

PVC TODAY

TALKING
SUSTAINABILITY P3

MAKING POSSIBILITIES TOGETHER · SPRING 2009

Swiss Tunnels:
PVC Film as Stage Setting

Worldwide Response:
Young People Speak Out

German Creativity:
Flight Trolleys as Design Objects



Salt of the Earth:
Essential for Humans and the Environment

Salt: An Essential Natural Resource



Beautiful and indispensable: salt crystals form the basis for about 10,000 derived products.

Sodium chloride – the chemical designation for salt – originated from ocean salt water and its existence began before human history. In earlier centuries, trade routes for salt emerged everywhere in Europe as well as in Asia and Africa. Wars were even waged because of the “white gold”, an important raw material in the preservation of food.

Deep Underground

The largest German salt supplier is Südsalz GmbH in Heilbronn, of which the Südwest-deutsche Salzwerke AG holds all the shares through its subsidiary SWS Alpensalz GmbH. Südsalz covers all areas of application with a complete programme for rock salt and evaporated salt as well as diverse ocean salt specialities. Mining the raw material is very labour-intensive and varies according to the salt reserves. Südsalz receives the raw materials for its products from Berchtesgaden and Bad Reichenhall from the so-called Alpinen Salinar, which originated from an evaporated sea about 240 million years ago. The rocks are flushed with fresh water in large mined areas of the Berchtesgaden salt mine. The saturated quarry brine reaches the Bad Reichenhall salt works on a twenty-kilometre-long brine belt. In the region of Heilbronn, the “younger” rock salt reserves of the Middle Muschelkalk are mined and are approximately 210 million years old. They came into existence from a deep sea far from the coast and are therefore very pure. Mining the salt reserves takes place at a depth of over 200 metres through drilling

Photos: Südsalz GmbH

Salt is a gift of nature without which human life would not be possible. No matter whether it involves aromatic spices, health products, or road salt for traffic: it is used in all areas of life. In the chemical industry, rock salt and evaporated salt are important strategic raw materials. Salt forms the basis for approximately 10,000 completely different derived products. PVC products also owe their existence to this white natural resource.

and explosives or by means of a “continuous miner”. Afterwards, the salt is broken, sifted and classified into various granulations. It is transported to the winding shaft on belts and – depending on later use – achieves the required

grade through various purification processes. Südsalz thereby guarantees the consistently high quality of its products by carefully controlling the mining and purification processes as well as work in its own laboratories with

the most modern equipment. The Heilbronn SWS Group, which employs about 1,200 workers, supplies most of its customers such as the PVC manufacturer Vinnolit via waterways. The starting point is the factory-owned salt



Belts are the lifelines in underground mining operations. They transport the salt from the mines to the winding shaft.



ARTISTIC SHEEP'S WOOL

Metal, wire and old telephones: historic telecommunication products helped Jean-Luc Cornec to create his animal-inspired work of art “TribuT”. It consists of 12 sheep that are cavorting in the entrance area of the Museum of Communication in Frankfurt.

The heads of the treasured wool-providers consist of grey rotary-dial telephones from the 1960s and a modern push-button telephone, and the thin lower legs are made of four telephone receivers. For the sheep's curly wool, the native Frenchman Cornec used entangled telephone cords coated with PVC. With some of the animals grazing, others lying down and others simply gazing into the distance, the herd offers a pleasant introduction to the history of communication which is impressively staged by the Frankfurt Museum.

www.museumsstiftung.de

Photo: Michael Frank



Salt mining with heavy equipment: The “continuous miner” in use.

port in Heilbronn or the canal landing in Bad Friedrichshall-Kochendorf. BASF is the oldest customer of the salt supplier. Since its establishment in 1865, the company has been obtaining its rock salt from Heilbronn. Between one and three ships per day transport the valuable raw material to the river port in Ludwigshafen where approximately 660,000 tonnes of rock salt arrive each year.

Multitalented Salt

Table salt certainly plays a decisive role in our daily lives, but its share in the overall salt consumption amounts to only a few percent of the total mined. And only a small percentage of that goes to private households as iodised salt or herbal salt from the Südsalz brand “Bad Reichenhaller”. The lion’s share is processed by the food industry as spices or preservatives. Equally important are health products derived from salt such as nasal rinses, nasal sprays, or gargling solutions. Since the sodium chloride from Südsalz has a very high chemical and bacterial purity, it is also used in vital physiological saline solutions and insulin production. Commercial salts make up five percent of the share in industry and trades: for water softening, refining textile fibres, manu-

facturing colours, or individual types of feed in agriculture. Additionally, road salt significantly contributes to vehicle safety in the winter.

