

# Design in Acrylics

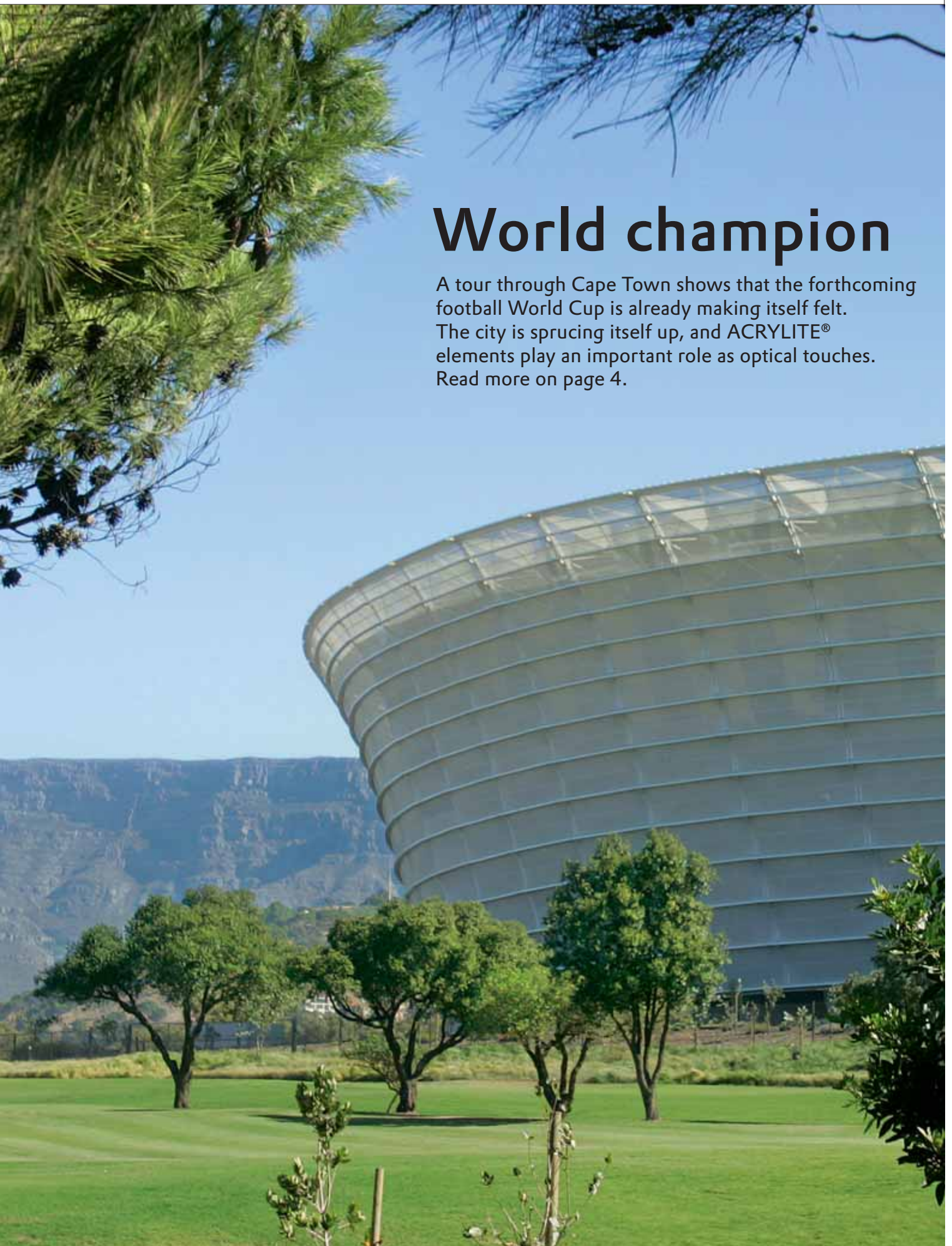
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## World champion

A tour through Cape Town shows that the forthcoming football World Cup is already making itself felt. The city is sprucing itself up, and ACRYLITE® elements play an important role as optical touches. Read more on page 4.





Michael Traxler,  
Senior Vice President  
Acrylic Polymers

## Dear Readers:

The FIFA World Cup in South Africa is the major event this summer. For South Africa, the event is an economic as well as a sports challenge. As the first African country to stage a football World Cup, South Africa is eager to present itself in the best light. ACRYLITE® offers valuable support in this respect. Thus, the architects of the World Cup stadium installed light pillars made of back-lit ACRYLITE® for the arena that seats 68,000 spectators. Various television companies will transport this light all around the globe.

Another glowing idea that spans the globe is the one behind the White Cube, a project thought up by students at Bauhaus-Universität. ACRYLITE® EndLighten provides the desired form of lighting for the cube, which tells the entire story of an artistic movement.

In Washington, ACRYLITE® played an important role too. In that city, students from Darmstadt won a competition staged by the US Department of Energy with their sur-PLUShome entry.

The combination of light and ACRYLITE® also adds a special flair to the LUNA standard lamp and the St. Josefs Hospital in Wiesbaden. Düsseldorf artist Emil Schult works not just with light, but also with different colors and materials to create exceptional effects.

I hope you will enjoy reading these enlightening stories!

*Michael Traxler*



## A moment in time

Everything flows, is reflected, mutable and merging: shining gold, shimmering blue – a play of light that seems to appear from nowhere. Above and below fit harmoniously together. Above and below are the wall elements and the floor of a room for devotions. Sheets of ACRYLITE® painted on the reverse or coated with gold leaf create this very special atmosphere. But this is not static. Sliding screens that conceal or reveal the religious symbols turn the room into a refuge for various religions and provide special moments and visions, in both senses of the word.



*Relaxing even in hospital:  
Light influences our well-being.  
The luminous wall panels with their alternating  
colors create the right mood in Wiesbaden.*

## Let there be light!

*Backlit ACRYLITE® EndLighten illuminates hospital corridors*

► Illuminated rear walls made of glass and ACRYLITE® EndLighten light up the corridors of Wiesbaden's St. Josefs Hospital in different colors. The illuminated panels create an incredible deep-view effect due to their high light distribution.

Light has an influence on well-being. It enters the brain directly through the eye and stimulates the production of hormones like serotonin. In the bright light of spring and summer, the body produces large quantities of this feel-good hormone that lifts the mood and gives us energy. In the dark autumn and winter months, on the other hand, more melatonin is produced, a substance that makes the body tired. Although electric light only partially compensates for the lack of daylight in winter, light can nevertheless influence our mood.

