news from sika worldwide

issue no. 5

ambitions direct

Fascination

High Tech meets Human Health

Today the mission of specialty chemicals producers goes way beyond the actual construction of a project. Not solely the construction related properties of a product matter; one thinks further and takes into account what happens during all the years after construction. The health and comfort of the occupants of indoor spaces becomes key.

Not only are temperature and relative humidity factors of a good indoor climate but also the potential of indoor air pollutants. Building products can be a major source of indoor air pollution due to volatile organic compounds (VOC) and semi volatile organic compounds (SVOC). Sika is worldwide the first producer to set flooring quality standards relevant to health. With its extensive experience and world-leading position in providing flooring solutions, Sika fosters the development of particularly low-emission products.

Sika's low emission **Decofloor**® epoxy products are highly suitable for schools, museums, retail, leisure, healthcare facilities and other commercial and public buildings where the aesthetic and low VOC emission characteristics are very important. The products are offered in different colors and can therefore contribute a decorative feature.

The even more stringent ultralow VOC epoxy flooring products meet the highest emission specifications and are thus even used in clean room environments, as for example in the cleanest room in the world (see ambitions no.4) located at the Frauenhofer IPA, Europe's largest application-oriented research organization.

Sika also offers very low VOC flooring products on the basis of polyurethane, often used for sports buildings. This product range, called **ComfortFloor**®, has the distinctive properties of a soft flooring system like any soft vinyl flooring but with increased comfort and noise suppression. The floors are soft enough to preserve the joints during sport activities and provide comfort in those areas where personnel stand for long periods of time.

Sika®

Innovation & Consistency | since 1910

Extraordinary

Making a dream come true

What the designers of "Takeshi Hosaka Architects" dreamt of is not hard to guess. The igloo-like noodle restaurant Hoto Fudo near the Mount Fuji, Japan reminds of a cloud with its soft geometry. The design allows rainwater to dissipate across and wind to circulate under the reinforced concrete shell. The idea was to build a roof which is combined with walls not having any joints. The viewpoint of the architects posed various challenges to the construction process.

One of the major requirements on such a roof was the waterproofing, which had to show the same reliability on the almost flat roof areas as on the walls with 90-degree angles. This problem was solved using "CV spray," Sika's two–component, ultra-fast curing polyurethane spray system, which enabled a uniform waterproofing thickness everywhere. Secondly the materials for the unified and jointless surface had to show high elasticity and flexibility, for which Sika liquid membranes proved to be the best solution.

Last but not least the bright white color and especially the long-lasting clean appearance of the surface were achieved using a **Sika**® **TopCoat**® with photocatalyst.

Photocatalysts are used in top-coats which require anti-fouling properties and ease of cleaning. They use UV light to enable an advanced oxidation process with the aim of removing organic and inorganic materials.

The Hot Fudo building won several architectural awards and also gained attention from architects overseas.

Sustainable Solutions

Tornado resistant roof in Puerto Rico

In Puerto Rico, in the tropical zone in the northeastern Caribbean Sea, the seasons do not change much. For most people it's summer every day, a perfect atmosphere in which to enjoy a ferry journey. But do not be fooled; you never know when it's going to rain. Most showers last around 5 – 20 minutes, not very long – but long enough to get completely soaked.

Fajardo Ferry Passenger Terminal in Puerto Rico could not withstand these rainfalls; over time the roof was not watertight and had to be renovated. The Maritime Transportation Authority of Puerto Rico decided that in an area known as "Hurricane Alley" a new roof had to be installed which would offer high wind uplift resistance, and of course, would be watertight.

A solution had to be chosen which would allow the continuous ferry service to be operated. Modified bitumen systems and conventional built-up roof ideas were discarded due to the logistics of torching on a roof and hot kettles to be used during the renovation.

