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TEXTILE IN INTERIORS

Spain

TENSILE ROOF ORCA OCEAN SHOW

Spain

TEXTILE RIVER

OVER PARTICIPANTS' STREET

RESEARCH

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&

INDUSTRY SUPPORTED PHD

ARTICLE

First prototype of a foil façade
of equal frame modules covered
with mechanically pre-stressed foil

ETFE Façade



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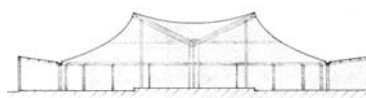
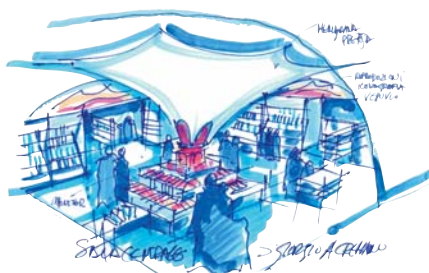
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ETFE Façade

First prototype of a foil façade of equal frame modules covered with mechanically pre-stressed foil.

Bad Tölz, Germany



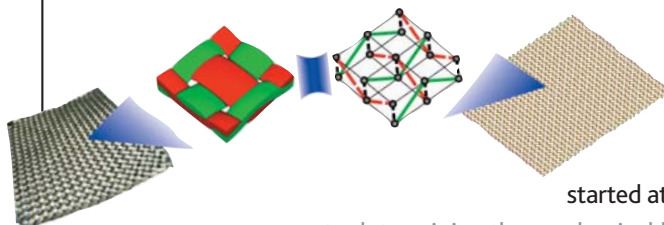
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New Tent Architecture -

ETFE Technology and Design - Kengo Kuma

24 PRESS RELEASE

Good design award 2008

3 awards for FabriTec Structures

Westfield Wondon



Buro Happold
www.burohappold.com

Canobbio S.p.A.
www.canobbio.com

Ceno Tec
www.ceno-tec.de

Dyneon
www.dyneon.com

FabricArt
Membrane Structures
www.fabricart.com.tr/

Ferrari sa
www.ferrari-textiles.com

form TL
www.Form-tl.de

W.L. Gore & Associates
www.gore.com/tenara

IMS
www.ims-institute.org
www.membranestructures.de

Mehler Technologies
www.mehler-technologies.com

Messe Frankfurt
Techtextil
www.techtextil.de

Saint-Gobain
www.sheerfill.com

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Tensinet NEWS INFO

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Edito Since the last TensiNews issue both an Annual General Meeting (10th November, Stuttgart) and a Board Meeting (2nd February, Brussels) have taken place.

In Stuttgart fifty one TensiNet members attended the lectures, the Annual General Meeting and the Working Group Meetings and afterwards visited Labor Blum.

During the Partner Meeting the new board was elected: **Heidrun Bögner-Balz** as Chair, **Bernd Stimpfle**, **John Chilton** and **Stefania Lombardi** as Vice-Chairs and **Marijke Mollaert** as Executive Secretary.

As agreed during the second Partner Meeting in 2006 the class of Founding partners does not exist any longer. **Partners** pay the full 2400€ membership fee. A new class of **Associate partners** has been introduced: these are the Working Group Leaders, the Schools and Universities which actively contribute to TensiNet's daily work and "small firms" which are invited by the Partners according to their specific expertise.

During the Partner Meeting it was proposed to choose for the next **TensiNet Symposium** an Eastern European country. The exact location is not decided yet.

The next Partner Meeting is planned on Monday the 15th of June just before **Techtextil 2009** (Frankfurt from 16th till 18th June). The Working Group **ETFE** (Rogier Houtman) will meet the same day. The Student Award ceremony takes place on the 15th in the evening. The Working Group Disaster Relief will be activated. Caroline Henrotay (VUB) will coordinate this Working Group.

During the Board meeting it was decided that the TensiNet Association should put extra effort into increasing the number of TensiNet members: all current members should contact candidate members they know personally. TensiNet should promote its Working Groups, should publish articles in local professional magazines and become more visible during events, fairs and symposia. To support these actions a new TensiNet flyer is available at http://www.tensinet.com/files/General_information/FLYER_2009_2.pdf

From now on individual issues of TensiNews, with the renewed layout, will be on sale at the price of 15€. New issues will be announced on the website with a table of content. Abstracts of important articles will be put on the website with a reference to the corresponding TensiNews on sale. National and local professional magazines will be informed about the renewed TensiNews.

A proposal for the standardisation of "materials, fabrication and installation of membranes" has been sent to the standardisation communities (TC 250) of the European countries as a first step in establishing a **EUROCODE**. National representatives are Juan Monjo and Ignasi Llorenz for Spain and Portugal, Roberto Canobbio and Alessandra Zanelli for Italy, Matti Orpana for Finland and the Scandinavian countries, Marc Malinowski and Françoise Fournier for France, Heidrun Bögner-Balz, Bernd Stimpfle and Henric Leuer for Germany, Marijke Mollaert for Belgium, Rogier Houtman and Arno Pronk for The Netherlands and John Chilton and Peter Gosling for the United Kingdom. They will follow up the handling of the proposal for a **EUROCODE**.

The **Annual General Meeting 2009** will be held on the 30th of September during the **IASS 2009 conference** in Valencia. Joint to the Annual General Meeting the results of the Working Groups will be presented and interesting recent projects completed by TensiNet members will be reviewed. A slideshow will be made and afterwards put on the website.

