

## Design of tensioned membrane structures - Execution

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‘By ensuring that the tensioning system has the correct tolerances and that the stress is evenly distributed throughout the structure, consistent tension and shape are achieved.’

BDIR



Figure 1. Installing the membrane, from [https://www.cantensile.com/garden-park-architectural-ptfe-tensile-structure-pavilion\\_p31.html](https://www.cantensile.com/garden-park-architectural-ptfe-tensile-structure-pavilion_p31.html)



Figure 2. Attaching the membrane to the frame, from <https://temembrane.com/portfolio-item/installation/>

In order to so support the conversion of **CEN/TS 19102:2023** 'Design of tensioned membrane structures' into a new EN Eurocode, there is a need for execution rules, to underpin the developed design provisions, which should themselves be included in a European Standard.

CEN/TC 250 Working Group 5 Membrane structures will not develop a 'full' execution standard, but a document that explains what the design rules are based on. The emphasis is on these execution rules which are used to address the issues upon which the Eurocode designs are based. The document is written for manufacturers and contractors in such a way that it provides a bridge to the design rules.

**Context:**

As a reminder, CEN/TC 250's principles concerning execution standards are as follows:

- CEN/TC 250 has a legitimate interest in ensuring that execution provisions upon which the Eurocodes directly rely, such as certain tolerances, are included in a European standard.
- CEN/TC 250's general preference is that execution standards are developed by other CEN/TCs, in liaison with CEN/TC 250.
- In special cases, CEN/TC 250 may propose to develop execution rules (upon which Eurocodes directly rely) if no other Technical Committee undertakes the work.
- WORK ON EXECUTION STANDARDS should be performed with INPUT FROM ALL RELEVANT STAKEHOLDERS, including constructors.
- Execution provisions should be presented in a manner that is clear to those who must apply them.

CEN/TC 250 Working Group 5 Membrane structures will work on the conversion of the **CEN/TS 19102:2023** 'Design of tensioned membrane structures' into an EN Eurocode, and in parallel, develop a draft document on execution rules to support the design provisions specified in the Technical Specifications. The draft starts from the information in Annex H of the TS (which will not be included in EN 19102) and considers 'EN 10204 Metallic Products: Types of inspection documents' as a further reference.

We invite KEY EXPERTS IN THE DESIGN AND CONSTRUCTION OF MEMBRANE STRUCTURES, whose input would be of great value, to let us know if they would like to contribute to the development of the EXECUTION RULES - with respect to the design provisions.