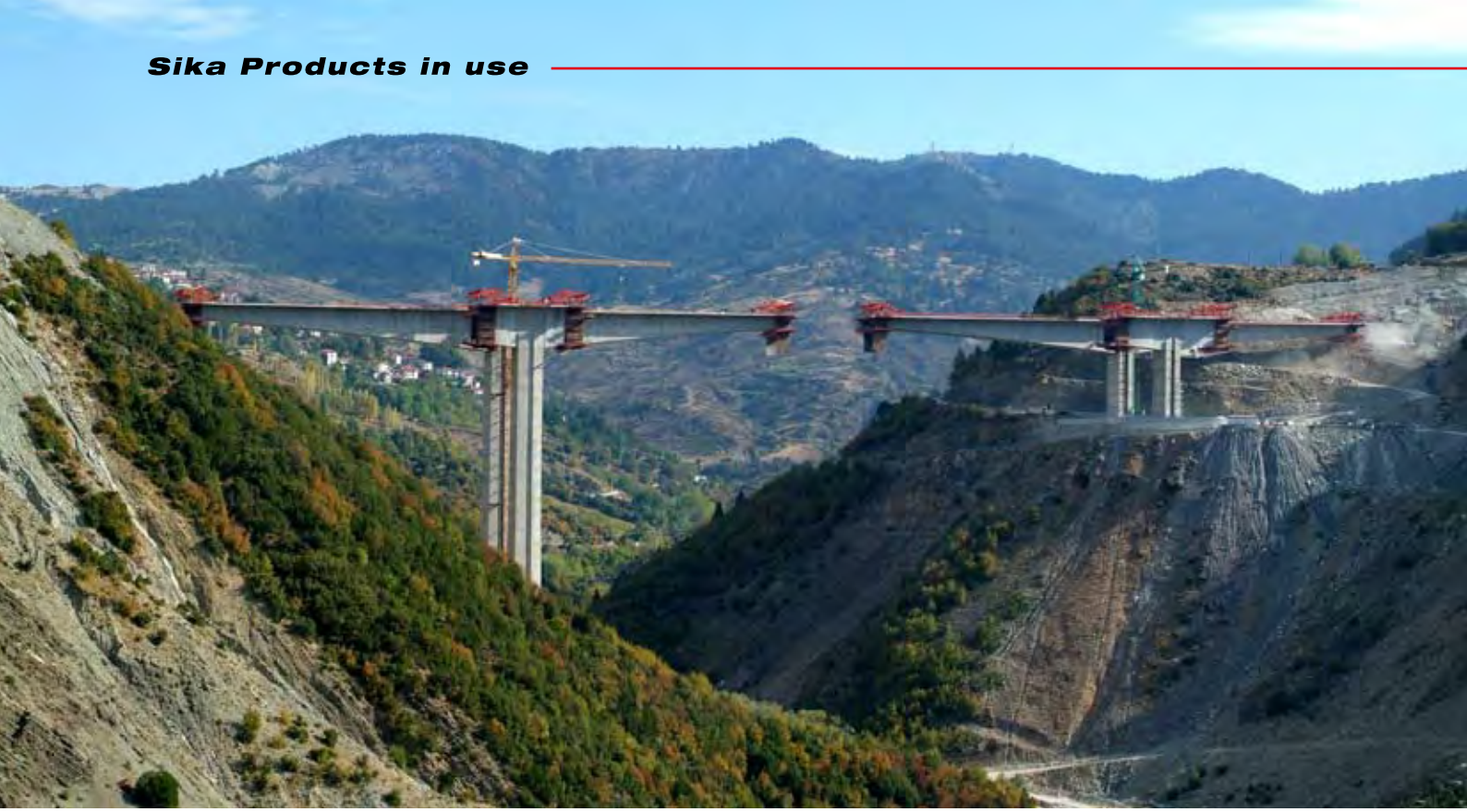
The **Sika**® **EnergySmart Roof**® membrane system was chosen because the installation didn't generate fumes which would disturb passengers and employees.

