Wonderful Vinyl creating possibilities together

Enjoy the Rain: Recycled PVC for Sustainable Design

'Enjoy the Rain' is an innovative Italian sustainable design project, which combines the value of reuse and recycling of end-of-life PVC with water preservation and conservation.

Completed in 2015, 'Enjoy the Rain' is a project promoted by PVC Forum Italia (the Italian Association of the PVC industry value chain) and VinylPlus, the sustainable development programme of the European PVC industry, in collaboration with Milan-based Domus Academy, a world-ranked design and architecture school.

During a five-week workshop, post-graduate design students from all over the world met the design, technical and environmental challenges using recycled PVC in innovative and functional industrial applications. Students were also informed about PVC recycling options and industry policies within EU and global guidelines.

Their concept gave life to six projects on the theme 'Enjoy the Rain', building on the importance of water conservation and preservation and the added value of rainwater. Crucially, their ideas had to harmonise with one of VinylPlus' global challenges on PVC sustainability and the material's recovery, reuse and recyclability. The concept is linked to the fact that rain is 'magic'; it feeds plants and animals, it purifies ground and air and enables life to exist. Rain evokes a sense of freedom, and a gift from the sky: rain should not be wasted as it is a valuable resource.



Rain Kit is a range of outdoor PVC street furniture objects designed to act as 'accessories' to lamp posts in city streets. As decorative features, they also protect pedestrians enabling them to

enjoy the rain while out on the street.

The **Superdry** multifunctional outdoor street furniture is made from recycled PVC pipes and membranes. It provides shelter from rain or





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sun and can be fitted with a system for collecting rainwater.

Pipette's rainwater recovery concept turns into a multi-sensory experience involving touch, sight and hearing. This novel accessory for balconies re-uses end-of-life PVC pipes and fittings for catching rain-



water to water plants and as a bird feeder.

For those who want to enjoy the rain while keeping cosy

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and dry, the **Raindow** concept features a PVC frame with a projecting triangular 'window' floating on the external wall providing a 180 degree view to the outside.

Indra is an outdoor PVC

and glass relaxation cubicle with an opening roof that allows users to control the amount of the rain entering the space. It can also collect rainwater for cleaning cars or watering the garden.

RainLAB, is an educational

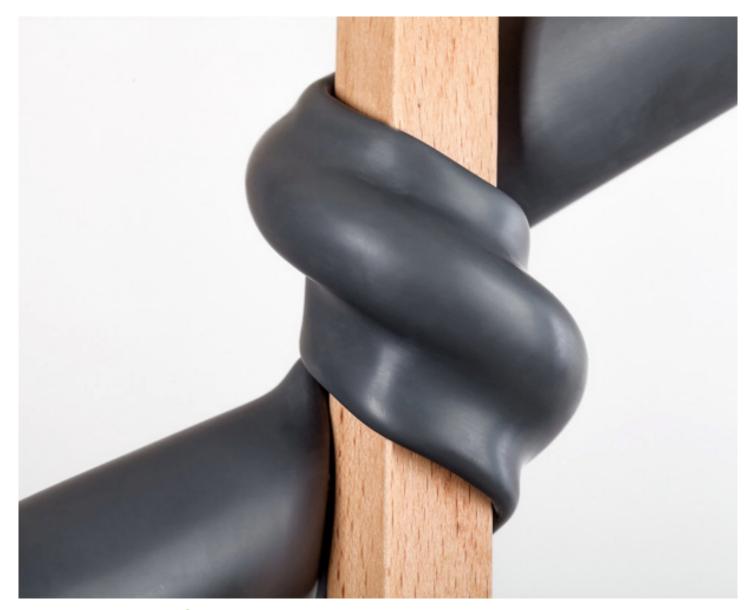




children's game consisting of modules made from recycled PVC attached with a magnet to the outer glass of the window. Internal knobs allow the child to change their positions from inside the house. The falling rain

'animates' these shapes before it is collected in special containers.