Stephan Schneider, light designer at Systemlicht in Wetzlar, in the German state of Hesse, has created various luminous objects that brighten up the dark period of the year. Using illuminated rear walls made of a combination of ACRYLITE® EndLighten and glass, he lights up a wide variety of rooms, including several corridors through wards at Wiesbaden's St. Josefs Hospital. "I make these rooms appear in an entirely new light," says Schneider. He is passionate about his work as a designer, but is not a light therapist, although he may sometimes feel like one. "The patients are meant to feel comfortable, and I create a relaxed atmosphere with light." Some of the 23 luminous ceiling-to-floor walls installed at the hospital have been hung up in the maternity ward. "It doesn't feel like being in hospital at all," one young mother says of the atmosphere. A sign that Schneider's concept is working as planned.

The luminous panels shine in various colors and are illuminated by colored LEDs. "I want viewers to look at these panels and rediscover light," the light designer explains. The lights change color automatically and can be remote-controlled. "The luminous panels add decorative touches and provide basic corridor lighting," says Dr. Joachim Kern, senior physician at St. Josefs Hospital. "Since they were installed, the staff like to switch off the ceiling lights, which shows the panels off to better effect."

Although the panels at the hospital reach up to the ceiling, the dimensions can be chosen individually. The special feature is that, depending on its size, the luminous panel is only one inch thick, which makes it suitable for small rooms too. "The lights are a big hit with children, who love the automatic change of color," Kern says.

Schneider sorted out the initial light distribution problem after one year's development work using ACRYLITE® EndLighten.

"I feel as if I could let myself fall into the light, it appears so deep." The lamps are customized. It takes an average of six weeks from placing an order to installation of the cut-to-size luminous panels. Schneider designs, builds and produces the panels with the help of certified suppliers – a dream job for the former lawyer who gave his notice after only two years because he preferred to earn his money in a creative profession. He has now been building lights for 14 years, and this decision has really paid off, he said.

There are further fields of application for the luminous panels in elevator ceilings, spa ceilings and – coming soon – as transparent luminous partitions on a private yacht.

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[www.systemlicht.com](http://www.systemlicht.com)





## Facelift for World Cup

*Cape Town adds glowing touches with ACRYLITE® and spruces itself up for the FIFA World Cup*

▶ Many visitors consider Cape Town to be the world's most beautiful city, and the people of Cape Town themselves would certainly agree. So fond are they of the Mother City that they are very skeptical about any changes. And why should any be necessary when one is surrounded by so much natural beauty?

But progress refuses to halt even before the historical (for the young country of South Africa) walls beneath the famous Table Mountain. The first major urban development in the last two decades was the Waterfront, a huge shopping mall and entertainment arcade in the port of Cape Town. Defying all skeptics, today this is Africa's most-visited tourist attraction. Thirty million people come to see it every year. They shop in the 400 stores that offer everything a buyer's heart could wish for, from Louis Vuitton and Gucci to local crafts in the slightly hippyish Red Shed market hall.

Guests have a choice of seven hotels, and 48 restaurants, some of them with a fantastic view of the harbor right up to Table Mountain, offer a wide selection of culinary delights. There are also seven cinemas, an open air theater, a Paulaner brewery, a swinging bridge and the city's best wine dealer, Vaughan

Johnson. The Robben Island Museum is also at Waterfront. From here, ships sail to the prison island where Nelson Mandela spent the largest part of his 27-year sentence. This excursion is a must for all visitors to Cape Town, because the guides are all former prisoners.

### *Triumph over apprehensions*

When the Cape Town International Convention Centre (CTICC) was built several years ago ("with our savings," said the critics), popular protest was so vehement that several open days were held to convince the city's inhabitants that the city's reserves were being well spent. And the planners were right. Today, the convention centre is a huge success and is "booked out for years to come," according to CTICC director Dirk Elzinga. The extension was decided only one year after the original construction was completed, and a few months ago the Convention Tower office building was opened.

Designed by Cape Town's star architect Dennis Fabian, it stands opposite the Westin Grand Convention Centre hotel right next to the highway, almost as if to welcome visitors. It is particularly impressive in the evening when a huge white strip of light glows from the roof

*Summer in the city: The Cape Town stadium will host football fans' greatest dreams this summer.*



Almost an established sight in the city: The impressive light strip at Cape Town International Convention Centre is made of 1,700 ACRYLITE® sheets.

to the ground. "We had to find a solution that consumed as little energy as possible," says Fabian in answer to the question whether so much light is in keeping with the times. "To save energy, we opted for LEDs and covered the light sources with large panels of ACRYLITE® GP P-95 in WH 02 DC, 0.236 in. They are ideal for a project like this because of their good light diffusion."

The material's durability and weather resistance were especially important because very strong winds often blow in this area, on the foreshore of Cape Town. Romano Signs, who were commissioned to implement the project, worked together with Evonik, who calculated the suitable material thickness (0.236 in.) based on the stated wind loads and temperature fluctuations. One thousand seven hundred sheets sized 24 x 46 inches were installed. Another problem was the reflection of the sun during the day and of car headlights at

night. "The matte satin surface is non-reflecting. I am very satisfied with this solution," says Dennis Fabian.

#### *A place in the sun*

Life in Cape Town is very relaxed, everyone has time. Stress is unknown. Visitors often find that hard to understand. Unlike in the business metropolis of Johannesburg, where everything revolves around money and success, Cape Town is about quality of life. And that is not necessarily related to money. For many people, the ideal way to relax after work is to visit one of the beaches in the suburbs along the Atlantic. Quite a long way off from the city center lies Llandudno, a small bay whose slopes are dotted with beautiful, opulent villas. Here, resistance to change is so great that there is not a single store there even today, not even a corner shop or restaurant. The next bar is at the noble Twelve Apostles Hotel, several minutes away by car.

Closer to the city center is Camps Bay, the St. Tropez of Cape Town. A long, white sandy beach fringed with palms and only separated from the pleasure strip by a road. Cafés, bars, restaurants and night clubs invite people to party. From the simple Sandbar, where you can sit clad in a bikini with your feet in the sand to the original The Grand hotel (shabby chic combined with good food), to Club St Yves, where one can watch the sun going down while sipping champagne on one of the day beds on the huge terrace, there is something for every taste. Next to Camps Bay is Clifton, the most expensive piece of land in South Africa.

Nowhere else are such high prices paid per square foot, although the plots

The convention centre is located at a traffic junction. To avoid dazzling drivers, the facade must not reflect the sun.





*A life of relaxation, parties and luxury – stress is unknown in Cape Town. The city's inhabitants take life in their stride and relax at one of the many beaches, on the pleasure strip at Camps Bay and on boat trips. The landscape exudes a sense of peace and even the new stadium plays along and fits easily into the picture.*

are small and the building charges high. This is not just because of the spectacular position, but also because Clifton is mostly wind-free. When the wind whistles through other parts of the city, as is frequently the case in Cape Town, visitors to the four beaches at Clifton – numbered from one to four for simplicity's sake – remain quite unruffled. The beautiful people sun themselves at Clifton One to Four, the motor yachts and sailing boats lie before the beach, and brave souls even swim in the sea (the water of the Atlantic Ocean is seldom warmer than 59 degrees Fahrenheit). Less plucky souls jump into their own pools, many of which were adorned with blocks of ACRYLITE®. "Entire wall elements here have been made from this material," explains Holger Morhart, General Representative of Evonik Southern Africa for ACRYLITE® and ROHACELL®. "It is also used for rim-flows."