The system was also selected due to the high wind performance capabilities and chemical resistance to salt air and the normal fumes from the ferry boats.

Aerial Photo by Pedro Martínez for Aerial / Architectural Photography, Inc.

The Sika Sarnafil system also offers energy savings, due to its light-colored membrane which reflects the sun's heat.

"I really like the clean appearance of the roof, how easy it was to install and is to maintain," said Torres, project engineer and representatives for the Maritime Transportation Authority. "I also am impressed with the way the reflective roof reduces the internal temperature of the building."



Connecting Greece with 73 tunnels and 529 bridges

The Egnatia Motorway can literally be called the thoroughfare of Greece. Along a total length of 670 km it wends through nine prefectures, connects with Albania, all the North Balkan countries, Bulgaria and Turkey via nine vertical axes and with the ports of Igoumenitsa, Thessaloniki, Kavala and Alexandroupoli, while passing through 30 areas of touristic and special interest.

On a national level, Egnatia Motorway provides the opportunity for investments in the transportation, the industrial and touristic sectors and will form a basic growth driver for northern Greece. On a European level, Egnatia Motorway connects the industrial centers of East and West.

The topography of the area through which the Egnatia motorway passes required the construction of 73 tunnels and 529 bridges. In total 42 km, or 6% of the length of the motorway, consists of bridges.

One of the most difficult bridges from a technical standpoint was the 537 m long twin bridge of Metsovitikos River that flows along the border of Metsovo area.

Difficult concreting conditions such as great heights and long pumping distances resulted in increasing demands on the concrete mix design. The mix had to fulfill various contradictory requirements, such as prolonged workability time of over 90 min at increased temperatures due to friction of concrete with the long pumping hoses (>100 m vertical), combined with the need for fast concrete setting to allow raising the slipping form in the piles. Additionally, air entrained concrete required to resist freeze-thaw cycles had to meet specifications for high early and final strengths. These among various other demands led to the creation of a high-performance, tailor-made product with the application of **Sika® Viscocrete® 4000** and **SikaAer®** air entrainer.

The Metsovitikos Bridge construction was very demanding not only due to its size, the very lengthy central span, the especially difficult topographical morphology but also because of the severe winters and the local gale winds.

Sika at work

A Chinese hat for French art

The Center Pompidou was designed by the architects Shigeru Ban Architects Europe with Jean de Gastines and Philip Gumuchdjan

A circus tent for the artist; that's what the Center Pompidou in Metz, northeastern France, resembles at first sight. It houses extraordinary collections of modern art from the 20th and 21st centuries. Not only the exhibitions held inside the building but the whole structure itself presents a masterpiece of art and a reflection of contemporary creation.The center is named after Georges Pompidou, the President of France from 1969 to 1974. It is constructed following the ideas and functions as a decentralization of the famous Center Pompidou in Paris, which houses a vast public library, one of the largest museums for modern art in Europe and a center for music and acoustic research.

The Center Pompidou in Metz is a 77-meter high hexagonal structure with a distinctively shaped roof of 8,000 m². The roof is made of Teflon-coated fiberglass and supported by a series of contorted and curved wooden beams. Japanese architect Shigeru Ban claimed he was inspired by a Chinese hat.

The center offers space to three galleries which run through the building, offering in total 3460 m² of exhibition space. The galleries consist of rectangular boxes that project through the building at different levels, jutting out through the roof with huge picture windows angled towards landmarks such as the cathedral, the station or a nearby park.

Sika's involvement in the project included supplying **Sikatop®-121** products to waterproof the external part of the galleries as well as coating solutions for the elevator tanks.

Furthermore the structure contains 6000 m² of flooring realized with seven different Sika systems, for example the **Sikafloor®-263 SL**, **Sikafloor®-357** and **Sikagrip®** which were all used in the areas where high mechanical resistance was needed. The comfortable flooring system **Sikafloor®-263 SL** was used for the offices.

