

AGROTEL[®]

Biogas and Emission Protection

ENVIRONMENTAL TECHNOLOGY AND AGRICULTURE



www.agrotel.eu

AGROTEL – that's us

AGROTEL is one of Europe's leading component manufacturers in the field of biogas and offers compelling textile solutions for biogas tanks and liquid manure tanks.

We place special emphasis on the concept of "all from one source": we are your "one for all contact" - from the development and production onto service & maintenance and therefore can fulfill your individual needs. Thanks to more than 30 years experience, know-how and expertise, our employees are able to offer the perfect solution for our client's projects.

Our product portfolio ranges from double membrane gas holders, tank covers with central support and self supporting domed roofs to external gas storages and liquid tanks. With the 75% double membrane gas holder we developed the perfect solution for efficient gas storage. We are particularly proud of our concrete protection foil WireTarp and SaniTarp which were developed inhouse and provide a lasting protection for concrete surfaces.

AGROTEL's quality management and environmental management are certified according to ISO 9001 und ISO 14001.



From left to right: Valentin Schmiedleitner, Elisabeth Laner, Cyriak Laner

Welcome



AGROTEL – that's what sets us apart

We are specialists for textile solutions in industry and trade, environmental technology and agriculture. With more than 30 years of experience in technical textile construction and steel construction, we guarantee a professional handling of your project.



Production Made in Germany

With our unique technical-textile confection with production machines that are state of the art, the company's own steel construction and in-house locksmith, as well as a warehouse and logistics center at our location in Bavaria we can guarantee optimum quality and flexibility.

Assembly & Service

Our own assembly teams take care of the professional installation of your project and with their know how ensure a professional result.

Regular maintenance measures increase the durability of your biogas storage and reduce downtimes. With our service packages we ensure that your plant will work for you a long time.



Consulting, planning and project management

Our qualified consultants will find the most suitable solution according to your wishes and requirements.



