TensiNews

Newsletter of the European based Network for the Design and Realisation of Tensile Structures

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PROJECTS

Sky Ribbon
Mariastein
Cabledome
Tailer-Made membrane envelope

STUDENT PROJECTS

UNIVERSITY OF INNSBRUCK
GDAŃSK UNIVERSITY OF TECHNOLOGY
MUNICH UNIVERSITY OF APPLIED SCIENCES (HM) &TECHNICAL UNIVERSITY OF MUNICH (TUM)
POLITECNICO DI MILANO

Students from the Lightweight Structure Unit of the University of Innsbruck assembling their lightweight framework.

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PFAS RESTRICTIONS

The European Chemicals Agency (ECHA) public consultation on the Committee for Socio-Economic Analysis (SEAC) draft opinion regarding universal PFAS restrictions officially closed on May 25, 2026. The TensiNet Association has submitted their response to the consultation through Chemservice, based on the completed questionnaires received.

The TensiNet Association is either asking for a full exemption with respect to the scope of the proposed PFAS restriction or, if this is not accepted, for a time-unlimited derogation for the specific use of fluoropolymers in tensioned membrane structures. The main statements are: (1) a Responsible Manufacturing Programme for fluoropolymers is in place, aiming to reduce emissions throughout the manufacturing stage and the supply chain; (2) the use stage is safe; and (3) concerning the end of life, fluoropolymers can be recycled (ETFE), landfilled or incinerated without degrading into hazardous PFAS, as proven by recent studies.

The TensiNet Association takes this opportunity to thank its main sponsor Serge Ferrari, and its sponsors AGC Chemicals Europe, Nowofol, Sioen Industries and Taiyo Europe for their financial support and assistance during the process leading up to the submission. The TensiNet Association also thanks the members of the Working Group Sustainability & Comfort and Chemservice for ensuring this process ran smoothly prior to submission (organising webinars, following up on the questionnaire, etc.).

Edito

Dear Reader

I hope you have had an inspiring and relaxing summer and are well prepared for all the membrane related conferences this autumn.

As we look toward the future of textile architecture, our attention has recently been directed to two particularly important fields of activity. One has been the assessment and communication of the socio-economic consequences of potential PFAS restrictions through our contributions to ECHA. Equally important is our commitment to fostering the next generation of membrane designers through universities and educational initiatives, ensuring that innovation, expertise, and enthusiasm for textile architecture are carried forward into the future.

We have participated in the public consultation on the Committee for Socio-Economic Analysis (SEAC) of the European Chemicals Agency (ECHA) through Chemservice. Our goal is to get a full exemption of the PFAS restrictions for tensile architecture, because Fluor Polymers are essential for long-lasting and sustainable membrane projects. Many of our members have submitted questionnaires which build the basis of the answers submitted by Chemservice. I would like to thank also all our sponsors for their financial support.

For the future of tensile architecture, it is important to get an exchange of knowledge, but even more important to raise enthusiasm in the next generations for our technology and architecture. We had brainstorming sessions how to achieve this, and started a series of webinars, which should continue after the summer break. A wide exchange with universities and educational institutions has been made. Four universities give an insight in their student projects, membrane workshops and master projects, which you find presented here in this TensiNews.

Mid of September starts the next IASS Symposium which takes place this year in Turin, and short after that will start the 8th edition of the TensiNet Symposium 2026 "Shaping the pathway to future tensioned membrane design". This will be held in Essen, in collaboration with the University Duisburg-Essen as a joined symposium with the 7th Essen Membranbau Symposium. I will be glad to meet you on one of these occasions.

I hope you enjoy reading this edition of TensiNews, featuring inspiring projects and the latest research developments.

Yours sincerely,
Bernd Stimpfle

Forthcoming Events

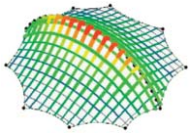
IASS Annual Symposium 2026 and IWSS 2026 | R-EVOLUTION OF SHAPES: SUSTAINABILITY, RE-USE, AND NEW DESIGN PARADIGMS | *14-18/09/2026* | Politecnico di Torino, Turin, Italy | **www.iass-iwss2026.org**

8th TensiNet Symposium 2026 & 7th Essener Membranbau Symposium 2026 | Shaping the pathway to future tensioned membrane design | *30/09-02/10/2026* | Institute for Metal and Lightweight Structures, University of Duisburg-Essen, Essen, Germany | **www.uni-due.de/iml/tensinet-ems2026.php**

21st Advanced Building Skins 2026 Conference & Expo | *3-4/11/2026* | Bern, Switzerland | **https://abs.green/home**

Textile Roofs 2027 | International Workshops on the Design and Practical Realization of Architectural Membrane Structures | *23-25/05/2027* | Berlin, Germany | **https://www.textile-roofs.com/**

CALL International Student Competition Textile roofs 2027 | *Textile Roofs 2027 workshop and their partners announce a student competition focused on membrane design and textile architecture. The competition is open for Bachelor and Master students in arts, architecture, engineering and building sciences.*



www.textile-roofs.com

Deutsche Bank Park © Heiner Leiska

Tensys to merge with schlaich bergermann partner sbp

Leading tensile engineering specialist Tensys announced in early August their merger with structural engineering powerhouse sbp in an exciting new journey. Tensys will continue to operate under its own name from its two studios in Bath and Melbourne, while joining the wider sbp team.