The three-year construction project was finished in 2010 and is now open for visitors!

Our Employees

Teamwork and joy in partnership are key elements for success

"As Product Technology Director (PTD) Elastic Sealing & Bonding, I am responsible for the product technologies for sealants and elastic adhesives known as **Sikaflex®**, **SikaBond®**, **Sikasil® and SikaFast®**.

Especially challenging and interesting is the management of the different R&D departments in Switzerland, USA, Japan and China. Although they are dealing with similar product needs, cultural understanding is required to achieve the same level of technology leadership in all regions.

Another key to success lies in achieving high cooperation and cognitive knowledge among all groups. A development process often goes via loopholes and it demands a lot of endurance to continuously bring solutions for unexpected problems. Sika's strength lies in its team spirit; people always make time to help others find solutions. Good cooperation with production, technical and marketing people also motivates employees to bring better performance.

Lately, keeping up with changes in legislation has become a major element in our R&D work. Especially in Europe, the changes in environmental regulations induced by REACH have become more frequent and the lead time is getting shorter. The message here is to stay ahead, and therefore, it is important to invest in basic technology studies and to be active in associations.

The latest innovation in the area of Sealing & Bonding is **i-Cure®** technology. The new generation of sealants and adhesives based on this technology excels in workability, durability, adhesion and sustainability, and allows us to meet today's and tomorrow's changes in environmental regulations. "

Dr. Ria De Cooman
PTD Elastic Sealing & Bonding
Sika Technology AG

Dr. Ria De Cooman gives an insight into the challenges of R&D work and explains how environemntal regulations have an impact.

From Basement to Roof at Dublin Airport

Does success have a single, crucial ingredient?
One factor is expressed by Sika's catchphrase "from basement to roof," for which the explanation seems evident. Experience gained on projects has taught us that myriad elements come into play. One thing is for sure, the crux often lies in the details.
A major construction project such as the airport in Dublin is a puzzle comprising pieces of complex project planning, all aiming for optimized operational handling. From the moment passengers arrive at the airport, they must smoothly pass various checks, queues, airport buildings and even floors before finally reaching their flight and the long awaited moment of takeoff.
Way at the beginning of this chain of events is the arrival at the airport parking garage; the first step for an easy boarding procedure. High quality construction products contribute to high durability, easy maintenance and improved aesthetics of the building. But what saves time and reduces the complexity of such a construction project are not only the high quality products but the good customer service from a single-source supplier to ensure compatibility of the applied solutions.
Sika has a comprehensive range of solutions to meet all the needs from basement to roof and thereby focuses not only on products but further on highly integral systems. All the systems are compatible and bring added value to the customer. Sika's catchphrase "from the basement to the roof" has also been put into practice at the multi-story car park at the airport in Dublin. Sika was involved with the **Proseal**® Pro curing agent for the basement, and **Sika**® **ViscoCrete**® **Storm** concrete admixtures or **Sikaflex**® adhesives for joint sealing. This is merely a short extract; the complex project also called for Sika systems in parking garage ceilings and membranes for waterproofing the roof.
A major win was the fact that Sika offered technical support in every aspect of the building – for concrete, coatings, sealing, bonding as well as roofing.

Office Roof: 2,000 m² Trocal type S, 500 m² Trocal SGK Bonded plus ancillaries

Top Deck: 13,000 m² Sikafloor® Pronto® 15

All Levels – floor screeds: 40,000 m² Sika® Viscocrete® Storm

Joint Sealing: 1,200 m² Sikaflex® Pro3 WF

Precast Facade Panels: Viscocrete® HE200

Structural Columns: Viscocrete® HE200

All Columns and Soffits: 26,000 m² Sikagard® 675 W

Ground Level: 13,000 m² Proseal® Pro

Level 2:13,000 m² Sikafloor® 263 SL

Investments

Partnership with the Swiss Federal Institute of Technology Zurich (ETH)