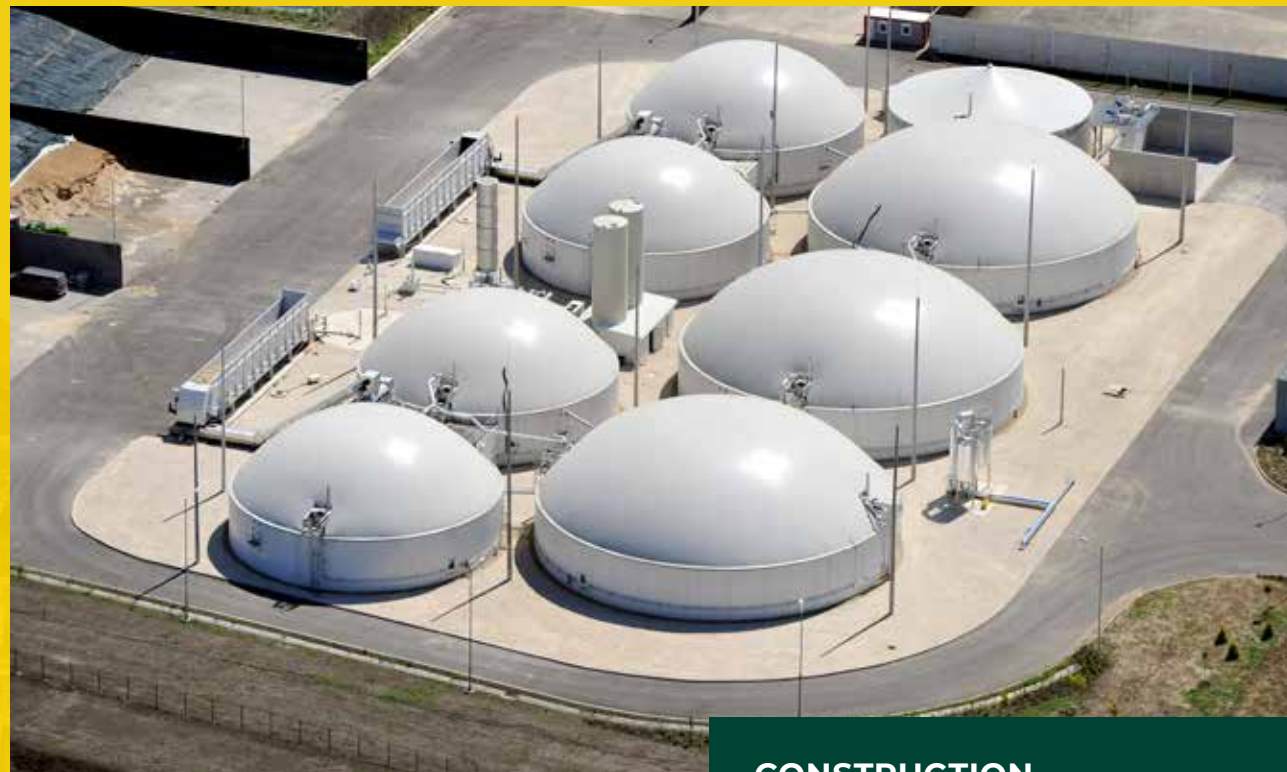
Technical construction

With our experienced staff in our in-house construction and also statics department, we can react flexibly to your needs and also offer support with the official approval of your project.



Double Membrane Gas Storage

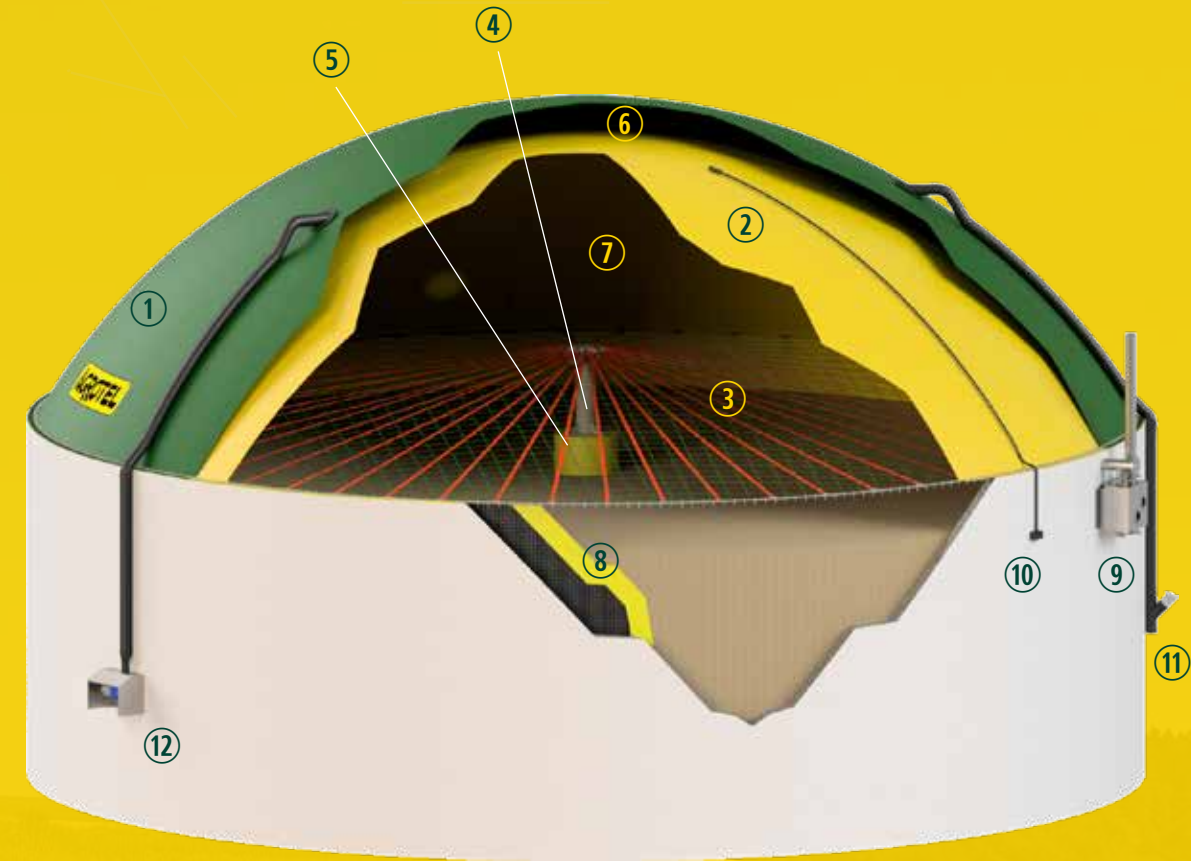
The success and the efficiency of the AGROTEL Double Membrane Gas Storage are due to its robust design and the proven interaction of the individual components.