Strategic Raw Material for Industry

Industrial salts are especially important, making up approximately three-quarters of the market. Salt crystals form the basis for about 10,000 derived products. And they are an essential ingredient of PVC. Sodium hydrox-



Loading a ship with salt for water transport.

ide and chlorine as well as hydrogen are produced from salt through chlor-alkali electrolysis. In addition to salt, crude oil is necessary for manufacturing PVC and utilises ethylene

derived through thermal ‘cracking’. Vinyl chloride, the monomeric building block of PVC, is then produced from ethylene and chlorine at a ratio of 43 to 57 percent. The percentage of oil used is much lower compared to other plastic products so that it is much more efficient in its consumption of valuable non-renewable resources. If conditions are right, renewable sources can also be used in place of fossil-fuel based feedstocks. For example, Solvay Indupa in Brazil is investing for the production of ethylene feedstock based on bioethanol which is extracted from sugar cane. In contrast to oil, there is an almost unlimited supply of salt. The oceans alone contain trillions of tonnes of salt – a nearly infinite amount in human consumption terms. In addition, enormous reserves exist underground.

Vehicles for loading explosives: Explosives are forced into drilled holes by compressed air and electrically ignited to dislodge the salt.

high performance efficiency whilst in use; extremely good durability and lower maintenance costs compared to many other materials. And the chlorine content derived from salt within PVC doesn’t just make it a very cost-efficient polymer. Unlike other types of plastic the chlorine content makes PVC products naturally fire retardant and PVC’s unique



molecular structure allows a wide range of additives to be incorporated within the polymer structure – allowing it to have properties that can make it as flexible as cling film or as strong and durable as window frames. PVC is an amazingly versatile and useful polymer and common salt is the secret ingredient of its amazing success.

www.suedsalz.de

Huge shovel loaders transport the rock salt to the belts.



The quality of the salt is continuously tested in laboratories with the most modern equipment for analysis.

Versatile PVC Products

Industrial salt offers the basis for a broad spectrum of PVC products. Approximately three-quarters of them – such as energy-saving PVC windows, easy-to-clean flooring, or light PVC pipes – are designated for the building industry. Other products include medical supplies such as blood bags or tube systems, innovative fashion articles, and designer furniture. All of these products are very economical due to both their low production cost and their low whole life-cycle costs – which include

"TALKING SUSTAINABILITY FOR PVC"

Sharing >> Trust >> Partnership

Berlin will be the venue for a major 2 day conference for the European PVC industry over the 12th/13th May 2009, with high-profile speakers from government, industry and NGO's; updates on technical matters and the opportunity for the industry to debate what sustainable development strategy it should undertake following the conclusion of its 10-year Vinyl 2010 voluntary commitment.



The General Assembly for the European Council of Vinyl Manufacturers, the PVC producers association, and a number of side meetings by EuPC sector groups, will take place during Tuesday 12th May. On Wednesday 13th May representatives from across the PVC value chain including resin

producers, additive suppliers and the converters will gather for the full day Vinyl 2010 conference. To enable widespread participation in this important event, it is also planned to web-cast the Vinyl 2010 conference live as an internet webinar. For further details of this event go to www.vinyl2010.org

EDITORIAL

SEIZE THE OPPORTUNITY

The financial crisis is making the whole world tense. In particular, it is causing great uncertainty because no one knows how to get out of this new situation. The, often described, gloomy mood is compounded daily by the on-going bad news which seems to overshadow everything positive. This is too bad, because good things do exist – the silver lining within the current dark clouds. One example is the Emirate of Abu Dhabi's participation in Daimler AG through the investment company Aabar. It has provided the innovative automobile company with a capital increase of 1.95 billion euros. Because of this, trend-setting developments such as electric vehicles and innovative composites for automobile production will be funded. This is a positive sign in economically uncertain times. Furthermore, economic stimulus packages are being initiated across the globe. US President Barack Obama's economic package of a hefty 790 billion dollars was passed by the Congress in February. In the European Union, the 27 member states are spending a total of 400 billion euros on their own economic packages. The sums made available by the individual countries are enormous. France has invested 26 billion euros to boost the economy and is using additional funding to bolster the embattled automobile industry. Germany has raised 50 billion euros alone for the second economic package, part of which is being poured into the energy-efficient renovation of kindergartens, schools and universities. It is a great opportunity for building products made of PVC which perform well in terms of sustainability. This fact is also evident by the top classification which PVC pipes with state-of-the-art additives received from the prestigious Swiss environmental organisation Eco-Devis. It would be very one-sided to only highlight the use of PVC products in the building sector. This plastic material inspires and creates innovation all over the world with its versatile material properties.