#### *Colorful cultural variety*

Further along the South Atlantic ocean coast lies Sea Point, the largest of the Atlantic suburbs. The Main Road here offers supermarkets, boutiques, shops full of knick-knacks, antiques stores, tailors, cobblers and any amount of restaurants with dishes from all over the world. This suburb was and is traditionally popular among immigrants. Many German Jews came here during the holocaust. Some Italian prisoners of war also remained in South Africa after World War II, where they had to build coastal roads and passes during their captivity. Portuguese people who fled from civil war in Angola and Mozambique settled here. And in the last few years, many Africans have added to the

variety of this suburb. Sea Point has Cape Town's only promenade. It is a few miles long and leads to Mouille Point with its old lighthouse. From there, it is only a few miles to the new football stadium, the Cape Towners' pride and joy.

#### *Reservations on all sides*

In the spring of 2006, the people of Cape Town almost choked on their toast when reading the local newspaper Cape Times over breakfast, which named the location of the new stadium. At the time, nobody could have guessed that the citizens would come to accept "their" stadium as they do today. When a sketch of the planned building was published for the first time, everyone was against it, and Helen Zille, now Premier of the Western Cape Province and then Mayor of the city, promised she would prevent this monstrosity from being built. She recently spoke before guests of the German-South African Chamber of Commerce and remembered that time: "I too was against the building, because I was afraid my grandchildren would one day be ashamed that I had borne a share of the responsibility for this soup tureen. And the man who presented the plans was so young."

The man's name, by the way, is Robert Hormes, a young star at German architects Gerkan, Marg and Partner. Together with Volkwin Marg and Hubert Nienhoff, he designed the stadium and also managed the project. That was a great challenge, for one thing because it was not possible to build deep into the ground like at the Allianz Arena in Munich. Cape Town is built on rock. Also, citizens' fears that the new building would change Cape Town's world-famous panorama of Table Bay,



*This summer, several hundreds of thousands of football fans will flock past the ACRYLITE® pillars into the stadium.*



*Highlights at the main station: an ACRYLITE® light strip runs round the upper story of the main building at a height of almost seven feet. It shows travelers the way, with the help of numerous illuminated signs.*

city and mountain had to be taken into account.

#### *En route to the World Cup*

The stadium is a steel structure covered with a light-transmitting membrane and protected by a glass roof. This gives it its impression of lightness, which, together with its curved shape, fits it into the landscape like a work of art. "Light plays a major role in the concept," Holger Morhart explains. "Looking for an architectural highlight for the entrance, Gerkan, Marg and Partners struck gold with ACRYLITE®: light pillars made of backlit ACRYLITE® were the solution. Eight football World Cup matches will take place in Cape Town: six qualifying matches, one quarter final and one semi-final. Here is how Helen Zille rates the success of the stadium: "Today, you can ask anyone you want in Cape Town, and everyone will say they were always in favor of building the stadium where it

now stands. And that's just fine." She adds in German: "Success has many fathers."

#### *A city spruces itself up*

Altogether, the football World Cup has many benefits for Cape Town. The streets are being repaired and the highways extended. Green Market Square, formerly a parade ground and now a popular market for African souvenirs, is being renovated. This had been long overdue and repeatedly postponed, until now. Revival of the inner city in general has made great progress. In the final years of apartheid, the area increasingly went downhill. Hardly anyone lived here anymore and companies also moved out into the open countryside. Now, in the lead-up to the World Cup, the lovely Victorian houses have been renovated and are once again in demand as office buildings.

Many of the apartment buildings, some of them built in the art deco style, have been modernized and are now back on the market. The pedestrian zone in St Georges Mall has been spruced up, Loop Street features hip galleries like I-Art and Joao Ferreira, and Church Street is a paradise for antiques collectors. The greatest success is the development of Long Street. During the day it is wonderful to shop at the original stores there, and at night it turns into a street full of bars, seven days a week, which is unusual in Cape Town, where everything normally closes at 11 pm. The public transport problem that is rife throughout the country is also being tackled prior to the World Cup. Most people in the cities still live in enormous townships, which often have African names. In recent years, the government has in-

*"Cape Town has spruced itself up for the World Cup without losing its special flair.*

*ACRYLITE® helped to achieve this feat because it adds brilliant touches when combined with light."*

*Holger Morhart, General Representative of Evonik Southern Africa for ACRYLITE® and ROHACELL®.*



Green Market Square, a popular market for African souvenirs, pulls visitors just like Long Street. During the day it offers original shops, and at night it turns into a popular street full of bars.

vested billions to improve the living conditions of poorer people by building simple stone houses. This was intended to create accommodation that was more pleasant to live in, but could not keep pace with strong population growth and rapid urbanization – migration from rural regions and indeed the whole of Africa. That is why many people still live in corrugated iron shacks.

#### *Play of light at the traffic junction*

Solutions must also be urgently found to help people travel long distances to their jobs in the city. So long overdue work has recently begun to renovate the main station. To avoid restrictions on rail services, the existing building has been renovated in several phases. Architect Martin Martinovic places special emphasis on light, and has provided the upper story of the main building with a seven-foot-high light strip that can be seen from all four sides. It consists of LED light boxes made of ACRYLITE® GP P-95 WHO2D. Martinovic opted for this material because of its low weight. The light boxes were also used for signposts and information desks.

Another problem was finding a lighting concept that could be integrated into the existing floor plates. The light boxes were to be no thicker than one inch. The engineering team of South African ACRYLITE® distributor Maizey helped to develop a solution. Led by Lutz Beier, the team designed a light box made of edge-lit ACRYLITE® End-Lighten, LEDs and safety glass. The boxes are 5 inches wide and between 31 and 59 inches long. They are installed parallel to each other and, seen from

above, create the impression of trains of different lengths entering the station.

From the brightly lit station, a new road leads for several miles from the inner city to Cape Town Stadium, especially for football fans. The citizens are satisfied. Thousands of people are already using the new road on their way to work.

Dagmar Schumacher



## Inspiring samples

*ACRYLITE® and light – the Inspiring Case for creative experiments*

► Feel, inspect and try out – before creative professionals use new materials, they want to put them through their paces. The Creative Box, which was part of the ACRYLITE® It's Magic campaign in 2005, led the way. Now, the ACRYLITE® Inspiring Case opens fresh perspectives. What these are, and why they are so exciting for designers, is explained to us by Susanne Mirk and Martin Hoffmann from product management at the Acrylic Polymers Business Line of Evonik.