Biogas plant

CONSTRUCTION

- » Stainless steel (1.4571) support column
- » Textile belts in star shaped formation from the central column to the tank wall, fastened in intervals of 0,8 m at the lower clamping flat bar
- » Full-surface net: supporting function for the membrane to avoid contact with the substrate in case of low gas pressure – also suited as colonization area for sulfur bacteria
- » Inner and outer membrane in polyester fabric with PVC coating



CONSTRUCTION

- | | |
|---|----------------------------------|
| ① Outer membrane | ⑦ Gas storage |
| ② Inner membrane | ⑧ Concrete protection WireTarp |
| ③ Belt substructure with net | ⑨ Over- and underpressure valve |
| ④ Concrete column with concrete protection WireTarp | ⑩ Filling level indicator |
| ⑤ Stainless steel (1.4571) elevation | ⑪ Supply air pipe |
| ⑥ Supporting air | ⑫ Ex-proof supporting air blower |

FEATURES OF THE MATERIAL

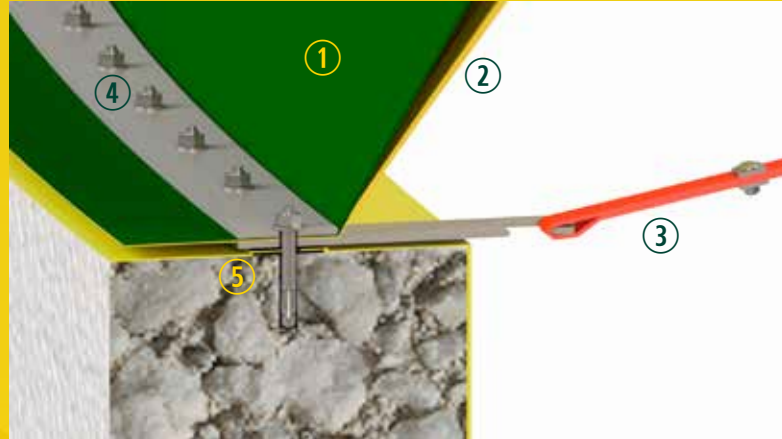
TECHNICAL TEXTILE

- » High tear resistance, very good welding seam adhesion, high frequency welded
- » Flame-retardant B1 accord. to DIN 41021 (B1,s2,d0) and EN 13501-1
- » UV-resistant, weatherproof, gas-resistant and anti-mildew treated
- » Use of different fabric types depending on static requirements and pressures

METAL COMPONENTS

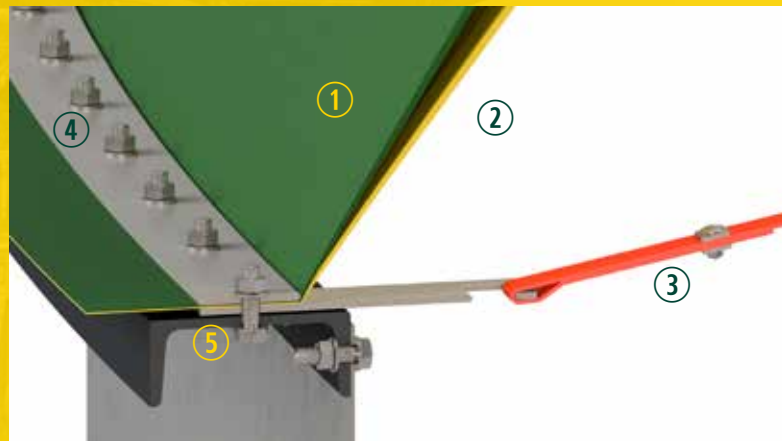
- » All metal components (central support, screw connection, fastening technology) are made of stainless steel

Double Membrane Gas Storage



WALL MOUNTING CONCRETE CONTAINER

- ① Outer membrane
- ② Inner membrane
- ③ Belt
- ④ Stainless steel profiles
- ⑤ Cellular seal



WALL MOUNTING METAL CONTAINER

- ① Outer membrane
- ② Inner membrane
- ③ Belt
- ④ Stainless steel profiles
- ⑤ Cellular seal



STORAGE VOLUMINA

Depending on your requirements, we will implement your desired storage volume.