The French artist Jean-Luc Cornec created twelve sheep whose curly wool made of PVC-coated telephone cords is guaranteed to be non-felting. And flight trolleys on page 8 of this issue are vivid proof that digitally printed PVC film can even breathe new life into dented serving carts.

We wish you exciting and inspiring reading and encourage you to have optimism in these challenging times! Because that is the spice of life. As such, we would like to warmly recommend to you our cover story dedicated to salt. This precious raw material belongs not only in the kitchen as a seasoning or on winter streets as road salt, but also is the secret ingredient of PVC and the basis of many useful products.

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ESSENTIAL FOR SURVIVAL

No matter whether reliable breathing masks, sterile blood bags or hygienic disposable gloves are involved, medical products made from PVC have become indispensable in patient-care over the last 50 years. Due to their extreme compatibility, doctors also recommend PVC products for persons with allergies. In the process, manufacturers continue to improve the possibilities for patient-care through innovative product development.

Eating keeps your body and mind healthy and is a simple human pleasure. But eating disorders caused by illness do exist. When this occurs, the body cannot ingest enough food in a conventional manner. In such cases, enteral feeding is essential for survival. In the process, the patient receives sufficient energy and nutrition with the help of liquid food through the gastrointestinal tract. A bag of liquid food suffices for the entire day whereby

products with different amounts of calories are employed depending on patient needs.

Reliable Nutritional Care

The German company Pfrimmer Nutricia GmbH with its headquarters in Erlangen is a specialist in the field of medical nutrition. It offers a comprehensive selection of nutritional drinks and liquid food, application systems, and feeding tubes and pumps in order to care

Photo: BASF SE

Overwhelming Response

The winners of the second Vinyl 2010 Essay Competition, which has total prize monies of €11,000, have been announced; following the detailed deliberations of the two judging panels. The independent judging panel chaired by Nadine Gouzée the Head of the Sustainable Development Taskforce for the Federal Planning Bureau for Belgium was composed of representatives of the academic and NGO community and also included a representative of the UN Children and Youth Major Group. The industry judging panel was chaired by Ole Grøndahl Hansen, Director of Denmark's PVC Information Council and was composed of eight industry representatives.

Who has won first prize in this year's Essay Competition by Vinyl 2010? This is a question of intense interest for the participants.



Earlier this year, participants aged 18-30 years from Europe and around the world were invited to submit 1,000 words in response to the following question: *“Faced with a food and energy crisis, how can society improve its well-being.”* Close to 1000 people, representing 89 nationalities, signed up to take part in the Essay Competition. Over 200 completed essays were finally submitted to the panel of judges. Prizes have been awarded to the three top contestants from across Europe, in addition to the best global level entry. A special Industry prize has also been added to this year's prizes.

The winning essays, as well as the 35 runners-up, can be read on the competition website: www.vinyl2010essaycompetition.org and visitors are also encouraged to give their views and engage in dialogue with the other 200 authors. To date over 200 comments have been made. The 40 top essays will also be published in a book that will also be available shortly on the competition website and some of the winners will also be invited to speak at various high level events focused on sustainable development. The competition has exceeded the expectations of the whole team at Vinyl 2010 considerably.

INTEGRATED ROOM APPEARANCE

Chip-designs for flooring are very much in demand at the moment. This is not only because of their unique power of expression, but also for their practical patterns, which make stray specs of dirt less obvious. The flooring is therefore especially well-suited for frequently used rooms which are subject to heavy wear. Additionally, newly developed multi-colour welding cords have improved the visual finish of the durable flooring.

