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PERFORMANCE
MATERIALS

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Xirallic® **NXT**

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EDITORIAL



Friedhelm Felten
Head of Pigments
& Functional
Materials

Dear Readers.

Some find it difficult to keep pace with progress. It requires agility, momentum, sometimes even courage. Quickly spotting trends and demand as they change is only half of the equation. Having the confidence to pounce on breakthroughs and seize opportunities is the other. In this sense, our ferocious appetite for innovation has served us well in carving out our position as market leader. Always endeavoring to introduce new products and develop through new partnerships, we create materials and solutions that can change whole industries.

Take for example our latest pigment product launch: Xirallic® NXT Cougar Red (page 4). This intense new color boasts all the hallmarks of a genuine trendsetter with that signature Xirallic® sparkle. It's also part of a gamut of red colors featured in our new tool, The Red Line (page 16), which compares the visual effects of various red hues for truly daring designs. We've also darted ahead by developing our RGB printing process further. With four updated pigments (SpectraVal® Red, Blue, Green, and White), the technique is ideal for designing unrivalled prints in packaging – it's even perfect for bottle labeling (page 24). Of course this affinity for colors is also channeled into our trend scouting activities revolving around future travel. With our Global Mobility Color inspirations (page 8), we help drive the next trends in transportation.

That said, automotive trends have been less colorful in recent years, and this fashion may well persist. Taking this idea on board, we came up with our Iceland Color Inspirations (page 22). The beautiful natural setting of Iceland served as the backdrop for this inspirational tool, demonstrating how colors and effects can make modern achromatic hues like black, gray, and silver more interesting and alluring. In a similar vein, a recent customer project also looked to nature for inspiration with building facades, revealing how effect pigments can give modern structures a more natural appeal (page 26).

As form yields to function, we follow suit by producing products that serve an important role in society. Laser marking has never been more versatile thanks to our Iriotec® 8000 portfolio. From black to transparent plastics, these pigments cover the complete spectrum for durable, legible markings (page 30). Although highly effective for labeling cables, the pigments also leave their mark on coating applications. Sticking with coatings, we offer our Iriotec® 7000 series of pigments. These give coatings ultimate antistatic and electrically conductive properties (page 28). Easily blended into light-colored formulations, they also offer some intriguing light design options for coatings. Naturally, these and further cutting-edge products will be showcased at the European Coatings Show in Nuremberg. As always, we enjoy the ECS as a hotspot for highlighting trends in the coating industry. I sincerely hope you enjoy this edition of Effekte as you discover the many powerful ways we take up the hunt for innovation.

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Effect pigments in this edition: Colorstream® F10-51 Lava Red, Iriodin® 6107 Icy White Lightning, Iriodin® 325 Solar Gold Satin, Miraval® 5412 Cosmic Silver, Pyrisma® T30-23 Blue, Pyrisma® T30-24 Green, Pyrisma® T30-20 Yellow, Xirallic® NXT Cougar Red.



Xirallic® NXT

CAPTIVATING COUGAR

INTENSITY, AGILITY, MYSTERIOUS POWER – CHARACTERISTICS THAT CONFIRM WHY THE COUGAR ENJOYS SUCH A FEROCIOUS REPUTATION. THESE SAME ATTRIBUTES DEFINE OUR HIGH-PERFORMANCE PIGMENT XIRALLIC® NXT COUGAR RED. IT'S THE PERFECT OPTION IF YOU'RE LOOKING FOR A BOLD RED WITH A BITE.

With its intense chroma, striking living sparkle, and incredible luminance, Xirallic® NXT Cougar Red is perfect for a wide variety of applications. The neutral to slightly bluish red is located in chromatic terms at the center of the red color range, making it quite a unique pigment. It catches the eye with its depth. Unlike other pigments which fall more into the yellowish color area, Cougar Red was designed for neutral red styling concepts. The pigment, with its neutral color point and very strong color intensity, really sets itself apart from other red pigments.

As a member of the Xirallic® NXT cat family of pigments, Cougar Red offers the same terrific performance as the other pigments in the line: Panthera Silver, Leonis Gold, and Tigris Blue. One of Cougar Red's defining features – its intense living sparkle – creates the illusion of starlight dancing in the paint when this pigment is used for coatings.

Xirallic® NXT Cougar Red can be used to enhance new or existing styling options. Thanks to its color intensity, our customers can achieve nearly the same intensity offered by difficult 3-coat formulations in just two application layers. Used with black, it can add an unimaginable depth, offering a harmonious interplay of effects.

Whether it's used on its own or in combination with other red effect pigments like Colorstream® Lava Red or Meoxal® Atacama Red, it opens up a whole host of design options for deep and intense red variations. This patented pigment line offers colors that work perfectly in indoor or outdoor applications – anywhere you might need stunning effects to attract attention. So take a leap with your next design by infusing it with Xirallic® NXT Cougar Red.

Cougar Red belongs to our ferocious feline range of colors in the Xirallic® NXT portfolio – a line that embodies all the fervor of colors and effects.



More to explore functional coatings

COATINGS DON'T JUST COVER SURFACES. WHEN WE LOOK A LITTLE DEEPER, WE SEE THE MANY SIDES TO WHAT COATINGS CAN OFFER. SINCE WE DO MORE THAN JUST PRODUCE BEAUTIFUL PIGMENTS, HERE'S AN OVERVIEW OF THE MANY FUNCTIONS OUR COATING INGREDIENTS PROVIDE.

How would you define functionality? Is it the extent to which something is useful? Or is it the range of features something offers? We'd say, functionality is the sum of the technical advantages that come with the use of specific products or ingredients. Using this as a starting point, we noticed that functionality can go in different directions. The various functions performed by our coating additives can be summarized into three categories: modifying surfaces, controlling energy, and simplifying identification.



Modifying surfaces

These days surfaces can be enhanced by powerful technologies. As a result, they offer more in terms of what we call "surface feature management": more benefits, more functionality. Our Tivida® and Durazane™ brands are great examples of this. Tivida® proves that all kinds of surfaces can look shiny and new. Nothing beats these unique additives for a long-lasting finish that makes surfaces resistant to scratches in everyday use. Durazane™ ensures that surfaces of all ages look their best. These organic and inorganic polymers work in coating systems for incredibly durable and attractive surfaces. The polymers cure to form a hard layer just a few micrometers thick, protecting the surface from graffiti, corrosion, soiling, and even scratches. They can also freshen up older coatings.



