

HIGH SILO ROOF

The high silo roof (HSD) is usually mounted on top of a tank and it is primarily used to reduce emissions and to prevent rainwater from penetrating into the substrate, fermentation residues or slurry. Irrespective of whether used for an in-situ concrete, a concrete element or a steel tank: SATTLER CENO's high silo roof offers the perfect solution to reduce emissions without being a gas-proof covering when used across many application fields such as slurry storage, sewage treatment plants and biogas storage systems.

The statically secured structure and construction of the tower silo roof ensure highest resistance from wind, rain and snow loads. Its special fabrication design prevents it from pumping and fluttering, while the construction of the tank helps prevent strain on the membrane materials. This contributes to expand the lifespan of SATTLER CENO's tower silo roof.

A central telescopic mast with a wheel on top combined with a fixed stainless-steel anchoring system on the edge of the tank provides the tension required and bears external loads such as wind, rain and snow.

THE PROVEN MAST SYSTEM FROM SATTLER CENO

FEATURES:

- High stability
- Covering approved to comply with building law and safety requirements
- Corrosion-proof, non-putrescible materials
- Prevention of odour emissions
- Manholes ensuring accessibility from every position
- Easy and safe to operate
- Specially designed mounting system

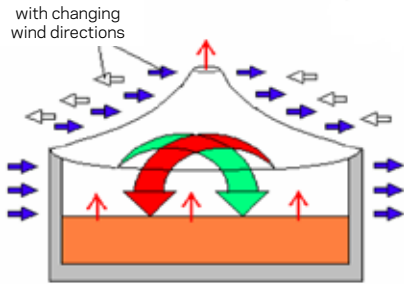
- Mast system consisting of base plate, base support and tensionable high point.
- All mast parts are hot-dip galvanized and protected for the long term by multiple epoxy resin coating, other materials corrosion-resistant and rot-proof.
- High stability due to statically calculated design of all components and biaxial roof tensioning
- Approval of the cover according to building regulations and safety regulations
- Membranes and under-welded belts are resistant to liquid manure and fermentation residues, UV-resistant



**Ideal solution
for low-emission
tank coverings.**

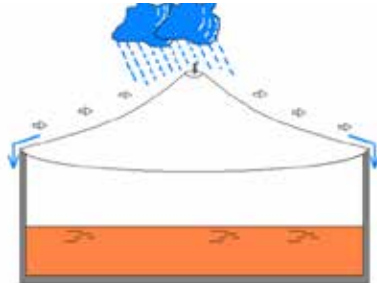
GOOD REASONS FOR A HIGH SILO ROOF FROM SATTLER CENO

EMISSION REDUCTION
= NUTRIENT INCREASE



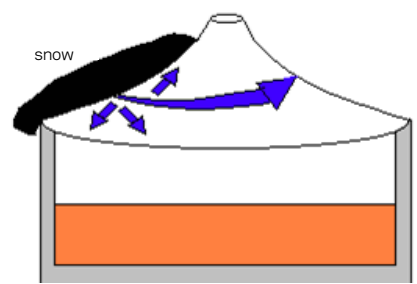
- The roof keeps its shape because it is curved and stretched on two sides.
- No pumping of the roof, thus guaranteed emission reduction of approx. 95%
- Reliable effect, long service life

NO RAINWATER IN THE TANK
= MORE STORAGE CAPACITY



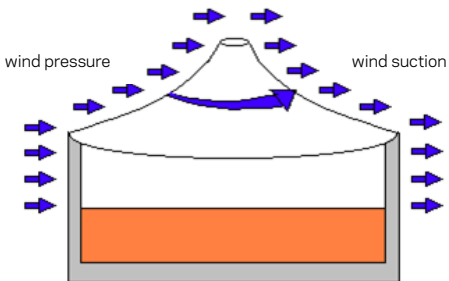
- Rainwater runs off the roof without any problems.
- Even when exposed to wind the roof keeps its shape.
- The pre-stressing of the roof membrane ensures long-lasting functionality.