Sika is sponsoring a new professorship for sustainable civil engineering. With this support Sika continues its successful and multilateral partnership with the Swiss Federal Institute of Technology Zurich in the fields of chemistry, building materials and construction.
Sika solutions help reduce CO2 emissions in the building and construction sector and water consumption in manufacturing of concrete. To emphasize this engagement, within the scope of its 100-year jubilee Sika is endowing a new professorship at a new institute to be founded at the ETH Zurich for sustainable civil engineering. Conjoined with this partnership is a grant to the ETH Zurich Foundation.
The ETH Zurich Foundation aims to support strategic research and education projects at the Swiss Federal Institute of Technology Zurich. Sika's sponsorship has contributed to successful implementation of various projects such as the new Olympia bobsled CITIUS or the Monte Rosa Hut.
Walter Grüebler, Chairman of the Board of Directors of Sika AG: "The demands for environmentally friendly materials cannot be developed solely on the basis of existing experience, but require new solutions. It is therefore crucial that Sika advances a high level of scientific competence to enable ideas for sustainable innovations. The ETH Zurich is the ideal partner for this."
Sika regards the sponsorship commitments as long-term collaborations in the form of partnerships, from which both sides benefit and to which both sides contribute. With the sponsoring activities Sika wants to make useful contributions to society and environment in which we live.

Careers

Sika Experience – career start made easy

Which stepping stones are the most important for a succesful career? A solid education? A realistic picture of the future job? The right contacts? Experience would be great – but where does one get this? It takes more than just some of these elements for a sound career start – a good mixture is necessary. Yet how can students or young professionals gain valuable experience?
Sika wants to gain the best talents aiming to succeed at future challenges. In order to reach this goal, Sika is enhancing its dialogue with the younger generation via the internet and offers the tailor-made Sika Experience program. The Sika Experience program gives students and young professionals manifold insights into practical work – via internships, projects, competitions and traineeships. Because the Sika Experience participants write blogs about their experience, learning and perceptions, many more students can get an impression of working at Sika. In order to make the Sika Experience fit students' needs as closely possible, Sika has been collecting inputs from this community about its preferred future Sika Experience. With these inputs, Sika is shaping an unforgettable and multifaceted program for 2011 – and definitely one which meets students' needs.

Convince yourself about the great offers for students and young professionals by reviewing the Sika Experience www.sika.com/experience, or follow it on facebook www.facebook.com/sika.experience and be sure not to miss a thing!

New strength in the USA

Greenstreak Pipeline protection on the Rockies Express Pipeline, North-western Colorado to eastern Ohio.

In the year 2010, Sika acquired two companies in the USA to further expand its leading position in the North American construction industry.

Greenstreak Group, Inc.

Sika acquired the Greenstreak Group, Inc., a recognized leader for joint sealing technologies for the concrete industry with established waterstop products and annual revenues of approximately USD 30 million. This move gives Sika ownership of the three strongest engineered waterstop brands worldwide: Sika – Tricosal – Greenstreak.

Greenstreak has continually grown through the development of new products and markets and selective acquisitions including two major competitors, Vinylex and Southern Metal and Plastic Products. In recent years, Greenstreak has advanced further into the Tilt-up and Flatwork markets with a comprehensive line of dowel products for load transfer and a variety of forming accessories.

Greenstreak attained its leadership position by being responsive to the needs of industry owners and has developed for example a flexible PVC covering for the pipeline industry which protects pipelines passing through rocky terrain.

May National Associates, Inc.

The further acquisition of May National Associates, Inc., a leading manufacturer of silicone and polyurethane products with annual sales revenue of approximately USD 20 million, enables Sika to build up its silicone sealants offering – especially in the growing solar and façade markets in North America.

Sika can now build a strong silicone footprint in North America and expand its global silicone technology and know-how to this important region.

May National Associates Inc. provides the Bondaflex polyurethane sealant for the renovation of the Empire State Building.

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Sika' international newsletter to customers

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