Controlling energy

Over time, we've expanded our expertise in pigment technology to harness the power of energy. Electrostatic discharge, for example, is no longer a concern in highly sensitive environments thanks to our Iriotec® 7300 series. Each of the pigments in this range performs an important function: They provide electrical conductivity in floors and other surfaces – and enable ESTA application as a primer for plastic parts in the automobile industry. These ingenious pigments

protect people, electrical components, and other types of equipment for work environments that are safe and sound. Coating additives can also be used to keep things cool. Our Iriotec® 9000 pigments reflect the sun's heat while letting light through. They are ideal for coatings on skylights, greenhouses, or conservatories. Use these heat-reflecting pigments for more light, less heat, and higher UV absorption. Iriotec® 9230, however, is a light-colored pigment that absorbs heat and light just like a black pigment. In light-colored coatings, it contributes to shorter drying times and higher production capacities at lower energy costs.



Simplifying identification

Clear, accurate labeling and counterfeit protection not only prevent confusion, but also enhance security. With the right active ingredients, it's not just easy to identify products, but they can also be certified as authentic. With our Iriotec® and Securalic® brands, we cover all of these bases. The Iriotec® 8000 series offers additives that make laser marking a cinch. These functional pigments give surfaces all-new properties. Not only can they be used to create electrical pathways on powder-coated surfaces, but they can also be used in polymers and powder coatings for razor-sharp markings that are robust and counterfeit-proof. For even more security and counterfeit protection, our Securalic® products help you trace pathways in your supply chain. Follow your coating (and your product) through the chain to your end customer. These additives are the key to creating hard-to-copy product tracking, providing welcome protection from unethical knock-offs.

No matter how you define functionality, our various coating additives meet the requirements. We offer state-of-the-art ingredients that allow your products or coatings to do more than just look good. It's scientific engineering that we're proud of – and that's something you can rely on.

Modifying surfaces

The technology cluster for simple and protective coatings



Controlling energy

The technology cluster against electrostatic discharge and heat



Simplifying identification

The technology cluster for fast, accurate markings and counterfeit protection



INSPIRATIONS FOR A CHANGING WORLD



TransSense

Global Mobility
Color Inspirations

TRENDS COME AND GO IN CYCLES. WITH THE PASSING OF THE SEASONS, WE KEEP OUR EYES ON THE CHANGES HAPPENING AROUND US IN SOCIETY, WE TRACK SHIFTS IN CONSUMER PREFERENCES, AND WE USE THESE INSIGHTS AS A BASIS FOR RE-DEVELOPING INNOVATIVE TOOLS LIKE OUR GLOBAL MOBILITY COLOR INSPIRATIONS (GMCI).

So how do we go about creating such an inspirational tool? What's involved in the process from beginning to end? In a nutshell: it entails a strong dedication to continually evaluating the world around us.

The road to the Global Mobility Color Inspirations

From start to finish, the journey of developing our color tool each year is varied and complex. Along the way, our specialists look at trends, news, popular discussion topics, social media, and even art to determine how the color trend landscape might evolve. It all starts with people – observing them, talking to them. We talk to our customers, bring experts together, share visions, and analyze the potential consumer preferences of the future. Of course this requires creativity, the ability to think ahead, and the capacity to contemplate future application scenarios. We look at social behaviors and try to link colors to the trends we see unfolding. This is a continuous, iterative process, which our colleagues engage in over the course of a year.

Choosing the right waypoints

We visit trade shows and exhibitions, participate in trend workshops, and even host our own panel of consultants which includes experts from around the world. All of the information generated by these activities is channeled into our work. Not only are we a loyal sponsor of the Color Marketing Group (CMG), we also enjoy every opportunity to debate, share, and learn from international experts from countries as diverse as China, India, the Netherlands, the United States, Spain, Thailand, Belgium, Germany, Austria, and Italy. This gives us a unique global perspective on how the world thinks.

Viewing trends from every angle

Each member of our panel of consultants has a chance to present what they see as up-and-coming trends. Based

on their observations in their home countries – the kinds of things that are becoming popular, the types of artwork artists are creating – we get a fairly accurate account of the world as it changes around us. Their reports are summarized in hundreds of keywords captured on sticky notes that are clustered on whiteboards during a creative brainstorming process. This gives us a fascinating overview of the differences cropping up in far-flung corners of the globe. These keywords are grouped together and used to generate the stories behind our color inspirations.

Bringing it all home

The fun part begins when we select the future scenarios we will focus on. Now it's time to translate each scenario into colors. At this point, creativity, curiosity, and experience are the key ingredients for success. Our color engineers in the lab keep in constant dialogue with our creative marketing and design team. This interaction is used to challenge our own assumptions and get the best color options out of each styling concept, so it requires careful consideration. Do we only suggest colors that are ready to be used tomorrow? Or do we opt for ideas that would involve further development? From experience, we know the latter is the better option. It triggers the most interesting innovations.

Shifting the limits of innovation

We partner with our customers to move innovation forward. To this end, we forge a link between our pigments and what the design world can expect on the horizon. This process results in exciting colors and effects that can bring out the true character of a car. Our inspirations are captured in five multimedia mood boards consisting of video collages, music, and keywords – all of which breathe life into the abstract stories and their effects, colors, and forms.

STATEMENTS ON E-MOBILITY

Effekte Magazine asked our expert team about the following trend: "The automotive world will change dramatically in the near future with e-mobility. Do you believe this will also dramatically change our color preferences for cars?"

