



Single Membrane Structure



COVERING A GREEN FUTURE



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The Single Membrane Structure is constructed out of heavy polyester textile with a synthetic coating material on both sides to reduce emissions. The membrane constructions are designed for all types of tanks, for example stainless steel tanks, glass-fused-to-steel tanks and concrete tanks.

Single Membrane Structures are covers with a central column and a membrane material that is welded to shape and tensioned in place. No use is made of supporting beams here. The covers are made of membrane material that is fire resistant, sun resistant, UV resistant and reinforced.

Nowadays it is impossible to imagine tank covers without synthetic membrane constructions. Where metals in the field of chemical resistance, maintenance or economic feasibility have reached their limits, synthetic membrane constructions provide the solution. Synthetic membrane constructions are lightweight, elastic, break-proof, and above all maintenance-free. The optimal choice of material will be made depending on the pressure and temperature of the tank contents.

The firm membrane construction in combination with stainless steel fixing materials guarantee a long life span. All membrane covers are checked by an internal quality service. We provide a product certificate with all our tank covers. Moreover we have a team of skilled assembly workers who are equipped with all required certificates.

TECHNICAL DATA

MEMBRANE MATERIAL

- Reinforced PVC polyester textile - 900 g/m²
- Standard in the colours grey or green, other colours optional

CENTRE COLUMN

- Supplied as standard in wood or stainless steel

LOAD

- Static calculation according to local conditions
- Min. snow load to 5 kN
- Wind force to 10 Beaufort
- Snow load and wind force depending on local conditions



How does Membrane Systems Europe go about its work?

In the design, the following design aspects are all taken into account during a comprehensive inventory of the tank: application, material, site, dimensions, special constructions, customer wishes such as colour, fire class, national and local requirements, explosion pressure if the cover has to collapse or shoot loose, increased or reduced pressure if the tank has forced ventilation, layout of stirrers, mixers, aerators and similar in the silo, etc. All points from the inventory are included in one design.

The technical drawings are used to prepare templates, item lists, specifications, work and assembly instructions. When the design is ready it is sent to the customer for approval.

After approval and issuing of the order a start can be made with the realisation of the cover. The foil templates are first cut on a CNC machine. The templates are high frequency welded in the form of the cover. The covering construction is then transported to its destination.

The tensioned membrane construction is fitted and finally fixed to the silo. Separate parts, such as the crown and manholes, are welded to the tank cover. Finally, the tank cover is tensioned by using ratchets.