*What motivated you to develop the ACRYLITE® Inspiring Case?*

Hoffmann: It is often hard for light and furniture designers, store fixture and exhibition booth builders to get an overview of the wide range of ACRYLITE® products. That is why we have put together samples with different properties in the case so as to present the specialty products and their benefits for customers in a comprehensive way.

Mirk: ACRYLITE® and light are inseparable. Almost everyone who holds a sample of ACRYLITE® in their hand first holds it up against a light source to recognize its textures and lighting effects. Since LEDs are becoming ever more im-

portant in design, and many ACRYLITE® components harmonize well with them, the case contains an LED surface and an RGB-LED so that everyone can try out the possible effects.

*What does that mean in concrete terms?*

Hoffmann: Many product properties become more tangible for the user. Without an additional light source, ACRYLITE® P-95 Black/White, for example, appears almost black. But when backlit, it glows white. We used to demonstrate that effect by means of two photos. But that did not make it clear that both photos showed the same material. With the LED surface, the user sees the change directly. Users can also try out the effect of combining individual products. For example, the "Ribbed" texture combined with ACRYLITE® Radiant produces completely new lighting effects and design options.

Mirk: I find the many white samples especially interesting. They show the effect of different surfaces: ACRYLITE® Hi-Gloss creates a deep-view effect. White ACRYLITE® with a satin surface produced in different ways appears matte, diffuses light with varying intensity and has a different feel and appear-



*A bit of everything:*

*The ACRYLITE® Inspiring Case lets light and furniture designers, builders of store fixtures and exhibition booths test the different properties of the material and also try out the effects produced in combination with light using the integrated LED surface.*

ance when lit. The feel plays an important role for creative professionals in particular. Customers want to get to grips with the material. Some of our samples provoke reactions of surprise. Many people are amazed how cold and heavy PARAPAN® is, a material mainly used in kitchens and bathrooms.

*What's special about the Inspiring Case?*

Hoffmann: The light source offers completely new possibilities for demonstrating the materials. It is important to us to hand over each case in person because some of our products require explanation, or their special properties are not apparent at first glance.

Mirk: Apart from that, distributors and fabricators who already use ACRYLITE® can use the case to show customers the possibilities and benefits of each material.

*And what if the customers have questions?*

Hoffmann: That is why the case comes with a CD that contains descriptions of the different product properties. All contents are logically interlinked. Users can navigate to the required information on each product in digital form.

*Where is the ACRYLITE® Inspiring Case available?*

Mirk: So far we have presented it in Europe. It will shortly appear in Asia too, and in the NAFTA states it will be available in the ACRYLITE® design as of the summer.

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[www.acrylite-magic.com](http://www.acrylite-magic.com)



## Shop till you drop

*Ingenious architects turn shopping into a designer experience*

Shopping in Auckland, New Zealand, is a particularly pleasant experience. One boutique attracts customers through its exclusive ambience, which includes a stylish showcase made from ACRYLITE® tubes. These are filled with transparent “marbles” lined up like a string of pearls.

Shopping is an event in itself. Imagine yourself strolling along a street full of shops, a smart handbag on your arm and a latte in your hand, with your best friend beside you. What it all comes down to is the joy of the chase that tempts us to scout out the latest in must-have clothes. Each shop rail and display is examined, each item discovered by a fellow shopper is closely observed – after all, you might have overlooked something! Only after carefully sorting through everything on offer do you go into the changing rooms with your selection.

Essential prerequisites for a fun day out shopping are a good friend to accompany you, but also the right sales atmosphere, one that puts shoppers at their ease. That is no problem at the Max flagship store in Auckland. As soon as you step inside, you feel that this is a very special store. It is located in an old building in the historic Queen Street area – historic at least by New Zealand standards. Queen Street, built in the mid 19<sup>th</sup> century, is one of Auckland’s oldest streets. Over the years, it has witnessed grand parades and marches, such as the one in honor of Queen Victoria’s son when he came to visit New Zealand.

The link with the past is tangible upon entering Max. The old building that houses the sales room is still visible despite the extensive conversion work. Historic elements of the room were skillfully integrated into the new store design – an old-fashioned counter, for example. Since the store is the flagship of the Max fashion brand, the question of its interior design was a central one. The new store for luxurious ladies’ clothing had to offer customers an elegant atmosphere. Such was the designers’ brief. Apart from that, Queen Street is one of the best-known streets in New Zealand, more or less the local equivalent of Mayfair in Monopoly.

The store design is exclusive and modern, with plenty of space for presenting the clothes and trying them on. To reflect these generous dimensions, the previous sales room of Max’s was enlarged and joined up with the ground floor of the neighboring old building. This was a step that initially gave the architects quite a headache. “Uneven floors, too many exits and pillars, and low ceilings, of course. It was a tall order,” said the designers at Gascoigne Associates Limited, who drafted the store design.

The planners got down to work. First they removed the ceiling to open up the room and let light and air in. Now the sales room looks lofty and generous. It was not so easy to remove the pillars dotted around the room, however. “And we couldn’t conceal them either, so we made them part of the concept,” the de-



Successful combination of old and new: The Max flagship store shows its range in the best light.



The lounge invites shoppers to take a break.



Presentation surface combined with the atmosphere of a lounge: Customers feel at their ease in New Zealand's Max store.

signers tell us. Now the pillars are emphasized and are surrounded by a semicircle of highly transparent extruded ACRYLITE® tubes. These are 13 feet high, with a diameter of 1.57 inches. This gives them a delicate and very stylish look. The highlight are the transparent beads lined up inside the tubes like a row of pearls on an invisible string.

The tubes stand in the center of the room and immediately catch the eye. They also have a practical function, as a partition. The space in front is used for presentation. Customers immediately notice the display mannequins standing before the ACRYLITE® partition, which are a welcome source of inspiration for their own outfits.

The semicircle also offers a place to rest. A huge semicircular rococo sofa invites customers and their partners to rest their feet. A chandelier fashioned from antlers hanging over the showcase finishes off the exclusive blend of styles. The designers use the chandelier to introduce a natural material and thus create a composition that enthralls most customers. As well as shopping, they also go away with ideas for the interior design of their own homes.

The changing rooms are situated behind the ACRYLITE® tubes. To enter one of the cubicles, one first has to push back the heavy velvet curtains in front of them. These are of the sumptuous kind you might find in a castle and have a pleasant feel, invoking the sense of touch. This area is luxuriously appointed and thrilling, with a different function

from the rest of the store. "Most sales decisions are made in the changing room, which has to have a touch of intimacy and excitement," the designers say. They appear to have succeeded: since the conversion, sales have doubled.