In regards to how this might affect color choice, I think there will be a dichotomy. On the one hand, the 'share' car trend will concentrate on color branding, while on the other, owners of the new technology cars will still be looking for 'status' colors.
Barbara Marshall,
Marshall Design,
Australia

Future mobility concepts demand high requirements for lightweight, space-saving, sustainable design. At the same time, cars will increasingly become like a second living space apart from the private home. These aspects will be reflected in color and trim concepts, which will have a strong focus on comfort and perceived spaciousness.
Nina Saller,
XbeyondS, Germany

The first generation of electric cars seemed to hold on to conventional car design languages and colors. What might become more interesting is the evolution of self-driving cars, making cars more like public transportation for individuals. Will they use colors more for brand identity?
Brechje Vissers,
Breque design consulting,
The Netherlands

Yes, I do believe the change will impact color preferences, because people will want to be in tune with futuristic technology inspirations.
Nuntamon
Tangdamrongtham,
Thailand

It's normal for a new electric car to look different than traditional cars. Owning an electric car and charger is a luxury and a social statement. Examples are pioneers who make use of green and blue in car body designs or create a unique identity by changing color proportions.
Xiaojing Huang,
Yang Design, China

Electronic devices are all around us, and what once wasn't so prominent in cars will be in our face. I believe we'll want and need more natural colors, but those that delight and surprise.
Narss Lapinid,
Electrolux, USA

Filip Roscam

is our design expert with extensive knowledge and experience in the color and pigments industry. He has designed several inspirational styling materials and made trend forecasts for various industries including architecture, automotive, and consumer goods. This involves designing and managing tools throughout the complete creative process, from the initial concept and phase when key influences are identified, to theme creation, storytelling, teamwork on lab formulations, and even final customer presentations and videos. Filip has conducted several successful CMF projects together with car manufacturers, consumer electronics producers, and architects.



1001 Nations

In a world where global communications are breaking through national borders, we will see powerful colors that underline strong identities. Cultural heritage and street style from all over the world will merge and create a new kind of authenticity without frontiers. This world is marked by an eclectic mix of colors that reflects the merging of people into new groups. Warm colors place more focus on people rather than the technologies that unite them.

Size will matter. The power of megacities will be redefined by the erosion of national borders and the formation of new tribes.



Crossroads

Younger generations will not feel any fear of change, since they embrace the unanticipated. "Full of variety" is tantamount to never boring, the buzz of the unexpected. Non-conformity and transitional colors will reflect an element of surprise. Dissonant color combinations will underscore a clear break with tradition. Interference effects with changing colors will represent a mindful escapism. In this crossover between fantasy and reality, people won't feel constrained but rather liberated by making daring color choices.

Change is in the air as we break with convention and dare to be different in a world undergoing powerful transformation.



park

As tumultuous times leave us with the need to retreat to calm, quiet spaces, our autonomous vehicles will become the first place to unwind. Relaxing, monochromatic colors will define this cocoon where we can recharge our internal batteries. Blue with a light-dark color flop – like the color of ocean waves – is the only chromatic color to help energize us here. This limited color palette is a welcome relief and fits with our desire for less-is-more basics. We don't look to the past or future, but to the origin of all things.

The essence of things. While our car batteries discharge, we recharge our inner batteries.



Ethics make a comeback in a world where disinformation is replaced with a what-you-see-is-what-you-get approach to life.

House of Truth

As we turn our back on manipulation and spin doctors in search of the truth, clean effect colors with no surprises will dominate our experiences. This world is all about honesty. An effect red with no additional interference color represents facts and visual proof. With a clear shift toward “cathedral thinking,” we plan for generations, not months. Ethical entrepreneurs and craftsmen will experience a renaissance as the superheroes of the day, creating objects from raw materials like copper, brass, wood, and leather – and we will enjoy the colors to match.

**data bridge**

Mysterious color transitions will blur the lines between physical and digital spaces. As we move through an age of virtual and augmented reality, we will find ourselves surrounded by powerful, artificial colors and deep sparkle. With this escape to holographic settings, we will finally dissolve the boundaries between fantasy and fiction. We now feel comfortable among laser-marked patterns and sparkling effects reminiscent of the cables found in the data centers that power our alternate realities.

Will holo-natives replace digital natives when we escape to new realities – the ones that will supersede augmented and virtual reality?

**THE GMCI TOOL**

The Global Mobility Color Inspirations tool is the result of this process. It consists of five separate inspirational topics that come to life with the help of pictures, text descriptions, and – most importantly – eight stylings each. They translate the inspirations into real colors for your evaluation. Most importantly, they are the starting point for your own journey into the world of future travel – whether the colors are for automotive applications or any other type of transportation. Let's discuss the future of colors together!



METALLIC MEETS CERAMIC

GOLD, SILVER, AND COPPER EFFECTS ARE EXPERIENCING A RENAISSANCE – ESPECIALLY IN THE CERAMICS INDUSTRY. IT'S A REVIVAL WE'VE NOTICED IN TALKS WITH OUR CUSTOMERS AND VISITS TO LEADING TRADE FAIRS. HOW FITTING THEN THAT OUR RECENTLY INTRODUCED THERMAVAL™ RANGE MEETS THIS TREND PERFECTLY.

In the last edition of Effekte, we presented our Thermaval™ series, an extraordinary range of pearlescent effect pigments specifically designed to withstand extremely high temperatures. The Thermaval™ range is a perfect fit with beautiful ceramic applications, offering incredible colors and effects along with unbeatable durability. These pigments made a dramatic debut on the market, garnering overwhelmingly positive feedback from customers. No sooner had the range been introduced than we started receiving the first orders – unusual in an industry like ours. Put plainly, the Thermaval™ launch received the fastest market response ever witnessed at our company.

With well-known brands showing immense interest in the pigments' effects and durability, we know this portfolio will continue to make waves. All of the Thermaval™ products can easily be used in combination with other ceramic pigments. Ceramic high temperature colors formulated with Thermaval™ are perfect for dishware applications and tests have returned high scores for the number of dishwasher cycles they can withstand. The pigments are showing outstanding results on our own company dishware, livening up our staff and guest canteens. On the heels of this success, we naturally started thinking about other uses for the amazing pigments. Of course the Thermaval™ range is also great for other ceramics and enamel applications. In fact, they're ideal for any high-temperature applications. Bathrooms,

kitchens or building facades can be brought to life with colorful designs that are built to last. The very first exhibition of the many wonderful options opened up by Thermaval™ was presented at this year's Ambiente fair in Frankfurt and we're sure this success will continue. With Thermaval™ pigments, temperature is no longer a limitation – it's an invitation to create!

What is Thermaval™?