SNOW AND WIND SAFELY DISSIPATE
= LONG SERVICE LIFE



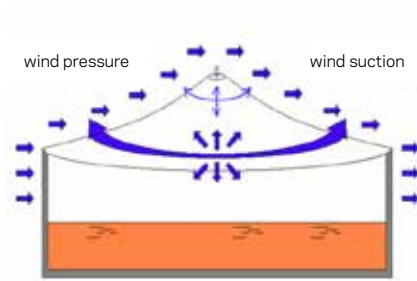
- The roof retains its shape even in extreme snowfall.
- Remaining snow loads are radially diverted.
- Silo walls are less loaded.

HIGHEST STABILITY EVEN IN STRONG WIND



- The roof keeps its shape because it is curved and tensioned on two sides.
- No dynamic load loads into the silo
- No unpredictable loads

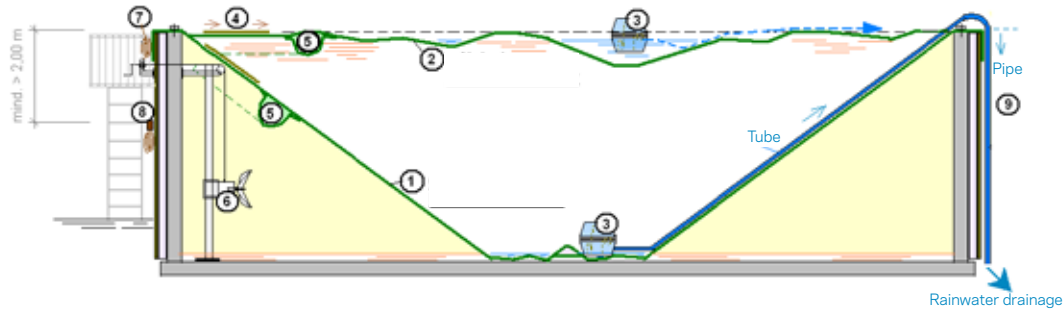
OPTIMAL LOAD DISTRIBUTION



- Most of the load is transferred radially around the high point.
- Only low loads at the silo edge
- Possible concentrated loads are distributed radially.

FLOATING COVER FOR EMISSION REDUCTION

CUT THROUGH TANK/HOPPER COVER



LEGEND

1. Membrane (position: empty)
2. Membrane (position: full)
3. Pump box (rainwater)
4. Operating opening
5. Floatation body
6. Immersion stirrer
7. Rope (Position change pump box)
8. Electric cable
9. Pipe DN100 (rainwater drainage)

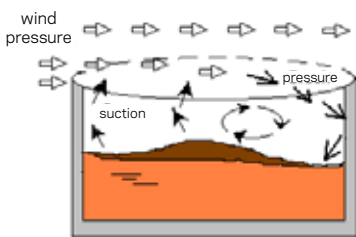
TOP VIEW



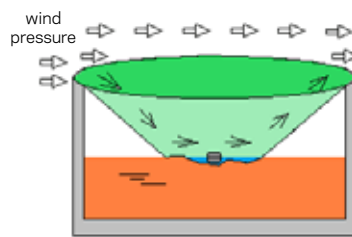
COMPARISON:

Wind impact and effect on open tanks with flat floating covers:

OPEN TANKS WITH FLOATING COVER



FLOATING FUNNEL COVER FROM SATTLER CENO



FEATURES:

- Protection of the environment
- Reduction of emissions
- Compliance with legal requirements
- All-round tight connection to tank
- Gas-tight version available
- No rainwater in the substrate
- Higher storage capacity up to 25%
- Improvement of the slurry values/nitrogen content of nearly 12%
- Easy operation

BENEFITS OF THE SATTLER CENO SYSTEMS:

- High wind stability
- Reliable rainwater drainage



GOOD REASONS FOR A FLOATING COVER FROM SATTLER CENO

- Emission reduction for slurry and manure tanks:
Reduction of ammonia emissions approx. 95%, odor emission > 90%
- Gas-tight design for digestate storage with gas discharge for gas utilization
- Whether concrete or steel tank: no building permit is required
- SATTLER CENO has the right edge connection for every type of tank
- High wind stability (insensitive to wind), because there are no open, vertical inner walls of the tank lie on the substrate as opposed to otherwise flat floating foils
- Reliable rainwater drainage, as no wind turbulence as with open, cylindrical tanks

FEATURES:

- Assembly is possible on a filled tank
- No building license needed
- Especially suitable for older concrete tanks such as steel and wood tanks



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