So the interior design and concept of the store help to boost sales. Shopping enthusiasts like coming to Max. With a huge pile of clothes over their arm, women enter the changing cubicle full of expectation, only to come out shortly after wearing a new dress and a broad grin, sure that others are looking on enviously. Everything is up for grabs, so shop till you drop! The perfect outfit has been found, for now. Tomorrow, things may look different, and the next new dress may too. After all, shopping is something for gatherers as well as hunters!

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[www.psp.co.nz](http://www.psp.co.nz)  
[www.acrylite.net](http://www.acrylite.net)



Taking a closer look: ACRYLITE® tubes with lined-up beads divide the changing rooms from the showroom.





Contours and individual elements of the picture are outlined with a knife.



It is always an exciting moment when the protective masking is removed from the ACRYLITE® sheet to reveal the finished work of art.

Backwards and the wrong way round: For his artworks behind ACRYLITE®, Emil Schult applies the motifs he would paint first on an ordinary canvas last of all.

# Through a glass, brightly

Art on ACRYLITE® – a visit with Emil Schult

► “Today, we see everything we want through a pane of glass or a sheet of plastic, whether at the computer, on the mobile phone, when driving our car or in a shop window,” says Emil Schult. His art addresses this special view of the 20th and 21st century. The 63-year-old artist uses the verre églomisé (reverse gilding/painting technique on glass), and paints his pictures on (or rather behind) ACRYLITE®.

Schult selects a wide variety of motifs, ranging from art deco such as a dancer in shimmering metallic hues, to architectural studies of Cologne Cathedral or Petronas Towers in Kuala Lumpur, up to a series of greatly enlarged microchips. What they all have in common is their special radiance. ACRYLITE® makes colors glow, and when viewers change their perspective, the picture changes too. Its colors shift and new details can be discovered.

Verre églomisé might be termed art for the advanced. It can't be done just by grabbing a paintbrush and getting down to work right away. Instead, the artist more or less has to paint backwards. And the wrong way round. “I apply one layer of paint to another. For example, if I want to paint a face, I start with the pupil. Next comes the white of the eye, then the rest of the head,” explains Schult, whose studio is in Düsseldorf. In his works, he not only uses various types of paint from acrylic to oil, he also uses metal. This is bonded directly to the ACRYLITE®.

The artist has been working with the material since the 1970s. At this time, he was also very much into electronic music, and acted as a designer and cooperating author with the group Kraftwerk, both in the studio and on tour, from 1970 to 1982. He also painted the famous cover of their album *Autobahn* (1974). He first started using ACRYLITE® as a material “because it is very easy to drill and bond,” Schult says. He used it to build instruments like a small sequencer, “which still works today,” he says with a smile, looking at the little blue box sprouting colorful cables.

But it took a while for him to start painting on ACRYLITE®. From 1982, Schult lived in the Bahamas for a few years. “There I closely observed nature and the animal world. I often went diving and experienced for myself how the ecological balance in the region is becoming increasingly unsettled,” the painter recalls. To draw attention to the increasing destruction of this small corner of paradise, Schult decided to make a movie, with the title *Es gibt nur ein Wasser* (We all share the



A calming interplay of color and light: The walls of the *Krypta* at the Robert Schumann School of Music and Media in Düsseldorf consist of ACRYLITE®. Here, students of church music can meditate.

same water). For this, he painted endangered species – turtles, rays and sharks – on sheets of ACRYLITE®. He stood them up in the reef below water and filmed fishes looking at the pictures of these marine animals that are growing increasingly scarce.

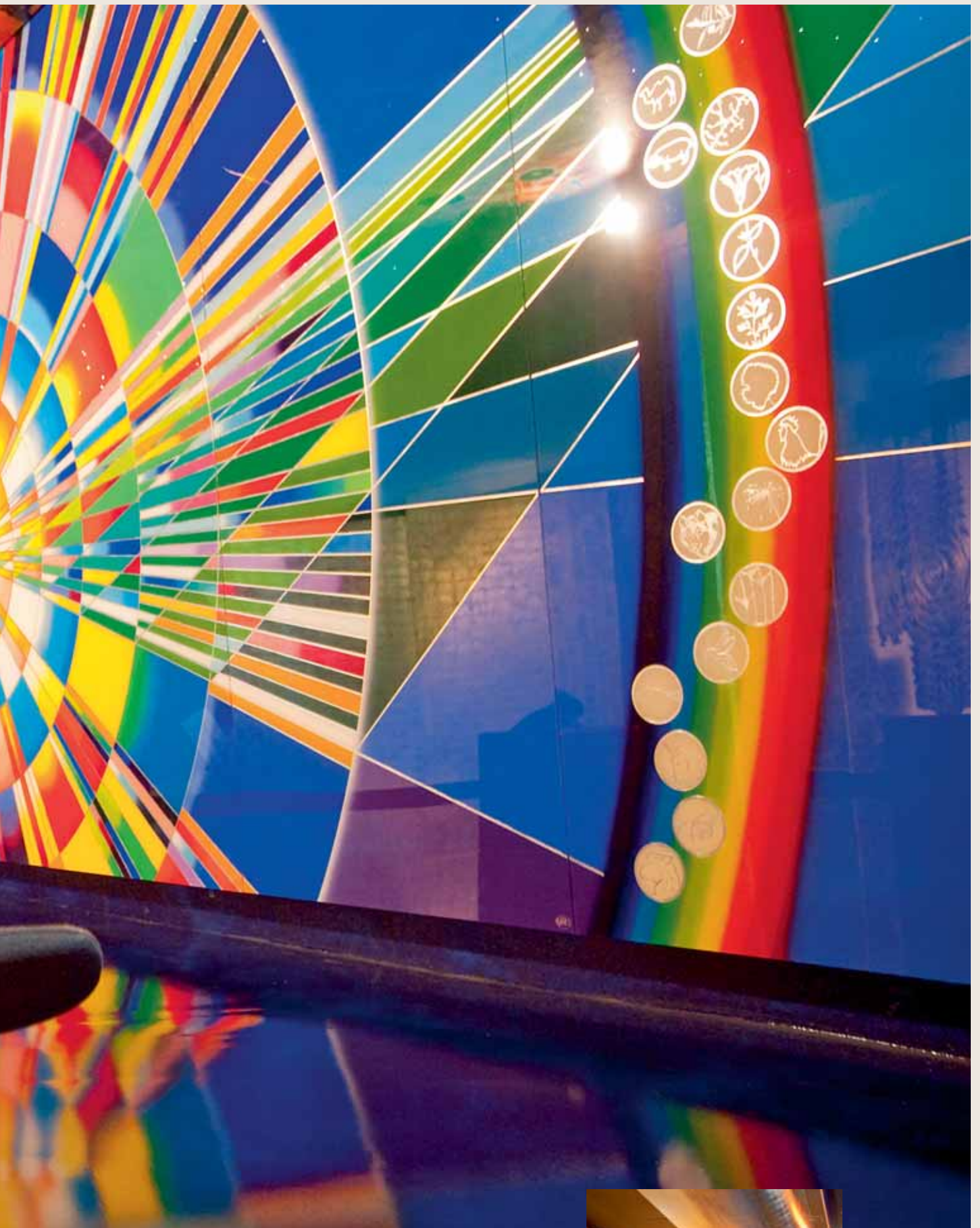
Schult has stayed true to the material to this day. He appreciates its practical benefits as well as its optical effect: “Unlike glass, it is relatively lightweight and impact-resistant. And in all the years I have worked with the material, I have never seen it become discolored or cloudy,” says the artist who studied with Joseph Beuys, Dieter Rot and Gerhard Richter, among others.

