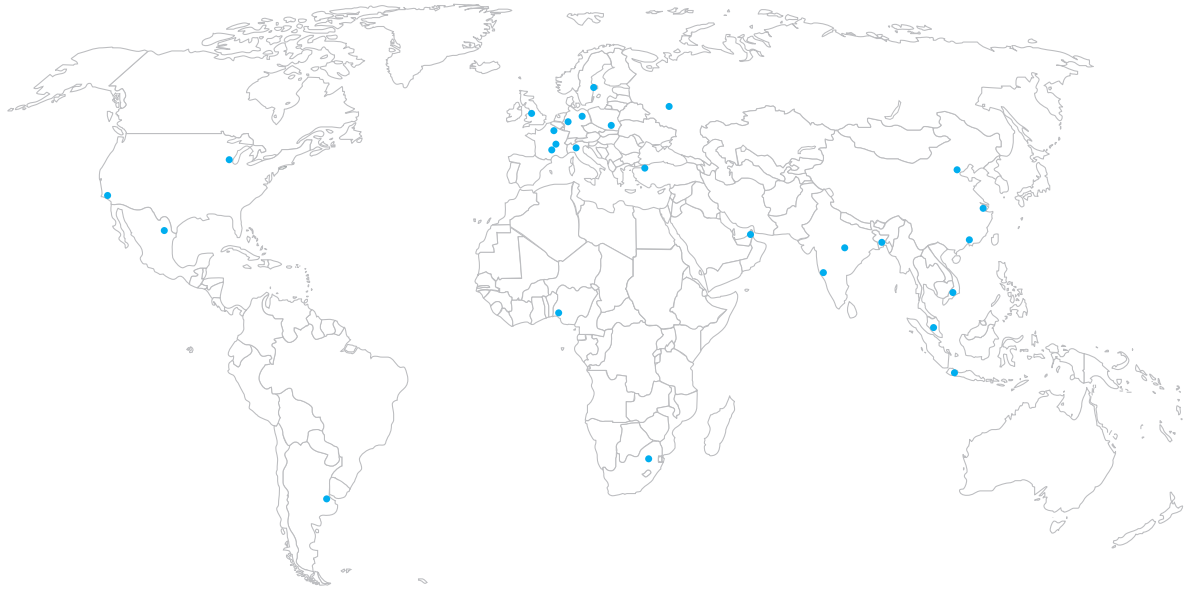
On a personal note, I'm pleased to have at this point the opportunity to thank all customers, suppliers and key industry stakeholders for their valuable and very

constructive and supportive feedback during the latest shaping-development phase of the Beckers Sustainability Index tool.

It only remains for me to wish you the very best for an innovation-rich 2017, and hope that this latest issue of Beckers Magazine will prove a stimulating and thought-provoking read. ■

Dr. Bernd Vogel
CTO





Addresses

BECKERS GROUP GLOBAL HEADQUARTER

Wilh. Becker Holding GmbH
Kurfürstendamm 57
10707 Berlin, GERMANY
+49 30 770190710
hq@beckers-group.com

BECKERS GROUP BUSINESS SEGMENTS HEAD OFFICES

Beckers Group Coil Coatings

Asia & Middle East

Becker Industrial Coatings (M) Sdn Bhd
No. 3&5, Jalan Anggerik Mokara 31/54
Section 31, Kota Kemuning
40460 Shah Alam, Selangor
Malaysia
+60 3 51227540
info-ma@beckers-group.com

Beckers Group Coil Coatings

Europe Africa & Americas

La Cité Internationale
63 Quai Charles de Gaulle
69006 Lyon
France
+33 (0)4 82 25 03 57
info-eea@beckers-group.com

Beckers Group Industrial Coatings

Kurfürstendamm 57
10707 Berlin
Germany
+49 30 770190710
industrialcoatings@beckers-group.com

BECKERS GROUP SITES:

Argentina

Beckers Argentina SA
N° 2951 Drago
Parque Industrial Almirante Brown
ARG-Burzaco – Provincia de Buenos Aires
+54 (9)11 3242 7633
info-ar@beckers-group.com

Bangladesh

Berger Becker Bangladesh Ltd.
"Berger House"
House # 8, Road # 2, Sector # 3
Uttara Model Town
Dhaka-1230, Bangladesh
+880 2 895 3665
info-in@beckers-group.com

China

Beckers High Performance Coatings (Tianjin) Ltd
32 Luyuan Road
Wuqing Economic & Technology
Development District
CN-Tianjin 301700
+86 22 5962 2818
info-cdf@beckers-group.com