PVC Parasites

Eran Rozenfeld, a young designer based in Israel since 2013, started his project after an entire year's observation of the connection between nature and the human being. This is when the PVC Parasite Project started, he used elements with different origins and with the help of the form, mechanism, colour and the technology, finalised his ideas.

Eran Rozenfeld observed the way that these fast-growing plants thrive, by essentially becoming parasites, drawing support and nutrients from their supporting structures. Experimenting with flexible materials to achieve a similar effect in a practical product, Rozenfeld settled on heatmanipulated PVC.

The PVC Parasites series is comprised of four unusual lamp designs, each using the plastic pipes to mimic the gripping action of vines. Heated with an industrial fan heater, the temporarily flexible PVC is twisted around the base and allowed to harden in place so that it holds on without the need for any glue or connectors.

In addition to mimicking the mechanical actions of vines as they creep up over other plants, the designs reflect the persistence that can enable some forms of life to survive and thrive, even in the harshest conditions. The series includes a floor lamp with a hanging fixture, a minimalist wood clamp lamp, a table lamp with a classic shade and a tube lamp.

Designer: Eran Rozenfeld, Moshav, Israel

Technical info: PVC

Picture credits: Eran Rozenfeld

Website: http://eranrozenfeld.wix.com/

eranrozenfeldstudio





Infinite Loops

Amsterdam studio Formafantasma used lengths of translucent plastic to create "infinite loops" around the catwalk for fashion label Sportmax during last Milan Fashion Week in 2015. Formafantasma founders Simone Farresin and Andrea Trimarchi, who are better known for their experiments with materials like lava and animal skins, were asked by the brand to design the set just months before the show. They joined the likes of AMO, Studio Job and Pernilla Ohrstedt, who have all previously designed catwalks for fashion shows.

Trails of PVC plastic in yellow, black and nude colours were used to cover three sections of the narrow catwalk. From the ends of these walkways, the material was stretched around the space and then looped back to the start of the low platforms. Zigzagging from the ceiling, the translucent film was hooked over high, thin rods and held down on the floor by terracotta cylinders. The decision to use these two materials was because they wanted to have a Mediterranean feel, with the use of terracotta but contrasted with a more contemporary, plastic and translucent material.

Their main inspirations for the colour pallet and material were both very sophisticated houses such as the ones

designed by Pietro Lingeri, by Como Lake, and also Italian 'summer houses' built between the 60s and 70s characterised by a large use of terracotta solar shadings. The set design references the work of Russian CuboFuturism artist Aleksandra Aleksandrovna Ekster.

Designers: Formafantasma, Amsterdam, Netherlands

Website: www.formafantasma.com Producer: Sportmax, Milano, Italy Website: www.sportmax.com Technical info: PVC sheet Picture credits: Formafantasma







Threedimensional Lights

London-based designer Ross Lovegrove created an installation of large volume, 3D lights within a distinctive hexagon-tiled reflective pavilion, made from materials and technology by the innovative French company, Barrisol. Both the pavilion and lighting collection were on view at the last Biennale Interieur in Kortrijk, Belgium.

The outside of the structure, which measures seven metres in height and 12 metres along each side, is clad in hexagonal tiles that are covered with reflective golden membranes to look like a honeycomb. Inside, a bright white environment is created using a different type of Barrisol that covers the walls and ceiling.

The installation includes four large pieces that balance aesthetic form with a subtle lighting function. Three pieces of the collection are forms of an 'infinite loop', they are highly volumetic, three-dimensional lights, created from a perfect synergy between the stretched PVC material, LED lighting and an aluminium framework. The final piece, Manta, forms a rhomboid, which allows for many different large modular arrangements. In this light, PVC foils with different intensities of stretch provide highly layered acoustic dampening and uniform lighting.

The material is pushed in and pulled out across the sur-

faces, holding it in tension and forming a subtle pattern of shadows that corresponds with the framework for the exterior.

Due to the material's acoustic-dampening properties, the space is quiet despite the hustle and bustle of the trade fair around it.