Emil Schult is not one of those artists who are divorced from reality. “What use are my pictures if no one understands them?” he asks. “I am not keen on abstract art. For me, art is a kind of superior craftsmanship.” His regular work with children keeps him in touch with reality. He wants to acquaint them with modern media, art, music and dance, and encourages them to see these various elements as part of the bigger picture and to combine them. “It’s great to see performances designed by children. We want to give them strength and self-

confidence through this form of expression,” says Schult, who has also worked as an art teacher.

One of his masterpieces is definitely *Krypta* – a meditation room for students of church music at the Robert Schumann School of Music and Media in Düsseldorf. Schult has designed a room in the catacombs of the school whose walls are made completely of ACRYLITE®. “The purpose of the room is on the one hand to create a suitable place where students can practice church music. On the other hand, the crypt is meant to serve as a room for general devotions.” The work on the room took five years, from 1995 to 2000. Today, one wall glows in all the colors of the rainbow. In the center is a sun that outshines everything. On the opposite side of the room is a wall that is completely backed by gold leaf. It features two “guardian angels”, curved structures that are reminiscent of the ripples produced by a stone falling into water. These can be slid to the side on the left and the right, revealing a cross that glows in iridescent shades of blue.

The corresponding ACRYLITE® sheet measures ten feet by ten feet and is therefore larger than the standard size of six by ten feet. “The sheet was produced to order,” Schult says. So



he was accordingly shocked to find that the precious piece, already completely finished by the verre églomisé technique with gold leaf and other materials, did not fit through the door to the crypt. "The first thing I did was to send my staff home. I didn't want them to see what I was going to do. Then I took my belt and rolled the sheet up tight enough to fit through the opening. It was agonizing, but the high-tech properties of AC-RYLITE® won the day, and gave me a lot more reason to explore the material."

kma



*The room also serves for general devotions. A blue cross is concealed behind a screen with two "guardian angels."*



Height: 5.49 yd.  
 Width: 7.05 yd.  
 Length: 12.12 yd.  
 Living space: 89.7 sq.yd.  
 Energy production: 188 kilowatt-hours per square yard and year  
 Number of students involved: 26  
 Number of tutors: 8  
 Management: Professor Manfred Hegger  
 Departments involved: Design and Energy-Efficient Construction (Prof. Manfred Hegger)  
 Renewable Energies (Prof. Thomas Hartkopf)

## Energy-efficient living in the year 2015

*TU Darmstadt wins Solar Decathlon in Washington DC*

Architecture – As the world’s population grows, resources are dwindling. Town planners, architects and engineers are therefore giving a lot of thought to how we should live in the future. Accommodation should be functional and modern, but friendly and energy-saving too. Houses that produce more energy than they consume are state-of-the-art. The university competition launched by the US Department of Energy to find the building with the best ideas – the Solar Decathlon – takes place every two years. In 2009, as in 2007, the winners came from the Technical University of Darmstadt.

### *Visions of energy-efficient living*

Planning started in the first quarter of 2008. “We wanted to present our own vision of energy-efficient living. It was important to us to build a house that is ready for the market in 2015 but also offers a comfortable home to its occupants,” says Martin Zeumer, academic assistant at TU Darmstadt. The name of the house expresses this intention – surPLUShome.

The team from Darmstadt was already successful back in 2007. But they entered the competition with new members in 2009: “We didn’t just want to rehash old ideas, so we made sure that the core team was composed of students who hadn’t been involved so far. But of course, they were allowed to benefit from the experience of former team members,” Zeumer explains. Equipped with new ideas and fresh members, the German team finally got down to developing the surPLUShome. During the planning and development phase, the team also received support from the architecture team of Acrylic Polymers at Evonik, which had already lent a helping hand to

the students in 2007.

### *Classical technology and modern materials make for unique energy surplus*

The students devoted a particular amount of time to developing the façade of the passive house. This is made of glass-glass photovoltaic modules and ACRYLITE® panels, which the students combined according to the traditional shingle principle. “Our problem when building the surPLUShome was that thin-layer glass modules are only available in defined sizes. Owing to their flexible sizes and colors, the additional ACRYLITE® panels gave us the opportunity to adapt the façade system to any desired length and to break up the look of the building. The overall façade system ensures that the house is energy-saving to a degree that is unique so far in any building,” Zeumer says. Reinterpreting classical technology with modern materials, this façade contributes 35 percent of the building’s total energy production. The surPLUShome produces a maximum primary energy surplus of 188 kilowatt-hours per square yard and year (kWh/sq.yd. a), which is over twice as much as it consumes.

### *Making the most of available space*

The students designed the interior of the surPLUShome just as efficiently and innovatively. Its 89.7 sq.yd. of living space are divided into a single room on three levels. A piece of “furniture” in the center of the room unites the kitchen, bathroom, stairs, storage space and building utilities. Transparent ACRYLITE® runs along the stairs to the second floor as a handrail and protection against falling, and provides a high degree of safety thanks to its stability.



The team from the Technical University Darmstadt wanted to develop a house that was not only energy-efficient but also offered a cozy home to its future occupants. Backlit ACRYLITE® elements like those used in the kitchen block help to achieve this aim.



The facade of the surPLUShome is equipped with solar cells and paneled with colored ACRYLITE® sheets.

The occupants can design the remaining space as they wish. "Of course, the useful space also poses a challenge for the occupants. The space will only come to life when the people who live in it put their own ideas into practice," Zeumer states. The interplay of LED lamps and ACRYLITE® EndLighten enable individual design of the living area. "We used ACRYLITE® GP P-95 for the surface of the "space unit" at the center of the room, backlit with LED lamps. This provides pleasant surface lighting and makes it possible to add touches depending on the intensity and color of the light," Zeumer says. "We did this for aesthetic reasons and in order to machine the material quickly and cleanly. Also, when building a house designed to be sustainable, we found it important to use products that are easy to recycle and make sense in ecological terms." The entire technology of the building can be remote-controlled: both the lighting and the blinds can be comfortably adjusted via touchpad or an iPhone application. "To us, this system represents a successful combination of lifestyle and economy, even if many people still see it as a technological plaything," Zeumer says.