With its new vinyl collection “Medintech PUR”, Armstrong DLW AG is offering a homogenous vinyl floor covering for the first time with a chip-design and a colour-coordinated, multicolour welding cord. The

delicately structured, non-directional chip-design consists of up to seven solid colours and is available in twelve shades. Each of the interspersed colours matches the ground shade and offers a striking alternative to mono-



Practical help for survival: Nutrition and fluids reach the patient's gastrointestinal tract through ultra-pliable PVC tube systems.

for patients. The company developed the Flo-care® medical device to administer nutrition that is essential for survival. It carries the liquid food and fluids from a plastic bag or a glass bottle to the body either by means of gravity or a feeding pump.

Pliable Tube Systems

Nutrition is transported via a tube system made of flexible and pliable PVC. As the first company in the field of medical nutrition, Pfrimmer Nutricia has been offering this tube material with the plasticiser Hexamoll® DINCH from BASF since 2005. And for good reason: enteral nutritional substrates contain fats which could dissolve minor amounts of plasticisers from the tubes. The migration rate is considerably lower with Hexamoll® DINCH because of its low fat solubility. "By switching to Hexamoll® DINCH, we were able to achieve a higher standard for medical nutrition", states Dagmar Dehler, Head of Public Health Care at

Pfrimmer Nutricia. This has been confirmed in applied technology examinations and toxicological tests as well as recommendations and approval by international institutions and agencies. In general, the extensively examined plasticiser is used primarily in applications with close contact to humans. This applies not only

to medical products such as tube systems, catheters and breathing masks, but also to food packaging, toys, and sport and leisure articles.

info www.pfrimmer-nutricia.de, www.hexamoll.de



Stress free care: People who have problems ingesting food in the conventional manner can receive nutrition essential for survival through enteral feeding with medical devices.

Photo: Pfrimmer Nutricia GmbH

This year's winners for each prize category are as follows:

European Economic Area category:

First prize (€3,000) has been won by 28 year old Jon Elms an MSc student studying Project and Enterprise Management. His key interests are sustainable development and organisational design. He is currently employed as a project manager in the construction industry and lives and works in London.

Second prize (€2,000) has been awarded to 30 year old British / Canadian Fiona Wright who works to actively support the growth and development of skills and competence in strategic sustainable development worldwide. She lives in Sweden and is currently teaching and coaching people in an overarching framework for strategic sustainable development.

Third prize (€1,000) has been awarded to 26 year old Robert McSweeney who is an environmental scientist for a consultancy firm in London and works predominantly on climate change impact and adaptation assessment.

The **Global prize** (€3,000) winner is Christian Williams a 28 year old New Zealander who studied Civil Engineering at the University of Canterbury and specialises in Highways and Transport Engineering. He is also interested in conservation and sustainability.

The **Industry prize** (€2,000) has been awarded to 22 year old Wei Chao Zhou a student from Singapore at University College London currently pursuing a MSc degree in physics.

Speaking as the independent Judging Panel meeting drew to a close and this year's winners were announced, General Manager of Vinyl 2010, Jean-Pierre de Grève, commented: "The interest shown by so many contestants in this year's competition is simply overwhelming. We are delighted to see the willingness of this age group to offer solutions to some of the biggest issues facing society today. This is the second such contest that Vinyl 2010 has organised and judging by participatory

levels this year, we certainly see the value of continuing to offer young people the platform to air their views on this important subject in the future."

Chair of this year's Judging Panel, Nadine Gouzée, said: "The Vinyl 2010 Essay Competition is a great forum for a vital and creative debate on how society needs to address these crucial issues. It is inspiring to see how engaged and enthusiastic the young people can be when discussing our future and the

different kind of futures we need to consider. They offer the inspirational energy which we all need to see if we are to create the political will to truly develop a sustainable future."

This year's Competition was organised in conjunction with a wide range of partner organisa-

tions with interests in the field of sustainable development, including this year's lead media partner, Cafe Babel (www.cafebabel.com). For more information on this year's competition, please visit:

info www.vinyl2010.org/essaycompetition.org.



Photos: Vinyl 2010

Colour-coordinated, patterned welding cords provide for the integrated visual appearance of the room. The seams of the PVC flooring are hardly visible.



Exceptionally-well suited for use in healthcare institutions: The homogenous vinyl flooring "Medintech PUR" by Armstrong DLW AG with a fine, non-directional chip-design consisting of up to seven solid colours.

chrome surfaces. Furthermore, the patterned welding cords match the chip-design. They allow for an integrated floor appearance since the solid-colour welding cords used until now detracted from the overall flow of the room. But with the coloured alternatives, the seams are hardly noticeable. The patterned welding cords can be assembled just as easily as the solid-coloured ones.