It's our answer to an industry challenge. A brand of pigments designed to withstand extremely high temperatures. This metallic series of pigments offers color and effect options for all kinds of ceramic applications, especially tableware. With Thermaval™, you enjoy:

- Resistance to high temperatures (1,180°C)*
- Unique chemical resistance
- Outstanding sparkle and chroma intensity
- Suitability for in-glaze applications (high-temperature/fast-firing)
- Dishwasher/microwave-safe results

*Temperature resistance depends on proper selection of the pigment-matrix combination.

METALLIC
SILVER

METALLIC
RED

METALLIC
GOLD

METALLIC
COPPER

thermaval™



Ready for red? Take a closer look at our Red Line color tool. It features six red effect pigments on seven striking color scales with a detailed evaluation and comparison of each pigment's:

- brilliance
- chroma
- hue
- flop behavior
- effect quality

FINE RED LINE

THE SCOPE OF RED SHADES AND PIGMENTS NOW AVAILABLE IS AS VARIED AS THE EMOTIONS EACH COLOR EVOKES. SO HOW DO DESIGNERS PICK THE RIGHT PRODUCTS FOR THEIR DESIGNS? OUR NEW RED LINE TOOL LINES UP VISUAL FEATURES WITH TECHNICAL TERMS, MAKING THE PIGMENTS MEASUREABLE AND EASIER TO COMPARE.



No two reds are alike. And no other color inspires such a wide range of emotions – love, hate, heat, passion, the list goes on and on. It's a color that's flooded with energy and vitality, symbolizing power and intensity. So what's the best way to use red for powerful design statements? With the right tool at hand, making the right choice becomes a simple part of the creative process.

We created the Red Line tool to show developers how our effect pigments reflect the many different personalities of red. Designers can use it as a springboard to play with color and even expand on inspiration already offered by the tool. The set covers the entire color space and effects spectrum – from cool to hot and smooth to sparkly, with hints of yellows and blues. It gives an ideal overview of the product lines, comparing several effect pigments in basic formulations.

The result? A guidance tool that evaluates and compares key pigments in relation to each other. It's a development tool that's more than just functional, it inspires the imagination. The six red pigments range from shades with a touch of yellow to a touch of blue, in seven different color scales that shift from pure to complex. The color evaluation starts with the pigment's pure color (mass tone) and gives a first impression of

color differences between individual pigments.

Of course our evaluation of each of the pigments' effects was just as methodical, rating the effect quality (living sparkle, metallic luminance), color brilliance (purity, brightness, depth), color intensity and nuance, and flop behavior. The range is then described based on the most visible features that help to categorize each pigment.

The tool comes in two parts. Part 1 is clearly structured to tell a story, providing 42 vivid color chips along seven color scales. It gives designers the visual information they need to make the perfect color choice for their projects. Part 2 plays to formulators' creativity, with six ultra-modern styling suggestions aimed at demonstrating how red can be used in a variety of ways to convey emotion. As a whole, the tool shows just how wide the red color range is, and all the effects it has to offer.

Love, passion, power, energy – whatever the statement you want to make, pick the right shade of red to drive your message home. Our color tool will help you do just that.



is the solution for optimal protection of a multitude of surfaces. It offers many benefits, including strong and long-lasting protection against corrosion and scratches, while also offering easy-to-clean properties and strong thermal resistance.



POLYSILAZANE FOR DURABILITY

THERE ARE MANY KINDS OF SURFACES THAT NEED TO BE PRESERVED AND PROTECTED. SKYSCRAPERS ARE WELL-KNOWN LANDMARKS IN MANY COUNTRIES AND THESE SURFACE STRUCTURES ESPECIALLY REQUIRE SERIOUS LONG-LASTING PROTECTION.

Polysilazanes are a novel type of silicon polymer. Available in our Durazane™ product range, they were specifically developed as high-performance coating binders. Effekte Magazine talked to Kim Won-II, president of The Creation Co. Ltd., to learn more about the value he derives from working with our products.



Won-II Kim
CEO

Effekte: Mr. Won-II, you are president of The Creation Co. Ltd. Please tell us more about your company. What do you do?

Mr. Won-II: The Creation Co. Ltd. (often just referred to as The Creation) is a coating supply company that addresses customer needs based on a wealth of experience and extensive in-house know-how. Since our founding in 1998, we have devoted our efforts to identifying and supplying special coating agents with various functions – primarily architectural coatings. Working with a variety of coating agents, we continually develop sustainable, high-performance products that our customers can rely on.

Effekte: Who do you consider to be your core customers?

Mr. Won-II: Since much of our work revolves around producing architectural coatings, we manufacture and supply products to the domestic construction market and related industries. Our coating products are used on many kinds of building structures, particularly those with aluminum paneling and aluminum window frames.

Effekte: Why are building façades such an important part of your coating work?

Mr. Won-II: Skyscrapers are impressive symbols of modern advancement and it is the face of these structures that captivate the eye. If their façades were not adequately protected from the elements – sun, rain, wind, and snow – their appeal would be very short-lived. Our solutions provide lasting protection against these demanding environmental factors. We offer weather-resistant coatings that safeguard all kinds of surfaces – even glass and metal façades – from external influences and potential damage. Brilliant, easy-to-clean glass surfaces mean dirt can be removed easily without the high cost of environmentally damaging detergents. The anti-corrosive properties of our coatings also allow metal façades to look their best, even in high humidity. Whatever the surface of the building, our coatings ensure it keeps its pristine appearance.

Effekte: What are your thoughts on Durazane™? Why do you recommend using it in coating formulations?

Mr. Won-II: Durazane™ is a polysilazane product, so it is perfect for all kinds of surface requirements. It offers excellent wear and abrasion resistance indoors and out. Take kitchen surfaces for example. Stainless steel sinks with a protective, anti-scratch coating will look newer for longer. They are also much easier to keep clean. What's more, Durazane™

is incredibly sustainable thanks to its immense durability and this is something that is essential for buildings. Façades can be maintained and kept as good as new for more than 10 years at a time. That spells decades of superior protective power compared to other products applied to buildings. It has even proven to be incredibly resistant to pollutants like acid rain thanks to its acid and alkali resistance. Moreover, coatings with Durazane™ have been excellent at protecting against UV exposure, providing thermal insulation benefits to boot.

Experts from the construction market cite another big advantage of Durazane™ over other products: free of fluorine compounds, it is more environmentally friendly than substances like PVDF. PVDF also tends to darken over time because contaminants react with the fluorine it contains, so it simply cannot achieve the results offered by Durazane™. With the environment being such an important discussion point these days, we are pleased to have a product that not only works best to keep surfaces looking good, but one that is also eco-friendly.