With this short summary of meetings, discussions and future action points we hope to reinforce the presence of Tensile Surface Structures on the market and to strengthen cooperation in research.

Marijke Mollaert

Forthcoming Meetings



WORKING GROUP

ETFE meeting

Techtextil 2009 Frankfurt, Germany
15/06/2009

⌚ 13:30 - 15:30

Partner Meeting

Techtextil 2009 Frankfurt, Germany
15/06/2009

⌚ 15:45 - 17:45

Annual General Meeting

IASS 2009 Valencia, Spain
30/09/2009

The Annual General Meeting will consist of 2 parts: Recent projects by TensiNet members will be presented first, next the board will report on the realizations, the WG-activities, the financial situation and the future objectives.



Calls

ICSA2010

1st International Conference on Structures & Architecture

Guimarães, Portugal - 21>23/07/2010

Call for Mini-Symposia & Special Sessions

> before 30 April 2009

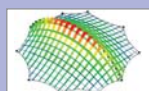
Call for Abstracts

> before 31 May 2009

Call for Associated Events

> before 30 June 2009

Forthcoming Events International conference **TEX TEH II - 2009** Bucharest, Romania 07>08/05/2009 www.certex.ro/conference_texteh2.htm • International exhibition & conference **ROOF & CLADDING INDIA 2009** Mumbai, India 28>30/05/2009 www.roofindia.com • Workshop **Textile Roofs 2009** Berlin, Germany 11>13/06/2009 www.textile-roofs.com • International Trade Fair & Symposium **Techtextil 2009** Frankfurt, Germany 16>18/06/2009 techtextil.messefrankfurt.com • Symposium **IASS 2009** Valencia, Spain 28/09>02/10/2009 www.iassvalencia2009.com • International Conference **Structural Membranes 2009** Stuttgart, Germany 05>07/10/2009 congress.cimne.upc.es/membranes09



Transformation into a Green Void

Sydney Customs House, Australia

A temporary construction until mid 2009

Sydney Customs House has rolled out the green carpet to unveil a unique addition to its architectural history. It has been given an ultra-modern edge with a futuristic yet organic 3D structure known as the "Green Void", the latest collaboration between MakMax and Chris Bosse of LAVA.

The lightweight Lycra sculpture hovers within the Customs House atrium, taking in Café Sydney's top floor position stretching to the model of Sydney incased in the glass floor at ground level. The translucent fabric allows ample amounts of sunlight through from the atrium some 5 floors above creating a surreal experience as the surroundings take on a lime green glow. At night the structure is illuminated to take on the look of lava bubbling up from a volcano.

MakMax and Chris Bosse have previously worked on projects such as the Moët and Chandon Marquee and POL Oxygen stand and more recently the MTV Music Awards set but nothing could compare to this most recent collaboration.

This is the most ambitious Lycra structure they have ever attempted. Being a heritage listed building many challenges were faced in the design process. They had to create a surface floating in space, supported by a heritage listed façade which they were not allowed to permanently anchor to, as well as support a fixed fabric edge that was not excessively heavy. The end result is a credit to the engineering design, patterning and fabrication process.

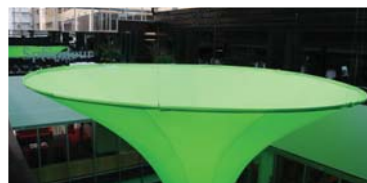
The project shows a new way of digital workflow, generating space out of light weight material in an extremely short time. The computer-model feeds directly into the finite element software for generation of true fabric form which marries with the manufacturing process.

Lycra has been given new life with applications such as custom designed fabrics that stretch the possibilities of modern architecture. The fabric is a standard 80% Nylon/20% Lycra which is sourced from a manufacturer traditionally to dealing with dancewear manufacturers.

With sustainability being at the forefront of every architect's design concept MakMax has been leading the way with bespoke tensile membrane structures and use of minimal materials. The total fabric weighs a mere 45Kg and is stretched over 12% past its original size to create its final shape. The use of such fabric allows it to be folded and fit inside a sports bag, yet has enough elasticity to fill a volume of 160m³. The total surface area is 233m². Minimal amounts of Aluminium and hardware were a necessity to enhance the fabrics natural curvature. The fabric is supported by only five rings. The complete structure including the Aluminium edges weighs 210Kg.

The form was taken from an architectural model developed by LAVA. Utilizing force density shaping and elastic analysis the final shape was found to complement ring supports. Intricate patterns limited by the 1.5m fabric roll width create the structures form. Cutting patterns were developed through scribing geodesics through the structure at strategic locations and flattening using an energy method more able to handle the highly curved surface. The riggers dubbed the structure 'Shrek's ears' which is a great example of digital media being translated into fabric design. The Green Void oozes charisma and will remain on display until mid 2009.

 Daniel Cook
 danielc@makmax.com.au
 www.makmax.com.au



Name of the project:	Green Void
Location address:	31 Alfred Street, Circular Quay, NSW 2000, Australia
Client (investor):	Sydney Customs House
Function of building:	Cultural Centre, Library, restaurant, office building
Type of application of the membrane:	Sculpture
Year of construction:	2008
Architects:	LAVA (Laboratory for Visionary Architecture)
Multi disciplinary engineering:	ARUP
Structural engineers:	MakMax Australia
Consulting engineer for the membrane:	MakMax Australia
Engineering of the controlling mechanism:	MakMax Australia
Tensile membrane contractor:	MakMax Australia
Manufacture and installation:	MakMax Australia
Material:	Lycra
Covered surface (roofed area):	300m ²