Marrying Tensys' world-renowned specialist expertise and knowledge in lightweight tensile structures, with sbp's broad international network and distinguished global reputation in stadium and long span building projects will establish an outstanding offering for international clients. It will secure a geographic and knowledge network spanning the globe, supercharging the firms' offerings in the field.

This bold strategic move is driven by Tensys and sbp's longstanding values-based friendship and collaboration, shared commitment to clients and culture of innovation. Their joint vision for the future and deep pool of talent will bolster the firm's ability to deliver world-leading projects.

https://www.tensys.com/
https://www.sbp.de/en/

"SKY RIBBON"

at Atlético de Madrid Metropolitano Stadium

Madrid, Spain

The "SKY RIBBON" project at the Metropolitano Stadium, home of Atlético de Madrid, is a 360º MESH-LED screen with a membrane background, installed between the upper and lower tension rings of its bicycle-wheel-shaped roof. It represents one of the most ambitious initiatives in terms of modernization and visual experience for the public, as well as one of the largest projects in which BAT SPAIN has been involved. This project, conceived to enhance the stadium's aesthetics and functionality, combines advanced engineering, technological design, and high-level execution that promotes both visibility and spectator safety.

Figure 1. The sky ribbon installed between the upper and lower tension rings of its bicycle-wheel-shaped roof.

At the heart of the project, BAT SPAIN played a key role in the manufacture and installation of critical components that support the structure and visual impact of the SKY RIBBON. In particular, BAT SPAIN manufactured the 112 all-different steel frames that form the backbone of the installation, providing the necessary strength and durability to withstand the dynamic and static loads of the new screens. Furthermore, the company has taken responsibility for manufacturing the background membranes, essential elements for guaranteeing the optical quality of the mesh-LED screens that make up the system and minimizing any impact on the stadium's aesthetics.

BAT SPAIN's execution of the project is not limited to manufacturing the frames; it also includes the dismantling of the 448 PTFE louvers that covered the space between the upper and lower rings, the lifting and assembly of the screens and their background fabrics. This process involves precise coordination between engineering, logistics, and assembly teams to ensure that each component is installed accurately, maintains proper alignment, and integrates seamlessly with the venue's display and signage solutions.

The result aims to offer an immersive visual experience for attendees, improving screen visibility from different angles and reducing potential shadows or reflections that could affect the experience of a match or event.

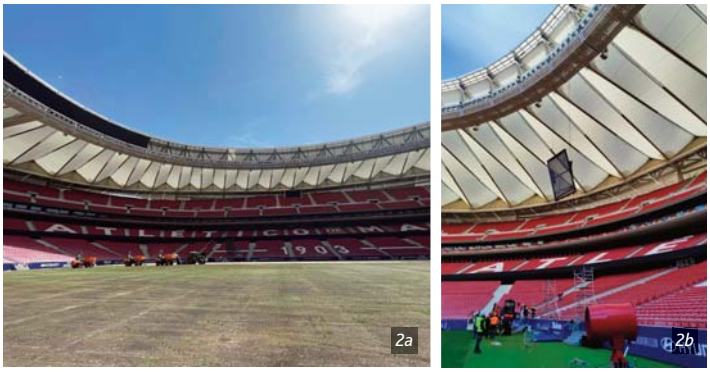


Figure 2. Installation of the 112 steel frames to support the screens and their background membranes.

Structural & parametric design:

The challenge for schlaich bergermann partner was to create a continuous geometry that would adapt to the LED technology and the existing conditions. They came up with a geometry consisting of 2.822 pairs of cables arranged in parallel planes, which also accommodate the irregularities of the existing inner rings. To avoid kinks between the fields, the horizontal plates in which the cables are fixed have a continuous overall curvature, resulting in a clean geometry. To achieve the best visual effect, it was also important to precisely define the position of the center line of the screen within the cable lengths along the perimeter.

www.sbp.de/en/news/new-360-sky-ribbon-for-the-atletico-madrid-stadium

Name Of The Project:	Sky Ribbon At Atlético De Madrid Metropolitano Stadium
Location Address:	Metropolitano Stadium, Madrid
Client (Investor):	Atlético De Madrid
Function Of Building:	Stadium
Type Of Application Of The Membrane:	Background For The Mesh-Led Screens
Year Of Construction:	2025
Multi-Disciplinary Engineering:	Telefónica Tech – Lg - Sbp - Bat Spain – E2
Structural & Parametric Design:	Schlaich Bergermann Partner
Consulting Engineer For The Membrane:	Bat Spain
Engineering Of The Controlling Mechanism:	Telefónica Tech – Lg -E2
Main Contractor:	Telefónica Tech
Contractor For The Membrane (Tensile Membrane Contractor):	Bat Spain
Supplier Of The Membrane Material:	Serge Ferrari
Manufacture And Installation:	Bat Spain
Material:	Flexlight 702 S2 Opaque White/Black
Upper Perimeter Length:	397m, Lower Perimeter Length: 415m
Screen Height:	4.41m, Screen Surface: 1730m²
Number Of Vertical Cables:	2822
Rear Membrane Surface:	1820m²

Javier Tejera, Bat Spain Buro Textil Slu
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www.youtube.com/watch?v=kDcDypNB7oo