Effekte: What was the biggest benefit of working with us? Do you foresee further joint projects in the future?

Mr. Won-II: Certainly. It was a pleasure working with you. Your company continues to provide reliable products and technical support, and this has been indispensable to us. With your experts always on hand to help us resolve any problems we may have, you give your customers the assurance they need throughout the entire development process. Here at The Creation, we genuinely value this kind of cooperation. In addition, as environmental awareness grows, we are certain we would like to work together with you to develop further products with Durazane™, even addressing new markets and application areas.

Effekte: Thank you for the interview.

THE COLORLESS NATURE

AT FIRST GLANCE, THE ROUGH AND RUGGED LANDSCAPE OF ICELAND CAN SEEM ALMOST COLORLESS WITH VARYING HINTS OF WHITE, GRAY, AND BLACK BLENDING INTO A SEA OF ACHROMATIC HUES. THE BEAUTY OF THIS SETTING ENTICED US TO BUILD UPON OUR ACHROMATIC INITIATIVE.

Discover the fascinating splendor of colorless styling concepts created with Xirallic®, Iridin®, Pyrisma®, and Colorstream® effect pigments.

Still today, the cool Nordic coastlines of Iceland awaken images of myths and legends. Ancient figures of elves and fairies come to life in a world touched by the interplay of shadow and light. There are plenty of surprises to discover between the often steely skies, gray seas, and stony shades of rock that dot the landscape. Inspiring light reflections, lively and interesting highlights, and multifaceted shades of gray cast a wide net of fascination – and we let this fuel our creativity for the next installment of our achromatic styling work.

Effect pigments lay the foundations for these styles. With them we can capture the surprising color effects that lie beneath the whites, silvers, grays, and blacks of the achromatic color scheme. The magic happens when our effect pigments expand the possibilities of silver-gray stylings. Suddenly classic black is brought to life and neutral grays or silver-whites become animated without changing the overall character of the neutral tone.

The starting point for our achromatic journey is neutral black, reminiscent of Stokksnes, Jökulsárlón, and Reyn-

isfjara – Iceland's most renowned black sand beaches. Monochromatic from afar, we find looks can be deceiving when we investigate the details up close. Various effect pigments change the base color in this style and this produces effect variations that boast a lively, even colorful sparkle.

We prove that clouds truly do have a silver lining in our cloudy gray styling concept, which captivates with an anthracite shade marked by a splendid metallic character. Formulations enriched with Xirallic® pigments are transformed, creating a uniquely rich atmosphere. Further style variations are based on darker silver shades that bring to mind images of silver snow. The style concept demonstrates how a bone-chilling wintery silver can reflect elements of a silvery lagoon with the warm, golden shimmer of Xirallic® NXT Leonis Gold, all the while staying within the cool silver-white color spectrum.

Overall, our Iceland color inspirations present 23 separate color(less) styling concepts using a combination of pearl effect and aluminum pigments. All of the styling options are neutral and within a similar color area, yet each is very different thanks to exciting effects. The styles are a perfect source of inspiration for bringing existing moods into all-new dimensions, so the options are especially exciting for automotive applications.

DRINK IN THE BEAUTY OF PACKAGING

BEVERAGE SALES ARE FACING RATHER DRAMATIC CHANGES. WHEREAS DRINKS USED TO BE SOLD MORE IN BULK, NOW CONSUMERS ARE REACHING FOR INDIVIDUAL PORTIONS AT THE POINT OF SALE. THIS MEANS BOTTLES HAVE TO STAND OUT IF THEY'RE GOING TO COMPETE FOR THE CONSUMER'S ATTENTION.



A cool refreshing drink – what better way to keep us going when we're out and about, running errands and jaunting between appointments. But with so many beverage options available these days, we're more likely to grab something familiar than experiment with something new. Packaging can go a long way here, by inspiring us to buy a more exotic option – something we might not have thought to try before.

So how can companies make their bottle labeling truly stand out? We have just the answer: RGB printing. This technology (for which the patent is pending) has already revolutionized the printing world. It offers unique, highly brilliant color effects for genuinely eye-catching labeling. RGB printing also provides new ways of displaying fantastic visual effects and colors. This gives designers more options when they create their packaging concepts.

This method is unlike CMYK printing, which is an example of subtractive color mixing. Here, colors are applied to a white background to reflect back the desired hues. Conversely, RGB printing involves additive color mixing, where

colors are combined on a dark background to produce light shades, even white. This has previously only been possible with self-lighting systems like computer monitors and display screens. We've adapted the process to work in print – a first for the industry.

The RGB printing process was borne out of our unending quest for innovation and our fascination with pushing boundaries. It has opened the door to prints that literally capture light, producing images with extraordinary brilliance and depth. Used in packaging and labeling, it creates a distinctively fascinating appearance that's unmatched by standard prints. Of course the printing technology is also ideal for fine shrink sleeves, decorative foils, even high-quality brochures and large-format posters. It can take product marketing to whole new levels.

We've also developed four new effect pigments that were specifically designed for the new printing technology: Spectraval™ effect pigments. Offered in red, green, blue, and white, these pigments make RGB printing possible. Use them to give your products an entirely new look. After all, since each product has a personality of its own, why not give it the packaging to match?

Our new RGB Color Compendium tool goes hand in hand with the technology and the pigments. It will help you navigate the world of RGB printing. As with the compendium for CMYK printing, it helps you choose the right colors and effects for your designs. It's also an essential guide book to simplify the communication process between your designers and print suppliers. It takes you through the complete Spectraval™ range, giving you a clear overview of the many fantastic new options RGB printing opens up to you.



spectraval™

Our Spectraval™ pigments are optimized to achieve a balanced intensity for the RGB printing process. Use Spectraval™ Red, Green, Blue, and White in your designs and discover how lively your color concepts can become. Combining RGB technology with the CMYK printing process gives you the best of both worlds for outstanding prints.

RGB printing technology with Spectraval™ pearl effect pigments. Patent pending. Process for RGB printing developed by Merck KGaA Darmstadt (Germany) in cooperation with Lorenz Boegli of Atelier für Siebdruck, Lorenz Boegli, Müntschemier (CH).

