

Pioneering building for patients suffering from Multiple Chemical Sensitivity (MCS)



The City Council of Zurich has approved the construction of an unusually designed residence at Rebenweg 100, in Zurich-Leimbach, with a total of 15 apartments. Those with environmental illnesses can hope to alleviate their suffering there: the building site itself, the architecture and the building materials all keep environmental pollution to an absolute minimum. Occupation is planned for the autumn of 2013.

The small building plot with an area of 1214 m² has already been carefully selected according to ecological safety criteria and has almost no environmental impact. All of this in the service of those afflicted with MCS, who react to the slightest chemical concentrations or electromagnetic fields in their environment with physical discomfort and even chronic fatigue. This project, emerging from a study assignment amongst five teams in 2010, will be implemented by the Andreas Zimmermann Architects. The housing cooperative "Gesundes Wohnen MCS" [Healthy Living] celebrated the ground-breaking ceremony in May 2012.

Complex material selection process

In terms of the ecological construction aspects, low emission is ensured through a complex selection process of the materials to be used. Possible building materials are specified in detail and their chemical composition determined. The risks of excessive emission are assessed on the basis of the installation situation. A selected group of environmentally afflicted persons then

test suitable material samples and examine these for their compatibility. Previous tests offered partially surprising results: those afflicted by MCS evaluated window frames consisting of PVC - by rights a biologically safe "non-material" - as being significantly better than clay plastering.

Consistent implementation of the "onion skin principle"

Although the residence will exist on a material level after completion, its interior will offer air quality normally only found on a green meadow. The objective of low emission can, among other methods, be achieved by the consistent implementation of the "onion skin principle": the stairway located in the core of the building, surrounded by the highly-equipped and therefore potentially polluted zones. The external relaxation and recuperation areas are then only accessible after passing through a dirt barrier. A further characteristic of the building is its concrete reinforcement. In order to minimise electro-biological influences, the relaxation and recuperation areas are reinforced with fibreglass bars.

Special construction processes for low emissions

The building process on the construction site also influences the emission level. No chemicals are used during assembly, if at all possible, on-site smoking is prohibited, and, mounting foam and spray cans may not be used. Requirements for "MCS-compatible" construction were specially developed and those working on the construction site were trained and instructed in the special assembly regulations.

Scientific project evaluation

Scientific project evaluation will take place under the management of the BWO [Federal Office of Housing]. The city, the federal government and cooperatives expect in-depth findings regarding low emission construction.



Controlling the cost of temporary exhibitions

Rain Catcher merges a Hong Kong street tradition with environmental sustainability to create a surprising outdoor eatery that reuses monsoon rain.

With temporary exhibitions, it can be a delicate balance between visually expressing a nation's culture and creating a structure which is economical. Designers often turn to lightweight, durable fabrics to give full range to their ideas. A case in point is the Estonia Pavilion at the last Shanghai World's Fair that wraps the building with colourful patterns and designs inspired by traditional women's costumes from different parishes throughout the country.

The design for the enclosure is surprisingly simple: irregularly-shaped vertical panels formed from steel channels are fitted against a plain box of a building to make a facade somewhat like overlapping vertical siding. Bends in the vertical edges and bulges outward from the facade add 3-D interest. Colour and pattern are printed by dye sublimation on the PVC-coated polyester mesh fabric stretched taut over the frames and fastened simply with flathead screws. The mesh provides micro-ventilation and allows outward visibility for visitors inside.

Architect: Allianss Arhitektid, Estonia - www.allianss.eu

Location: Shanghai, China

Technical info: Ferrari PVC-coated polyester mesh fabric

Picture credits: Allianss Arhitektid





Chairs for charity

Columbian craftsmen link up with an Italian fashion house to create a surprising prison charitable project.

Fashion brand Marni has reworked the patterns and colour palettes of traditional Colombian chairs woven from PVC threads and produced by Colombian ex-prisoners, to create a desirable, one-off furniture range.

20 colours, 7 models and 21 variations for 80 chairs, 10 deckchairs and 10 tables - these are the figures of the Marni project displayed at the recent 2012 Milan Design Week.