#### *Burst of energy in Washington*

The students showed incredible reserves of energy not just when building their house, but also during its final presentation in Washington. Since the surPLUShome could only be transported from Darmstadt to the US capital in individual pieces, the Solar Decathlon participants had to rebuild the house on site. So the fifth erection stage began in early October 2009 on the National Mall, a two-mile boulevard in downtown Washington. Starting at the Lincoln Memorial and ending at the Capitol, the street passes the Washington Monument – the famous white marble obelisk – as well as a number of museums and national memorials. Thanks to good teamwork, the house was ready in time for the first day of the competition, and impressed the jury as well as the roughly 300,000 visitors. After 18

strenuous days in Washington, the result was clear: the students from Darmstadt had come first in the Solar Decathlon. "We were very pleased to have defended our title and this confirms us in our work," says a pleased Zeumer. But the Darmstadt team had little time to celebrate. They had four days to dismantle the surPLUShome so it was ready to be shipped back to Germany.

#### *surPLUShome in Germany*

After they managed this logistical challenge, the surPLUShome is now stored in containers in Essen. During Ruhr 2010, which will present Essen and the Ruhr area as the European Capital of Culture, visitors will gain insight into the Darmstadt vision of living in the year 2015. The exhibition of the surPLUShome there in April and May 2010 will also be the first opportunity to view the house in Germany.

ap



# The beacon still shines

*History of Bauhaus in shapes and images*

► Light has strong symbolic power. It stands for life, hope and dissemination. Bauhaus-Universität Weimar used these symbolic statements when it erected a homogeneously glowing light cube with an interactive interior on the occasion of its 90<sup>th</sup> anniversary. The cube symbolizes both the origins of Bauhaus and the wide reach of the concept behind it. Walter Gropius established the university in 1919 with the aim of uniting all arts involved in the construction of the future. The cube represents the dissemination of this initial impulse throughout the world, and took eighteen months to produce.

"We wanted to create a synonym for the impulse that Bauhaus gave to the world," explains Professor Bernd Rudolf, Dean of the Department of Architecture at Bauhaus-Universität Weimar. So during the winter semester of 2007/2008, he announced a competition for project drafts to his students. Their task was to design the campus accordingly. The jury chose the White Cube by Andrea Bystricka, Ines Müller and Rebecka Sieke out of the 25 proposals submitted. "When making our decision, we had to bear in mind both the statement the object made and its financial and technical viability," Rudolf points out.

## *Light in every corner*

The White Cube convinced the jury because of its symbolic character. It stands for the simplicity often reflected by Bauhaus. "The structure symbolizes the origin and intersection of a global network that emits links like rays of light," is how the dean describes the object's statement. The chipped corners and rounded edges are especially significant. They are a metaphor for the traces of time shown by Bauhaus, which now dates back 90 years. "One problem was how to light up these round edges to provide a homogenous light structure," Rudolf explains. "The corners of a metal structure always appear pointed. Our solution was to install tubes of ACRYLITE® EndLighten on the framework. The tube material

causes light to be emitted across the entire surface rather than at individual points." This makes the edges retain their chipped appearance even when lit.

## *Concealed framework*

The framework of the cube is made of aluminum and is therefore comparatively lightweight. Each side measures 14 feet. Roughly 177 feet of ACRYLITE® EndLighten tubes run along the edges. A total of 250 neon lamps are installed inside them and along the surfaces of the cube. The membrane that is stretched over them and was donated by Mehler-Technologies is made of a special weather-resistant and light-transmitting fabric. The idea was nurtured to implementation stage with technical advice and financial support from System2040. The White Cube would not have been possible without partners in business, industry and academia.

## *Black box acts as network*

Whereas the outer structure of the cube symbolizes the reach of the Bauhaus movement, this is transposed into visual images inside the cube, whose walls and floor are completely black. The ImpulsBauhaus exhibition is based on the master's thesis of the same name by Jens Weber and Andreas Wolter, two students in the media architecture department. They approached the Bauhaus movement by visualizing the biographies and personal networks of its actors and laying them open to perusal by visitors.

The first thing the students did was to establish a database, the ImpulsBauhaus research platform, and fill it with the relationships between the key figures of Bauhaus and their biographies. Supported by art historians, they entered all 1,250 students during the Weimar-Dessau-Berliner period from 1919 to 1933 and almost all of the lecturers. "But we had to restrict ourselves to 60 people for the exhibition, or it wouldn't have been possible to



Left and above: The glowing cube in front of Bauhaus-Universität Weimar symbolizes the dissemination and history of the Bauhaus concept.

Right: Some 177 feet of ACRYLITE® EndLighten tubes were installed along the edges of the cube and equipped with neon lamps. This was the only way to achieve homogenous illumination of the entire shape.

Below left: the cube houses an interactive exhibition. Backlit graphics and tables are presented behind high-gloss ACRYLITE® surfaces, to illustrate the web of relationships between famous Bauhaus masters.

Below right: The interactive table at the center of the exhibition serves the same purpose. Counters bearing the face of one of the main proponents of Bauhaus history are recognized by software and related to each other. Further information can be called up at the press of a finger.



represent the connections between them," Andreas Wolter explains.

### Sifting through links

The interactive table at the heart of the exhibition turned out to be a special highlight. A beamer was placed below it to project the database content from behind onto the table surface. "So the table had to be made of a transparent, non-reflecting material," Wolter explains. "For that we bonded a sheet of ACRYLITE® to a rear projection film." Using counters and the touch screen function, the surface makes it possible to visualize the dates, geographical and personal data of the network archive. "The face of one of the main representatives of the history of Bauhaus is printed on each of the saucer-sized counters made from ACRYLITE® sheet," Jens Weber describes. "On the reverse of the counter is a 2D code that is registered by a camera below the table and transmitted to recognize software. This shows lines connecting the persons on the counters with each other and with other Bauhaus actors." By touching the information points, users receive background and additional information on the individual Bauhaus luminaries.