Becker Industrial Coatings (Guangzhou) Ltd
No. 1 Xinzhuang 5th Road
Yonghe Economic Zone
Guangzhou Economic & Technological
Development District
CN-Guangzhou 511356
+86 20 3222 1888
info-ch@beckers-group.com

Becker Industrial Coatings (Shanghai) Ltd
100 Jiangtian East Road,
Songjiang Industrial Zone
CN-Shanghai 201600
+86 21 577 43 788
info-ch@beckers-group.com

France

Becker Industrie
40 rue du Champ de Mars
BP34
FR-42601 Montbrison Cedex
+33 4 77 96 70 50
info-fr@beckers-group.com

Becker Industrie Feignies
2 Rue Edouard Follens
ZI de la Longenelle Nord
FR-59750 Feignies
+33 3 27 39 08 11
info-fr@beckers-group.com

Germany

Becker Industrielack GmbH
Norfer Str. 3
DE-41539 Dormagen
+49 2133 5010
info-ge@beckers-group.com

India

Berger Becker Coatings Pvt. Ltd.
Plot No. 114
Pilerne Industrial Estate
IN-Post Saligao - Goa - 403511
+91 832 2407 103/-104/-107
info-in@beckers-group.com

Berger Becker Coatings Pvt Ltd.
D 58, Beside Lemken Factory
MIDC, Buttibori, Nagpur
M.H - 441122
+91 832 2407 103/-104/-107
info-in@beckers-group.com

Indonesia

PT Beckers Indonesia
Jalan Cendana Raya Blok F9 no 1B,
Delta Silicon III, Cikarang
17550, Bekasi - Jawa barat
Indonesia
+ 6221-29577693/94

Italy

Beckers Industrial Coatings Italia SpA
Via Grandi 1/A
IT-20090 Caleppio di Settala (MI)
+39 02 9509601
info-it@beckers-group.com

Malaysia

Becker Industrial Coatings (M)
Sdn Bhd No. 3 & 5, Jalan Anggerik Mokara 31/54,
Section 31,
Kota Kemuning
MY-40460 Shah Alam, Selangor
+603 51227 540
info-ma@beckers-group.com

Mexico

Beckers Industrial Coatings Mexico SA
Boulevard Milenium N° 5020
Parque Industrial Milenium
MEX-Apodaca NL
+52 (1)81 2282 9954/55
info-me@beckers-group.com

Nigeria

Beckers Industrial Coatings Ltd.
Km 33 Lagos- Badagry Expressway
Agbara Lagos Nigeria
+234 703 373 5655
info-ng@beckers-group.com

Poland

Becker Farby Przemyslowe Sp. z o.o.
ul. Wilhelma Beckera 7
PL-33-110 Tarnow
+48 14 632 0200
info-pl@beckers-group.com

Russia

Becker Industrial Coatings AB
Branch Office
12/1, B. Dmitrovka bld.1
107031, Moscow, Russia
+7 495 120 40 40
info-ru@beckers-group.com

South Africa

Becker Industrial Coatings (Pty) Ltd
105 Houtkop Road, Duncanville
PO Box 1305
ZA-Vereeniging 1930
+27 16428 4011
info-za@beckers-group.com

Sweden

Becker Industrial Coatings AB
Box 2041
SE-195 02 Märsta
Visiting address: Brobyvägen 2
+46 8 590 790 00
info-se@beckers-group.com

Turkey

Becker Coating Boya Sanayi ve Ticaret Ltd. Şti.
Güzeller Organize Sanayi Bölgesi, İnönü mah.
Nursultan Nazarbayev sk. No.7
TR-41400, Gebze, Kocaeli,
+90 262 502 0080
info-tr@beckers-group.com

UK

Becker Industrial Coatings Ltd
Goodlass Road, Speke
GB-Liverpool L24 9HJ
+44 151 448 10 10
info-uk@beckers-group.com

United Arab Emirates

Becker Industrial Coatings L.L.C.
P.O. Box 12795
Warehouse 2, 9 Al-Khour Port,
UAE-Ras Al Khaimah
+971 72 27 88 53
info-uae@beckers-group.com

USA

Becker Specialty Corporation
2526 Delta Lane
US-Elk Grove Village
IL 60007
+1 847 766 3555
info-beckersspecialty@beckers-group.com

Niger

Becker Specialty Corporation
15310 Arrow Blvd
US-Fontana
CA 92335
+1 909 356 1095
info-beckersspecialty@beckers-group.com

Vietnam

Becker Industrial Coatings
(Vietnam) Co. Ltd
No. 1B, Dong An Industrial Park
Thuan An District
VN-Binh Duong Province
+84 65 0376 8830
info-vi@beckers-group.com



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