Designer: Ross Lovegrove, London, UK Website: www.formafantasma.com Producer: Barrisol, Paris, France Website: www.barrisol.com Technical info: Barrisol membrane Picture credits: Ross Lovegrove







Truecolors Collection

Visser en Meijwaard is the design label founded by Steven Visser and Vera Meijwaard in 2013. Both followed their education Product Design at ArtEZ Institute of the Arts in Arnhem, where they continued to work and live. The designer duo makes strong, but subdued, products, from accessories up to interior products, of which versatile materials and clear shapes constitute the essence. In their designs they are guided by recognisable details and the way in which the product is used.

Inspired by the versatility of industrial PVC cloth, Visser and Meijwaard developed Truecolors. The collection consists of a series of benches, stools, cabinets and bags made from this strong industrial cloth. Truecolors is a contemporary design collection in which versatility of colour and use are key.

The designers explain: "It all started with the idea for a stool. We looked at an old gymnastics buck and got triggered by its animal like features and the quirky way it stands." The zipper that is used connects the cushion to the wooden base. The range includes a bench, stool, barstool, bar bench, cabinet and credenza made with industrial-grade PVC cloth on an oak frame.

The zipper, prominent in all the products, is the line's signature aesthetic. With both technical and

visual importance, the component sets the design apart. For transport, the legs can be removed along with the cushion. By cleverly enlarging and incorporating details, the designers were able to create a level of versatility in both colour and function. The Truecolors collection debuted last April during the Milan Design Week 2015.

Designer: Wisser en Meijwaard, Arnhem, Netherlands

Website: www.vissermeijwaard.nl

Technical info: PVC sheet **Picture credits**: Kevin Rijnders









Fondue Stool

Using pieces of household sponge with a high absorption rate to mimic bread,

Ohata constructed stools with long legs and large seat platforms before dunking them in vats of bright yellow PVC plastic.

The sponge is left to absorb the liquid and then lifted out and propped up to dry. The elongated limbs of the stools sag and contort under the weight of the saturated material as it sets.

"It all shapes naturally -

by its weight. It's very strong," Ohata explains. "If I use harder sponge it stands by itself and I can control the shape even more."

Wooden rods are used to support the stools in an upright position during the hour-long drying process, causing minimal interference with the natural shape produced by gravity. The spindly sponge legs compress under the weight of the

liquid plastic during the process to create wobbly outlines that vary from piece to piece, but once dried the structures are completely rigid.

The square seats that droop at the corners are reminiscent of melting cheese slices. Drips from the edge of the seat add to the molten appearance.

Designer: Satsuki Ohata, Tokyo,

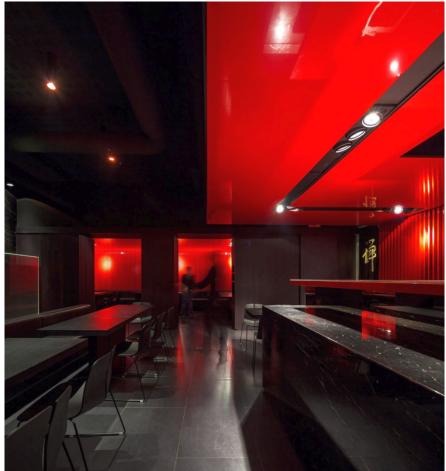
Japan

Website: www.satsuki.co Technical info: PVC

Picture credits: Satsuki Ohata



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Suspended PVC lacquered ceilings of the same colour emphasise the visual perspectives and define the different entrance and waiting areas, the long sushi bar with the Kaiten, and a small more intimate room at the end that can be reserved for private dinners.

Two rich black polished marble walls are the backdrop to the entrance area and the room with the tables where the marbled wall continues along the staircase leading to the bathrooms downstairs, reflected on the opposite mirror walls that multiply the perspective of the space. The same marble with a brushed finish as worn by time are used for the reception desks and sushi bar as massive quarry blocks resting on the floor, while a rice paper backlit wall underlines the central focus of the restaurant, the Kaiten and the open workstation of the sushi master.