- ① 29 %
- ② 33 %
- ③ 40 %
- ④ 50 %



29 %-DMGS



50 %-DMGS on steel container



50 %-DMGS



29 %-DMGS

⊕ Well-engineered construction

⊕ High working pressure

⊕ Suitable for high wind- and snowloads

⊕ Short delivery and construction times

⊕ Low investment and maintenance costs

⊕ High operating reliability

75%-Double Membrane Gas Storage

The AGROTEL 75% Double Membrane Gas Storage is the perfect solution for an efficient gas storage. Very large volumes can be realized with low acquisition costs.



CONSTRUCTION

- ① Outer membrane
- ② Inner membrane
- ③ Bottom membrane
- ④ Rail system
- ⑤ Blower
- ⑥ Pressure regulation / valve incl. non-return flip
- ⑦ Filling level measurement device
- ⑧ Over pressure valve with blow off pipe



75%-DMGS

⊕ High working pressure

⊕ Big volumina

⊕ Suitable for high wind- and snowloads

⊕ High operating reliability

⊕ Low investment and maintenance costs



Over pressure valve



75%-DMGS

FEATURES OF THE MATERIAL

TECHNICAL TEXTILE

- » High tear resistance, very good welding seam adhesion, high frequency welded
- » Flame retardant B1 accord. to DIN 41021 (B1,s2,d0) and EN 13501-1
- » UV-resistant, weatherproof, gas-resistant and anti-mildew treated
- » Use of different fabric types depending on static requirements and pressures

METALL COMPONENTS

- » All metal components (central support, screw connection, fastening technology) are made of galvanized steel or stainless steel

Emission Protection

AGROTEL offers two different emission protection roofs which take the newest regulations on immission control into account. Water ingress is prevented, odour and ammonia emissions are reduced by 95%, at the same time the nitrogen content and storage volume of the liquid manure remain constant.

Free Standing Domed Roof



AGROTEL's patent-protected, self-supporting domed roof is suited for existing and new tanks with a diameter up to 22 m and takes the requirements of immission control into account. The tank does not need to be emptied or cleaned, so the roof can be installed during operation. A reinforcement of the base plate or other construction measures are not necessary.



Free Standing Domed Roof

- ⊕ Reliable emission protection
- ⊕ Free standing steel construction
- ⊕ Fast assembly during operation, no need to empty the container
- ⊕ Container diameter up to 22 m
- ⊕ Large service openings possible
- ⊕ Robust and proven fastening technique with block ratchets



CONSTRUCTION

- ① Fabric reinforced plastic membrane (optional inner membrane for additional corrosion protection)
- ② Galvanized steel construction
- ③ Tensioning with galvanized steel tubes and block ratchets

MATERIALS

- » High tear resistance, very good welding seam adhesion, high frequency welded
- » Flame retardant B1 accord. to DIN 41021 (B1,s2,d0) and EN 13501-1
- » UV resistant, weatherproof, gas-resistant and anti-mildew treated
- » All metal components are made of galvanized steel



Free standing domed roof on supports



Slurry cover

Central Support Membrane Roof

The AGROTEL Emission Protection Roof with central support is manufactured for tanks with diameters of up to 40 metres, or larger on request. The cover offers a high-quality solution for the reduction of harmful gases in accordance with the requirements of imission control regulations. The belt substructure provides reinforced support for the central support and guarantees stability even in extreme weather conditions.