Easy to Clean and Resilient

The innovative chip-covering is bonded to the entire surface of the levelled subfloor (even with floor heating) with an emulsion adhesive for vinyl flooring. Through high-quality PUR surface treatment, an initial surface cleaning is eliminated and maintenance is facilitated. This reduces the cleaning time and the costs

of cleaning materials so that the floors remain especially cost-efficient for their entire life-cycle. Furthermore, PUR treatment improves durability so that the floor is more resilient to scuffs and scratches.

For Heavy Wear

"Medintech PUR" is especially recommended for use in healthcare and educational institutions as well as in other public buildings. The floor covering is insensitive to light, anti-static, and suitable for the wheels of swivel chairs. Its resilience to hand disinfectants is particularly useful in hospitals and nursing facilities. Due to its high abrasion resistance and robustness, it can even withstand the extreme loads caused by operating fork lifts.

info www.armstrong.eu

Photos: Armstrong DLW AG

Stimulating Room Elegance

Renovating a ceiling is often done with white paint or natural coloured wood. Visual improvements and even construction changes are mostly associated with a great deal of dust and high costs. The alternative is called the “stretch ceiling” – a suspended construction made of special PVC film. It conceals the original ceiling while leaving it untouched at the same time.

RENOLIT AG in Worms/Rhineland Palatinate has developed a special film for this “ceiling-under-a-ceiling system” which the company manufactures at its location in Frankenthal and markets under the name of RENOLIT PRODECO. The flame-retardant PVC film complies with building standards in accordance with DIN EN 14716 and is simply stretched over a profile construction on the wall. It can



Elaborate mirrored effect: Office space impressively takes centre stage with the high-gloss stretch ceiling made of special PVC film.



The combination of solid-colour stretch ceilings and translucent PVC film, illuminated from behind, provides this entrance hall with distinguished elegance.

Vinyl flooring by Bolon allows for attractive visual effects which inspire world leaders in architecture.

ACROBATICS IN A FILM TUNNEL

Five suspended transparent PVC tunnels and the reflecting surface of water below: this is the stage setting for the dance presentation “Tubeland” in the Swiss Dampfzentrale in Bern. The vertical tubes provide sufficient room for numerous acrobatic movements in the staging of “Öff Öff Productions”.

The idea of integrating transparent PVC tunnels into the stage setting comes from Heidi Aemisegger, who has been the Artistic Manager of the Bern dance company since 1994. A crucial factor in its realisation was the desire to enable vertical movements within the stage area. In the tubes, the performers are able to crawl as well as glide down and climb up again, alone, or in pairs. For the audience, it looks as if the dancers are hanging or suspended in the tunnels. By

rubbing and pressing their bodies against the walls of the plastic material, their movements are transformed and distorted. This also causes unusual acoustic effects through the performers' contact with the sealed film.

Daring Dances

The PVC tubes, which are between seven and ten metres long, offer a new quality of movement in the theatre. They allow interactions to unfold among the dancers which

would normally not be possible on the stage floor. The performers therefore show emotionally expressive and surprising images of ascending, joining, slipping and falling: for the dancers, this requires enormous energy and a great deal of body control. The transparency of the tunnels guarantees the audience a direct inside view of the action.

Discovering New Space

Heidi Aemisegger allows herself to explore unusual spaces. Her productions are a merge



The most recent example of the use of woven vinyl flooring is the Carbon Hotel in the Belgian city of Genk. Architecture, interior design, and last but not least, the name of the new hotel obviously refer to the history of the city as the former centre of the coal industry. The lustrous dark woven flooring made of vinyl fabric precisely matches the desired ambience and creates a regal foundation for the discreetly and functionally furnished rooms in subdued dark colours.

Attractive Visual Effects

The woven PVC flooring combines positive qualities of use with a multitude of designs. Attractive visual effects are achieved through the various kinds of vinyl fabric woven together. This is true for the new Twilight collection in metallic nuances, a flooring with appealing facets of light and shadow. It is offered in three different designs with various colours and patterns. All of this flooring is recyclable and developed especially for use in public spaces such as hotels, boutiques, and offices which must withstand heavy wear.