NATURALLY DAZZLING FAÇADES

GLEAMING, SPARKLING, GLISTENING, IRIDESCENT – THESE ARE JUST A FEW OF THE WORDS THAT DESCRIBE THE MANY FACES OF LUSTER. RANGING FROM A SUBTLE SHIMMER TO A BOLD GLITTER, LUSTROUS EFFECTS CAN TAKE MANY FORMS. WHEN IT COMES TO BUILDING FAÇADES, SURFACE AND LIGHT CAN COME TOGETHER FOR PARTICULARLY DRAMATIC EFFECTS.

Buildings that dot the landscape typically fall into one of two categories. Either they tower above the natural world as stark reminders of humanity's advancement or they blend into the scenery with a given conformity to nature. Whatever the case may be for a particular building, there's no doubt its façade can transform any setting. Particularly burnished, mirror-like reflections can cast new shadows in the dimming light of the twilight hours and using modern lighting can create special appeal in the darkness of night.

Things really become interesting when special effects are mixed with colors from the natural world. This is evidenced in a recent customer project – a cooperation between Becker Industrielack GmbH, Germany and 3A Composites GmbH: ALUCOBOND® TERRA a spectrum of six colors for metal façades inspired by natural materials ranging from arctic white to

black lava with warm bronze, terracotta, and pyrite shades in between.

Working with Pyrisma®, Colorstream®, and Xirallic® effect pigments, 3A Composites was able to create façade coatings that reflect all the excitement and fascination of the natural world. The resulting effects are nothing short of enchanting. The effect colors in the coating formulations give surfaces a whole new dimension as they combine with the structure for a natural, shimmering glow.

The façade coatings were developed with nature in mind and this is reflected in the natural sparkling magic conjured up in any type of light. The six colors developed in this collaboration bring out the special character of each building, just one reason why architects might find them irresistible. The color shades are perfect for exploiting various gloss intensities and unique façade effects.

This successful collaboration is another example of the amazing things that can be achieved when our customers work with effect pigments to create new and innovative products.

Looking for something totally unique in a building façade? Check out the new natural color shades with sparkling effects! 3A Composites GmbH worked with their coatings supplier Becker Industrielack GmbH, Germany to develop ALUCOBOND® TERRA, coatings for buildings with a highly natural appeal.

ALUCOBOND®

STUNNING ANTISTATIC

On this page: Iriodin® 325 Solar Gold Satin,
Xirallic® NXT Cougar Red

ANYWHERE WHERE ELECTROSTATIC DISCHARGES COULD HAVE DEVASTATING EFFECTS, ANTISTATIC AND ELECTRICALLY CONDUCTIVE SURFACES ARE AN ABSOLUTE MUST. OUR IRIOTEC® RANGE OF SPECIALLY DEVELOPED PIGMENTS IS THE ANSWER, AND A NEW PRODUCT HAS JUST JOINED THE FAMILY.

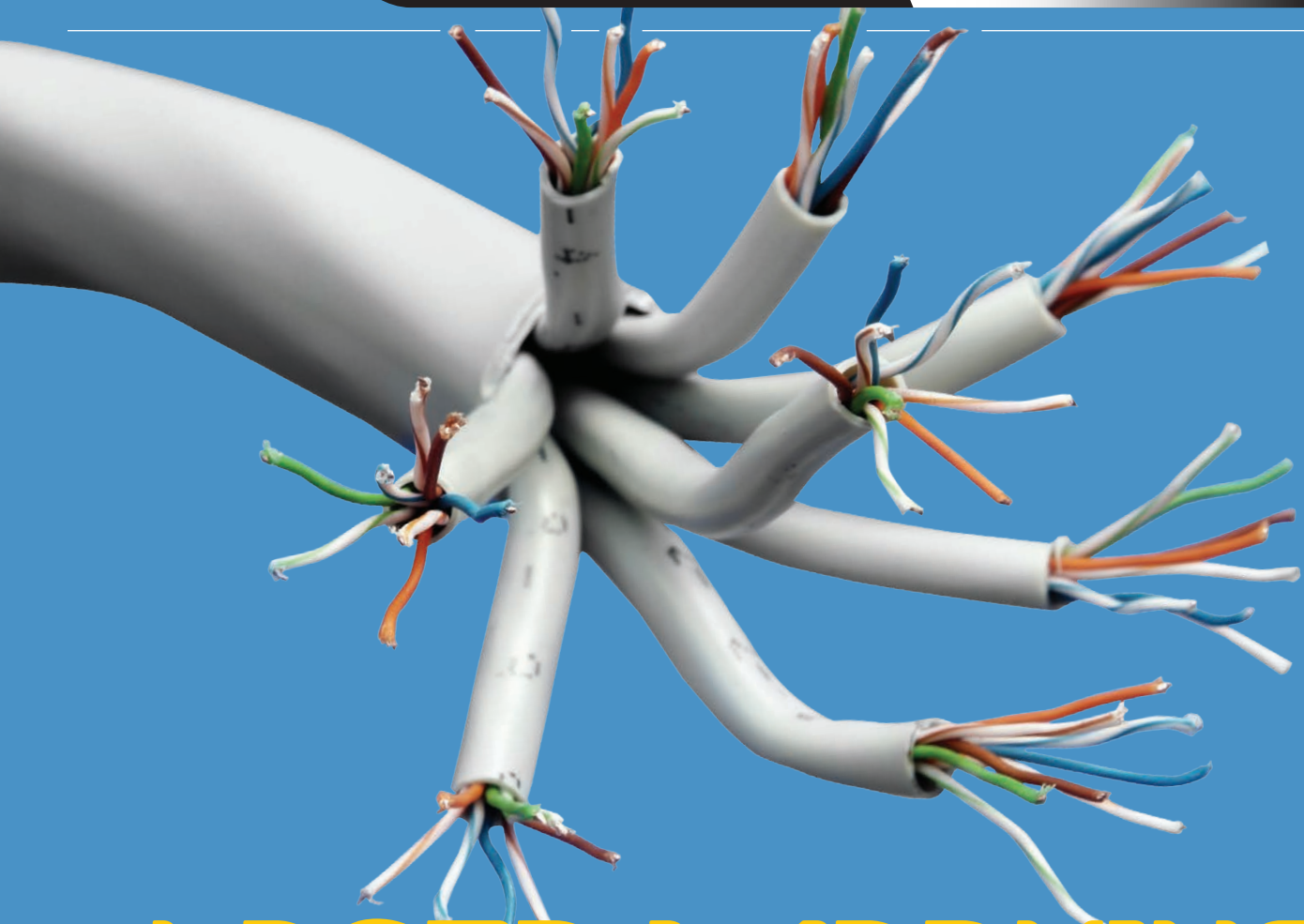
Our Iriotec® 7000 series features light-colored and conductive pigments that offer incredible functionality with little impact on color. Powerful and effective, these pigments deliver surface resistance from 104 to 109 ohms, not only in conductive flooring but also in conductive primers. They are perfect to avoid electrostatic charging in combination with color choices or translucent, antistatic covering varnishes. And we're pleased to present the latest addition to the range: Iriotec® 7340. Not only does it offer the same superior performance as the others in the series, but it's particularly well matched to light-colored coatings, opening up a variety of new design options. Whether used in conductive flooring or for primer applications on plastic automotive parts, Iriotec® 7340 tackles formulation constraints head-on for more attractive, lighter colors in functional coating layers. Always effective, this pigment is a great choice for your applications. Conductive flooring is not just found in production facilities where electronic components are made. Warehouses, clean rooms, hospitals, and labs also rely on protective floor surfaces. In many of these areas, it's crucial that protective measures adhere to DIN standards. The Iriotec® family of pigments is perfect for meeting such requirements. They also deliver anti-explosive benefits