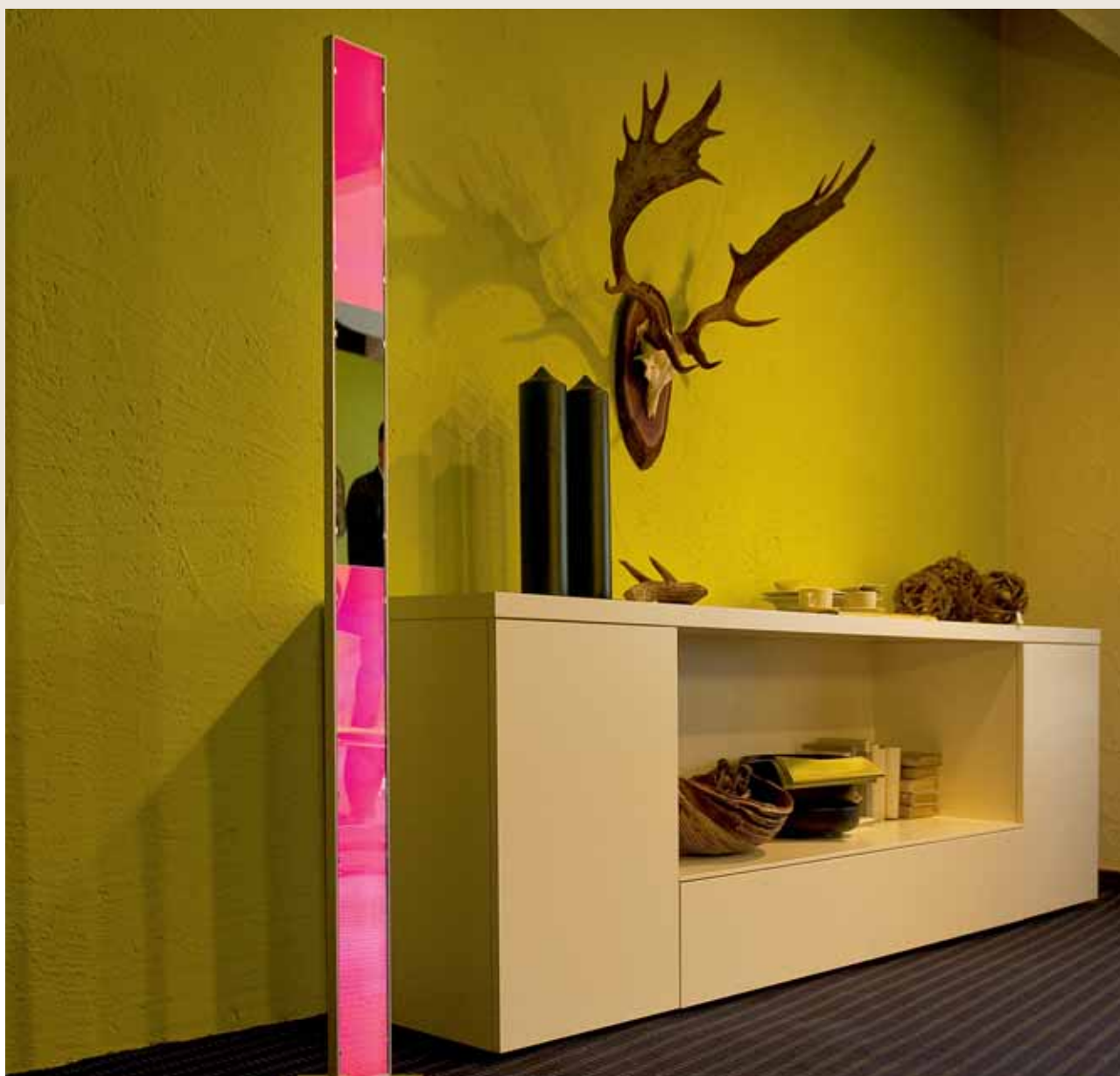
### Inner glow

Apart from the interactive play surface inside, the side walls of the cube bear large backlit black-and-white slides with tables and graphics on the web of relationships between famous Bauhaus masters. Behind the slides are holes in the black inner lining through which the light of the White Cube shines, providing backlighting for the pictures. "In order to obtain uniform illumination, the pictures were backed with sheets of ACRYLITE® EndLighten," Weber explains. "The front of the picture is additionally protected by a high-gloss sheet of transparent ACRYLITE®."

The ImpulsBauhaus project convinced the jury of the Thuringia Innovation Award and won first place in the "Communication and Media" category 2009.

### Networked through and through

To complete the whole project comprising the White Cube and the exhibition in good time, everyone involved worked hand in hand. When electricity and network cables needed to be laid to the cube location, the entire teaching staff of the Architecture Department grabbed a spade and dug a ditch to the nearest building. "The White Cube and the ImpulsBauhaus exhibition present the Bauhaus network," Rudolf recapitulates. "But the entire project was only possible because everyone involved felt themselves to be part of a network which they unselfishly helped to implement." jh



Whether in the sitting room at home or in the office, the design of the standard lamp can be adapted to its surroundings thanks to its exchangeable elements.

## A patented moon

*Swiss-German designer duo develops versatile standard lamp*

► **Design** – The moon has always fascinated mankind. It takes a little more than 27 days to travel around the earth and changes its appearance in the different moon phases. The LUNA standard lamp created by designer duo Sonntag & Friesacher is similarly mutable. The two designers got to know each other when working in Schaffhausen, Switzerland, and realized their first joint project in the shape of this lamp. “With the LUNA standard lamp, we wanted to create an object that is flexible and can be adapted at any time to suit individual moods,” says Achim Sonntag, the German half of the duo.

### *Patented magnet system provides stability*

The LUNA standard lamp is 5 feet high and only 0.787 inches thick. It remains adaptable thanks to the interplay of metal strips on the housing and of magnets in opaque and light-transmitting front elements with different colors and sizes. Up to 64 front elements can be pulled off the pillar using a suction pad and exchanged as desired. “We are especially proud of the magnetic fixation system. It gives customers high flexibility to design the standard lamp the way they want. It can look very unobtrusive, or add colorful touches,” Sonntag says. Sonntag and Friesacher have obtained a

patent for the magnetic fixation system that keeps the front elements reliably in place.

### *Front elements ensure effective light diffusion*

An RGB-LED strip attached to the pillar serves as a light source for LUNA and provides energy-saving lighting of the front elements. The light from the RGB-LEDs is evenly emitted via the edge of the 8mm thick ACRYLITE® EndLighten across the entire surface of the material. The standard lamp is available in ten different colors and four sizes. “To obtain the light diffusion we were looking for, we machined the ACRYLITE® EndLighten and covered it with ACRYLITE® Satin Ice as a diffuser to create special effects. This gives the front elements a very aesthetic appearance and ensures effective light diffusion,” Sonntag says. In addition, the base of the lamp can be twisted to create further lighting effects and to shed the desired light for private and business purposes. Customers determine both the color and the change of color and intensity of the light by remote control. In this way they can invite the new moon and the full moon into their homes on one and the same evening. ap

[www.sonntag-friesacher.com](http://www.sonntag-friesacher.com)



The magnetic ACRYLITE® front elements can easily be removed from the lamp and exchanged using a suction pad. This creates a completely new atmosphere, depending on the mood of the person who fits the front panels.

Credits:

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