The dancers move around in the five transparent PVC tunnels in the production of “Tubeland” by “Öff Öff Productions” in the Bern Dampfzentrale. The surface of the water below reflects the activities in detail.

between dance, the circus arts, and theatre. As an actress and dancer, she discovered the versatile PVC tubes in 2001 for the performance of “Twins Ahead”. Since then, she has become a fan of these flexible film tubes. They are also used in the dance performance of “Tubeland” directed by Mirella Weingarten.

www.oeffoeff.ch

be used for approximately 60 square metres of surface area without having to alter the existing ceiling or install an additional substructure.

Ceilings in Every Variety

The stretch film turns a ceiling into a playground of colour and light. Solid colours are well-suited for the design. The surface of the PVC film offers additional design possibilities: the matte finish produces a plaster-like effect and acquires a vintage look in combination with light colours. But a high-gloss finish produces an extravagant mirrored effect especially with dark colours. If you place great emphasis on additional lighting effects, you can choose the somewhat translucent version. Special lights installed behind the film can convey the image of natural light through a light shaft.

High Demands on Quality

The areas of application for the stretch ceiling construction are appropriately versatile. They range from an entire living area to wellness

oases, and entrance halls to conference and sales rooms. Since only the profile construction needs to be attached to the wall to hold the film in place, this kind of ceiling construction remains a very clean alternative to traditional possibilities.

The elasticity of the stretch ceiling film helps to keep it taut and to produce a mirror-like surface. The film, which is narrowly cut to the size of the room, is installed at a room temperature of 40 to 50 degrees Celsius while being overstretched by 10 percent. The PVC film then contracts while cooling to room temperature and afterwards fits tightly like a drumhead. The flawless quality of its surface places special demands on hygienic conditions: “The correct installation of the film is especially important. For example, one can prevent spots or streaks from being seen on translucent film through indirect light”, states Mike Holzemer, Head of Marketing for the RENOLIT *PROFESSION* division. Word is beginning to get around about the numerous advantages to stretch ceilings. www.renolit.com

TOP CLASSIFICATION FOR PVC PIPES

PVC pipes, stabilised with Calcium Zinc, have for the first time been awarded the top classification of ‘ecologically interesting’ by Eco-Devis, a working group of the prestigious Swiss environmental organisation Eco-Bau. To receive the top classification of ‘ecologically interesting’ a product will have been thoroughly examined in terms of its environmental performance and impact, from the processing of raw materials to the final manufacturing of the products.

PVC pipes stabilised with Calcium Zinc are seen as being particularly environmentally friendly products; this has been acknowledged by both Eco-Devis and the Swiss Health Authority. The working group Eco-Devis measures building materials for total energy consumption from conception to final production. To achieve the top classification a product must not contain any environmentally



PVC pipes, stabilised with Calcium Zinc, have now gained the top classification of “ecologically interesting” by Eco-Devis.

hazardous materials and must show evidence of being disposed of or recovered in an environmentally acceptable way.

Important Basis for Decisions

Eco-Devis is a body incorporating private and public organisations, supported by the Swiss Society of Engineers and Architects, whose aim is to promote the construction methods, which respect the environment. The organisation’s classification system judges the environmental performance of construction materials, in order to help architects, designers, constructors, engineers and builders make informed environmental decisions when choosing products for any new building. It is also used as a specific requirement in the procurement phase, for the construction both public and private sector buildings. Chris Welton, Head of Communications, PlasticsEurope, welcomed this new categorisation for PVC pipes stabilised with Calcium Zinc: ‘We are delighted that the environmental credentials of these PVC pipes have been recognised by such a respected organisation.’

The Results will be Published

The new classification for CaZn stabilised PVC pipes will appear in the next technical data sheets of the organisation Eco-Bau with its working group Eco-Devis. The publication will be available to all stakeholders involved with construction, in both the private sector and the public sector.