and prevent dust precipitation. With Iriotec® 7340, customers can now enjoy the full scope of reliable antistatic properties along with a wide variety of color options. The pigment blends effortlessly into color systems by simply mixing it into the formulation. Iriotec® 7340 also comes into its own in plastic coatings. This makes it perfect for applications in the automotive industry, where primers are used that enable electrostatic application (ESTA) in the coating of plastic components like bumpers, rearview mirrors, and door handles. These electrically conductive primers make the subsequent coating process more efficient for the layers that are applied after the primer, which is typically an expensive base coat or a clear coat. In a nutshell, this reduces costs. With its light color and smooth surfaces, Iriotec® 7340 helps create perfect antistatic coatings. All pigments in this range offer outstanding thermal stability (up to 800°C) as well as fantastic chemical stability (resistance to acids, alkalis, organic solvents, and surfactants). They're a top option for light-colored conductive varnishes and coatings with excellent surface resistance.

The exceptionally light color and color neutrality of Iriotec® 7340 opens up all-new design options for safe and effective conductive surfaces. Both antistatic and electrostatic dissipative applications are the area of expertise for the Iriotec® 7300 series

Product name	Color lightness	Translucency	Pigment concentration conductivity
Iriotec® 7310	●	●	●
Iriotec® 7315	●	●	●
Iriotec® 7320	●	●	●
Iriotec® 7325	●	●	●
Iriotec® 7330	●	●	●
Iriotec® 7340	●	●	●





LASER MARKING A BEAM FOR ETERNITY

VISIBLE LIGHT CAN BE FLEETING, A BRIEF SNAPSHOT IN TIME THAT COMES AND GOES IN A FLASH. ALL THE MORE WONDROUS THEN THAT IT CAN ALSO BE USED TO MAKE AN IMPRESSION THAT LASTS FOREVER. A LASER BEAM CAN IMMORTALIZE AN EXPIRATION DATE ON A PLASTIC BOTTLE – AND THAT’S JUST ONE OF MANY EXAMPLES.

These days, we harness the power of laser beams to solve many practical challenges. Used in laser marking, beams can produce clear barcodes, names, and other data. Thanks to this technology, we can avoid age-old problems with labeling like fading and illegibility. It’s also the only technology that does not rely on direct contact with the product being marked, so

even curved surfaces or materials packed in a transparent medium can be laser marked with ease. Laser marking simplifies identification and makes life easier for end consumers.

Laser marking also boasts further benefits over other labeling technologies. It’s environmentally friendly, durable, great for anti-counterfeit purposes, and even cost-

Who could imagine modern-day living without the convenience of internet communications? Do we ever stop to think what makes it all possible? Thick, submarine cables line the bottom of our oceans and connect the continents. Just imagine the harsh, rugged environments these cables have to traverse. This is where Iriotec® pigments come in. They are perfect for writing on cables, producing clear, ultra-durable markings that can withstand even the most unforgiving conditions. If the cable in question is dark or even black, a pigment like Iriotec® 8815 is very useful. It’s just one of the pigments in the series that produces light-colored markings on dark backgrounds. Thanks to this clarity and durability, engineers can easily locate the right cables when repairs become necessary, keeping people around the world connected. This is of great benefit to cable manufacturers because they can enjoy high-quality markings that are resistant to wear, chemicals, and harsh conditions.



Picture this: You’re troubleshooting a hardware problem with your computer and have to unplug one of the many cables tangled in a knot behind your desk. But which one is the right one? Looking at the mess of cables, you quickly start to feel like you’re diffusing a bomb. Such a scenario could potentially become a thing of the past, because we believe – one day – each cable will be clearly marked, be it white, gray, or black. Iriotec® 8826, for example, can produce clear, dark markings on light-colored cables. It’s just one of many options for this in the Iriotec® series. So use Iriotec® pigments for durable, long-lasting markings that can help prevent confusion.

effective. It’s also the best way to mark thermoplastic materials and powder-coated metals.

Pigments from our Iriotec® 8000 series – combined with a laser – generate bar codes, information on animal ear tags, or markings on electronic components or water bottles. The result is always the same: robust, counterfeit-proof labeling that meets the most specific user requirements. This series of pigments comprises the hidden heroes that make these simple, clear markings possible. The pigments offered in the range are the key to turning beams of light into readable information. When we think about the many things that can be labeled with a laser, the options seem endless. With plastic having replaced glass in many labs and hospitals – where there’s certainly no room for error – we see great potential for markings that have to be crystal clear. Since our Iriotec® 8000 pigments blend effortlessly and invisibly into polymers, they’re perfect for applications where transparency is vital. But we also have just the right answer for black surfaces thanks to a black pigment that’s specially designed to absorb light without destroying the

base polymer. Here, too, it’s easy to achieve razor-sharp markings with great contrast and legibility. Since these pigments perfectly prepare materials for the right reaction to the light beam, the resulting markings are clear and consistent every time. They almost seem to appear out of thin air, but are actually the result of the material reacting to the laser beam. We love the science behind this seemingly magical process and that’s why we’ve devoted our expertise to designing pigments that get the job done professionally. Whatever the specific marking you want to produce, use light to write!