All products are handmade by Colombian craftsmen using salvaged materials: concrete reinforcing bars for the structure and coloured PVC for the seats and backrests. The colours and colour combinations were chosen by the Marni team, thus adding a personal touch to the project and completing the creative process that was initiated overseas.

The production of the chairs took place in the South American country's city of San Gil as part of a rehabilitation program set up

by Antonio Gil. Having experienced the harshness of imprisonment himself, Gil leads a studio where craftsmen and former inmates work together to produce the iron and PVC pieces.

As part of the initiative, photographer and filmmaker Francesco Jodice made a collection of images of the Marni staff sitting in the chairs for 'L'arte Del Ritratto'.

The money raised from the project will be donated to the institute ICAM of Milan: an institute that helps the children of imprisoned mothers live in a family environment.

A great charitable project that combines amazing craftsmanship with product design.

Art director: Francesco Jodice, Italy - www.francescojodice.com

Producer: Marni, Italy - www.marni.com

Technical info: PVC cable

Picture credits: Marni, Francesco Jodice



Rotating cone shows green power

The lightness and strength of PVC are used in an experimental mobile structure that produces and stores electricity.

Engineers Manuel Kretzer and Hans Sach developed 'Cone v2' for the recent Voodoo Experience Music and Art Festival in New Orleans. The Cone is made of PVC-tubes that are spirally connected at the bottom and top of the construction. Attached to the tubes are sails that makes the structure rotate. If there is not enough wind, the cone can also be turned by man power. By moving the cone, energy is produced which is stored in batteries and will be used for illumination. The cone can be entered via an opening in the ground-platform to experience the visual effects.

The design is based on the design principles of hyperboloid structures of the Russian engineer Vladimir Shukhov. The intricate PVC structure gives the cone the necessary support structure strength

and low volume and weight. Segmentation of the cones allows easy assembly within a short time and without the use of sophisticated technical equipment.

Engineers: Manuel Kretzer and Hans Sach - www.burning-man.eu

Location: New Orleans, USA

Technical info: PVC pipe

Picture credits: Manuel Kretzer and Hans Sach





The Absent City

This installation at the Madison Museum of Contemporary Art, Wisconsin, USA, examines scale, transparency, and language while drawing attention to the function of the museum and its relationship to the community.

Roberto Behar and Rosario Marquardt, who were originally trained as architects in Argentina and are now based in Miami, have collaborated to create art in museum and public settings for years. The most prominent component of the architects' site-specific installation at MMoCA is a curtain of brightly coloured ribbons running the entire height of the museum's three-story glass prow. Made from a vinyl material often used in industrial and retail settings, the ribbons alternately cover and expose the prow's glass panels. By obscuring the museum's transparent membrane and highlighting the grand scale of the prow, the artists raise questions—both cultural

and architectural—about the relationship between the city and the museum.

Designers: Roberto Behar and Rosario Marquardt, Argentina
www.rr-studios.com

Museum: MMoCA Madison Museum Of Contemporary Art, USA
www.mmoca.org

Technical info: PVC Tape

Picture credits: MMoCA, Angela Richardson, Devon Hugdahl, Preppie Curler





AirClad: a home you can take with you

Often dubbed 'bubble-techtecture', this new form of inflationary architecture is rapidly making a name for itself as a quirky potential alternative to more traditional prefab structures.

AirClad is the next generation of semi-permanent and permanent architectural buildings developed by English design team Inflate. With AirClad, Inflate wanted to take their experience with inflatable building a step further and create a more solid platform that can be used as the basis to customize the interior to suit an individual brief. The AirClad system is also easy to transport and erect. It is fully de-mountable and reusable and requires no need for intrusive concrete foundations.

The AirClad system in its simplest form is a structural skeleton with air inflated PVC panels cladding it. The skeleton forms a monoquoque structure with the inflated cladding. The inflated panels offer insulation and structural properties to the finished building and especially allow for a new architectural aesthetic to be achieved. AirClad is a

sealed pressure-regulated system using very little energy to keep the whole structure in working order.

The inflatable pool house seen here is more than 10 metres long and made from an opaque and solar-reflective PVC which can be customized in a range of colors, or remain a more subtle white.

Architect: Inflate, UK - www.inflate.co.uk

Location: London, UK

Technical info: Solar-reflective PVC membrane

Picture credits: Inflate