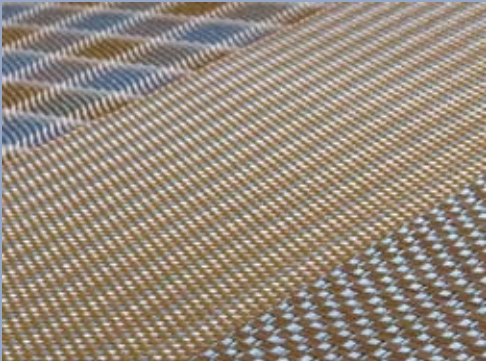
This is not the first top classification for PVC products. In 2007, PVC window frames received Eco-Devis’ prestigious classification ‘ecologically interesting’, after meeting the demanding environmental criteria of the working group.

www.eco-bau.ch

Woven Diversity

Opposites attract and complement one another well. This also applies to the sisters Marie and Annica Eklund, two completely different women at first sight. They manage the business of the Swedish flooring manufacturer Bolon, specialists in woven vinyl flooring. No matter whether it involves worldwide leading architects such as Renzo Piano and Jean Nouvel, or renowned companies such as Armani, Hilton, Lacoste or Tommy Hilfinger, they have all helped the flooring designs achieve an international breakthrough.

The woven vinyl fabric is extremely durable, easy to clean and also meets high standards in terms of fire protection, slip resistance and noise dampening. Its woven structure has the feel of textile flooring.



Annica and Marie Eklund manage the business of the Swedish flooring manufacturer Bolon.

The new Twilight collection is offered in three different designs with various colours and patterns.

Pioneers in Recycling

The idea of offering woven flooring came from company founder Nils Erik Eklund in 1949. He processed production refuse from the neighbouring apron factory into rugs and thereby promoted recycling early on. The same applies to his two granddaughters who now also recycle production refuse and place great importance on manufacturing their products in an environmentally friendly manner. By concentrating on design and innovation, they have developed their company into a globally successful flooring manufacturer. In her youth, as a member of the Swedish show jumping team, Annica, today the managing director of Bolon, only had her athletic career in mind. It was only later that she thought about developing the family business in a new direction and using it as a creative workplace. The same is true for Marie who was perfectly qualified to take care of the design and marketing of the woven vinyl flooring after being trained as a designer in Italy. And Bolon is a success: today it ships its unusual flooring worldwide to over 30 countries and, because of its woven products, has a remarkably unique selling position.

www.bolon.com

The Hotel Carbon in the Belgian city of Genk: The lustrous dark woven vinyl flooring with the feel of textile matches the functional design of the rooms.

Practical and mobile:
Airplane trolley as
movable file cabinet.



They have to withstand a great deal, and numerous items must fit inside. Travellers are well acquainted with the trolleys used for serving drinks and snacks as loyal companions of flight attendants. Two clever Cologne furniture designers are now refurbishing the unimposing hard workers and breathing new life into the carts with PVC design film.

From Airplanes to Offices

Robust airplane trolleys have been built to last forever. But they must also be lightweight, and this requires a well-thought-out construction with high-quality materials – ideal prerequisites for a long life. The Cologne designer and furniture salesman Stephan Boltz trusts the longevity of the practical serving carts and first had the idea of using the retired serving carts from busy air traffic for other purposes in 2005. The trolleys which are slightly damaged from years of use are brought into respectable shape again with PVC film from the compa-



Functionality along
with elegance:
Airplane trolley as
mobile beverage bar.



ny 3M. In the process, completely different designs are made available. In addition, defective technical parts are replaced and elaborate internal mechanisms improved. Handyman tools as well as jewellery can now be stored inside. The retired flight trolleys can also be used as floating kitchen units, office cabinets, or mobile wine racks.

Lufthansa as Partner

This is how the brand “bordbar” started and has been developed into an internationally successful business by Stephan Boltz and his partner Valentin Hartmann over the past two years. “At the beginning there were only a limited number of trolleys which we first presented as ‘Limited Edition 287’ at the design

event Passagen 2007 in Cologne”, according to company founder Stephan Boltz. The concept took off: a year later the collection was sold out. The unchanged present “Blue Edition” followed and resulted in an international breakthrough at the Cologne Furniture Fair last year. In the meantime, trade partners include Lufthansa WorldShop.

In contrast to the “Blue Edition”, whose trolleys show a history of travel around the globe by their wear and tear, new equipment is used in the “Silver Edition”. “We continued to develop our film for this idea”, states Valentin Hartmann about the project expansion. “After being printed digitally, the PVC film is laminated with an extremely durable coating on

No matter whether noble stag or floral patterns: Digitally printed PVC film turns the retired flight trolleys into marketable design products.



which keys and rings won’t leave any marks”. With this surface quality, the trolleys are especially apt for professional or frequent mobile use. The standard film suffices for home use. This is a good example of how individuality and one of the principles of sustainability can effectively complement one another.

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