THE SUM OF ALL PARTS

WE'RE ENTERING A NEW AGE OF CHANGING MANUFACTURING PROCESSES. THIS INVOLVES A WHOLE NEW APPROACH TO DECORATING PLASTIC PARTS. WHAT WOULD MODERN CAR INTERIORS LOOK LIKE WITHOUT THESE PARTS? UNIMAGINABLE. THAT'S WHY WE KEEP LOOKING AHEAD AT HOW OUR EFFECT PIGMENTS CAN ENHANCE THE MOST INNOVATIVE OF APPLICATIONS.

Producers of plastic parts often work together with producers of paints and coatings in the hunt for innovation. That's why we belong to an interdisciplinary association of product manufacturers that investigates new ways of using sophisticated coatings containing effect pigments. A perfect example of this approach to cooperation was presented at the K Trade Fair in Dusseldorf, the world's specialist trade fair for plastics and rubber. Working together, we were able to add effects to a revolutionary new process, a symbiosis of coating and plastic molding.

In 2009, three companies got together to develop a more efficient and environmentally friendly process for coating plastic parts. As part of this initiative, machine manufacturer KraussMaffei set to work developing an entirely new process for coating these parts directly inside the manufacturing tool – and the ColorForm (or reaction injection molding, RIM) process was born. The coating process required some tweaks and add-on developments, and paint specialist Panadur was happy to deliver these. In 2010 and



2013, the first prototypes were put on display. Back then, the process still had some limitations but many of these were quickly overcome. It's now possible to produce coated parts with a vast spectrum of available colors and effects. So it was time to present a new sample part at the K Trade Fair: a decorative trim for a car door interior.

Of course we worked shoulder to shoulder with KraussMaffei and Panadur to see this innovative process come to fruition. We always work with companies along the complete supply chain to provide our know-how for using innovative effect pigments. In this case, it was our effect pigments that performed the best. They're the perfect added ingredient for giving surfaces extraordinary appeal – innovation at its finest.

This new injection coating process for plastic parts allows for the detailed reproduction of microstructures and textures. It also allows for the use of all color tones and effects. Even effect colors are possible. So with this new process, manufacturers enjoy:

- Perfectly even or structured surfaces
- Solvent-free formulas and application
- Application without release agents
- Multicolored effects to enhance structures through angle-dependent color changes
- Conformity with REACH, GADSL, and HCS 2012

MUR COUTURE



WHEN IT COMES TO WALLPAPER DESIGN, THERE ARE NONE SO EXPERIENCED AS THE TEAM AT M-DESIGN RUDOLF MEYER. THE STUDIO HAS ALWAYS FOCUSED ITS EFFORTS ON KEEPING AT THE FOREFRONT OF MODERN TRENDS. WALLPAPER DESIGN IS ONE OF THE COMPANY'S SPECIALTIES AND WE'RE PROUD TO SAY OUR PRODUCTS HAVE PLAYED A PART IN THIS WORK FOR MANY YEARS.

When Rudolf Meyer founded M-Design Rudolf Meyer in 1971, he knew his life's work would involve keeping pace with fast-moving change. After all, what's popular today might be passé tomorrow. That said, after all these years of being a pioneer in national and international markets, he's still amazed at how design options keep developing – and people's unique tastes to match. We caught up with Rudolf Meyer to talk about the trends in the wallpaper industry.

Effekte: Considering all the work you and your team have done in this area, would you say wallpaper is still en vogue?

Rudolf Meyer: Most certainly, yes! The industry is actually developing incredibly. High-end, premium wallpaper will always be popular. It's a pretty demanding market. Consumers want unique options that don't just complement their home décor but also reflect their lifestyles. Just ask yourself: What do your four walls say about you?

Effekte: As a designer, how does it feel to create works of art that will end up in homes across the country, or even the globe?

RM: Great! It's always nice to think that we designers are helping people express themselves. Just like in the fashion industry, designers create new and exciting trends each season. Wallpaper is no different. They now boast colors and effects more than ever, because so much is possible these days.

Effekte: Like what? What kinds of things are shaping trends at the moment?

RM: At the moment, we're seeing a trend toward combining matte and shiny effects. This is easily achieved with gold and silver colors as well as a combination of mother of pearl and other effects. New, creative applications are also order of the day. When you revealed your revolutionary RGB printing technique last year, it opened up options that were unimaginable before. It allows for new visual effects like textures or graphical elements, even new kinds of floral patterns. We can play with effects so much more now.

Effekte: And where do you see the wallpaper market headed?

RM: I reckon we'll see a renaissance in more natural visuals: wood, stone, marble, even textile textures. It's imperative that we make use of the new colors and effects available. Wallpaper patterns might be achieved through small graphics, a 3D appearance, ornamental designs with a touch of the Orient. Large panels involv-

ing digital printing techniques combined with solid colors will also no doubt continue to be popular in the future.

Effekte: What role do our products play in this future? How have we contributed to this industry over the years?

RM: You provide the largest portfolio of products in terms of substrates and coating technology, which is truly indispensable in the field. It's not just the colors you offer, but also the variety of effects and the groundbreaking techniques that make new things possible. In that sense, you supplement a designer's toolkit with options that let the imagination take flight.

Effekte: Thank you for speaking with us today.

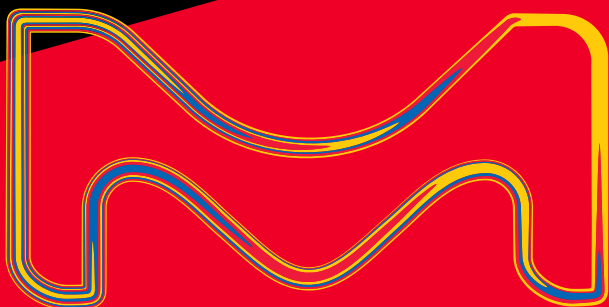


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