Project: Zen Sushi Restaurant

Location: Rome, Italy

Architects: Carlo Berarducci Architecture,

Rome, Italy

Technical info: PVC ceiling

Picture credits: Fernando Guerra

Website: www.berarducciarchitecture.com

Zen Sushi Restaurant

The project for a Japanese restaurant in Rome developed by Italian studio Carlo Berarducci Architecture, is inspired by the walkways in the forest, bordered by a succession of blacks and glossy orange-red wooden portals, which lead to the temples of Fushimi Inari in Kyoto, which reproduces colours and suggestions.

Zen Sushi was the first Japanese restaurant in Italy to bring the Kaiten, particularly the conveyor belt to serve freshly prepared sushi on coloured saucers indicating prices. On the tenth anniversary of the restaurant in Rome the property wanted to have a new look. The design challenge was to create a space with a truly Japanese essence in a contemporary way, recreating the suggestion of colours and materials of the temples of Kyoto.

The project was conceived as a process, a sequence of steps and direction changes, which gradually revealed the environments without closing the perspectives, inviting you to explore the interior spaces. Dividers and walls formed by the close succession of hundreds of vertical elements of black wood, lacquered from one metre up in glossy red-orange, drive and mark the going throw, and red-orange reflecting suspended ceilings identify the different areas of the hall, the sushi bar and the rooms with tables.







and also act as subtle space dividers while providing shade. The lightweight constructions were conceived of through the exploration of air, water and evaporation and are able to float due to the air density. Vives's solution includes a minimal toolkit. She used three low "clouds", PVC inflatable pods that withhold dense and fresh air under them. The other elements of the terrace, including the shapes, surfaces, artificial hills, tiled roofs are all geometrically calculated to reproduce organic physical conditions.

The Casadecor rooftop, set above the urban concrete/stone jungle of Madrid, seems to be an ideal venue for putting the concept into work. While being a public and urban space, it is also open to the landscape with its view to the sky, making the ambitions fulfilled by the Observatory even more effective and compelling.

Title: Clouds Observatory **Architect**: Carolina González Vives, Madrid, Spain **Location**: Casadecor 2015,

Clouds Observatory

For Casadecor 2015, a Madrid-based design event, Spanish architect Carolina González Vives installed her Clouds Observatory on the rooftop of the fair's building. In the ambitious project Carolina González and her studio team were looking for ways to cool the venue with the least power consumption possible. They examined the spontaneous and natural mechanisms of oases in arid geographies, where the right combination of shade, vegetation, and water cools the air. This is due to evaporation, which involves the movement of particles leading to the dissipation of 70% of solar radiation.

Maintaining the cloud and sky theme, the space has been decorated with the printed cloud tiles and mirrors. Decoratively interesting, the pods are more sustainable and cheaper in comparison to air conditioning

Madrid, Spain

Technical info: Inflatable PVC
Picture credits: Nacho Uribe Salazar







as a backdrop for the owner's collection of mid-century furniture and art. Its layout is based on London's traditional Victorian studio houses and incorporates double-height spaces that are naturally lit by large windows and skylights.

The main double-height space houses the reception area, with a library and study accommodated on the galley above. The owner requested that the studio be located in the basement, which opens onto a courtyard at the front of the house.

Extended House

A painted PVC-coated fabric screen concealing windows and balconies merges with the crisp white facade of the artist's new house in north London, designed by the English Guard Tillman Pollock Architects.

The Hampstead property was designed to replace an early 20th-century house that was in a state of disrepair.

Planning regulations stipulated that the new house should maintain the size of its predecessor but didn't necessarily have to look like it. Guard Tillman Pollock instead proposed a minimal boxy form and plain white finish to reference the heritage of 1930s Modernist properties in the area.

A section of the front facade that projects outwards from the first and second floor levels is a nod to an attribute typical of other local Modernist properties.

The screen establishes the floating box aesthetic which is a reference to the 1930s' Modernist buildings in Hampstead. The house's interior provides spaces for painting and acts

The PVCcoated fabric panels, similar to those used for advertising on build-

ings, screen the largest areas of glazing. The spray-painted fabric restricts views into the house during the day but allows the occupants to look out.

At night, the PVC-coated fabric panels enable movement within the house to become visible from outside. Vertical blinds inside can be closed to ensure privacy when required. At the rear of the house, the fabric protects the reception space from unwanted solar gain.

Project: Extended House

Architects: Guard Tillman Pollock Architects, London, UK

Location: London, UK

Technical info: PVC-coated fabric screen

Picture credits: Gareth Gardner

Website: www.guardtillmanpollock.com





Chinese Pavilion

Rejecting the notion of a cultural pavilion as an object in a plaza, the China Pavilion at Milan Expo 2015 is conceived as a field of spaces located beneath a floating cloud. The Pavilion embodies the project's theme, "The Land of Hope," through its unique roof form, which merges the profile of a city skyline on the building's north side with the profile of a rolling landscape on the south side, expressing that "hope" can be realised when city and nature exist in harmony. Beneath this roof, a landscaped field representing the concept of "Land," incorporates the building's exhibition programme.

Designed as a freeform timber structure, the Pavilion roof uses contemporary glulam technology to create a longspan exhibition space covering a multimedia installation (the centerpiece of the Pavilion's cultural program) consisting of 22,000 LED stalks integrated into the landscape. New York-based Studio Link-Arc designed the building as a covered public space - the Pavilion touches the ground very lightly. This will make it very easy to remove the Pavilion after the Expo has ended.

The architects designed the Pavilion structure and roof assembly as light as possible. A layer of shingled bamboo panels covers the roof, adding texture and depth to the Pavilion's silhouette and creating evocative light and shadow effects on the building's translucent waterproofing PVC membrane. These roof panels were designed via a uniquely digital process, which began by programming their geometry directly using Processing. This was followed by an intense optimisation and rationalisation effort intended to ensure that the panels would closely follow the roof form while streamlining fabrication and construction.

Project: Chinese Pavilion

Architect: Studio Link-Arc, New York, USA

Location: Expo 2015, Milan, Italy www.expo215.org

Technical info: PVC roof membrane







Customer Experience Center

The interior design of the Customer Experience Centre in Prague was established for presentation purposes to the valued clients of Vodafone. The platform allows the company's clients to get a personalised and tailored tour which reflects their individual needs and provides them with a 'know-how' portfolio of Vodafone's telecommunication technology and services.

This arrangement of space which leads into the customer's tour firstly provides a relaxation zone from where the individual is intuitively lured past the "organic walls" towards the entrance welcome zone. The main part of the presentation occurs at the central – "Onenet" object which leads from the back section via a narrow corridor and provides every customer

with a slow transition between the real world and the reality created by Vodafone. From there they continue to another two separated and differently shaped parts where the tour comes to an end.

An exciting opportunity was creating a space on the ground floor of the Vodafone CR headquarters in direct connection with the Fuel Cafe. The spaces are separated by a glass wall and thus in direct visual contact. Therefore

the central object is designed with the main compositional accent directed at and in the plain sight of Fuel.

Several interesting construction technologies were used in this specific building space. These spatial objects were created on a complicated, shaped, steel-carrier construc-

tion. They firstly composed them in relation to their size in the factory hall and then had to fit them in part by part on location.

For the peripherel shape a steel tube was chosen with a 60mm diametral, the rest of the ribs were created with a steel jackel 25x25mm. Subsequently the shape was divided into segments using aluminum moldings used for the stretching of PVC Barrisol foil. IO

Studio used the combination of red and white foil as to recreate Vodafone's colour.

Architects: IO Studio, Prague, Czech Republic

Location: Prague, Czech Republic **Technical info**: PVC Barrisol foil

Picture credits: Alexander Doborvotský

Website: www.iostudio.cz