CONSTRUCTION

- ① Stainless steel central column with head
- ② Upper belt suspension (crown)
- ③ Fabric reinforced plastic membrane
- ④ Guying
- ⑤ Belt substructure

MATERIALS

- » High tear resistance, very good welding seam adhesion, high frequency welded
- » Flame retardant B1 accord. to DIN41021 (B1,s2,d0) and EN13501-1
- » UV-resistant, weatherproof, gas-resistant and anti-mildew treated
- » Use of different fabric types depending on static requirements
- » All metal components are made of stainless steel



Membrane roof with central support



Membrane roof with central support



Belt substructure

⊕ Reliable emission protection

⊕ Durable construction due to high quality components

⊕ Robust and proven fastening technique with block ratchets

⊕ Stainless steel column

⊕ Additional belt substructure

⊕ Very high wind- and snowloads

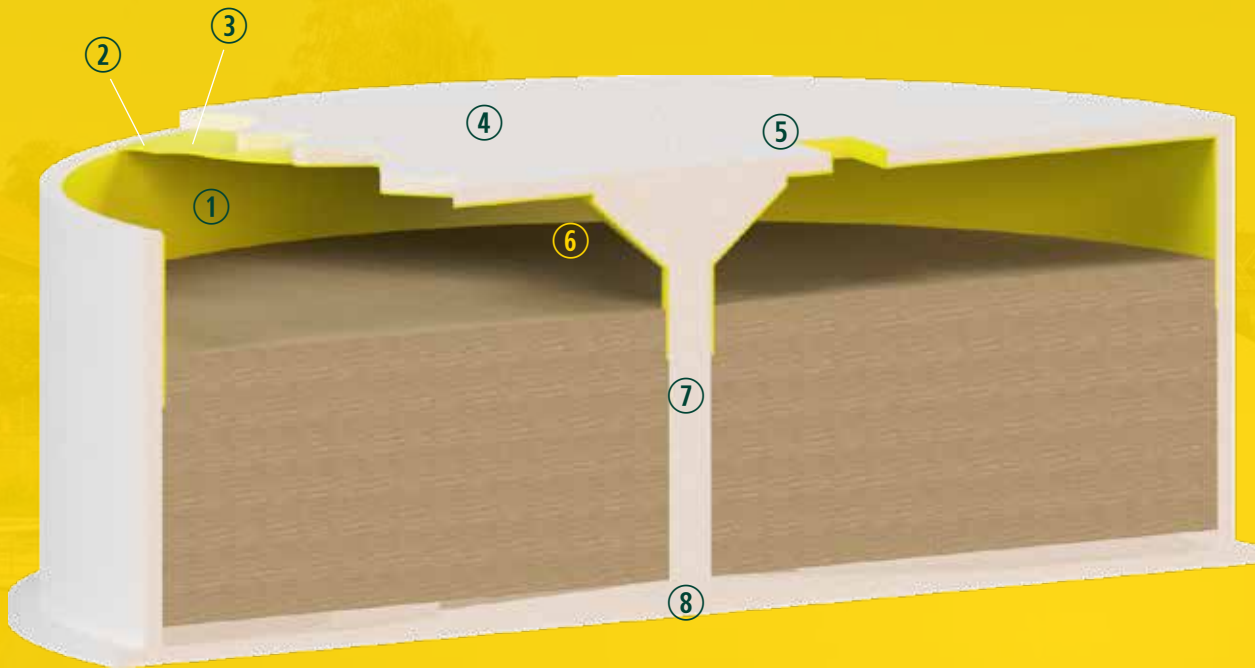
⊕ Standard container diameters up to 40 m

⊕ Service openings possible

Concrete Protection



For more than 20 years WireTarp has been reliably used as corrosion protection for reinforced concrete tanks. By applying WireTarp, future cost-intensive refurbishment measures can be avoided and the economic viability of the facility can be increased. AGROTEL concrete protection products are state of the art in the steel concrete container construction technology.



- ⊕ Proven protection of concrete surfaces
- ⊕ Increases the profitability of your plant
- ⊕ Avoiding of downtimes
- ⊕ Weather-independent installation
- ⊕ Optimum price performance ratio
- ⊕ Absolute adhesion and impermeability tested and confirmed by the Fraunhofer institute

CONSTRUCTION

- ① WireTarp pre-confected wall covering
- ② Wall / ceiling welding seam
- ③ Ceiling covering
- ④ Concrete ceiling
- ⑤ Recess and service openings
- ⑥ Central column protection foil
- ⑦ Central column with head
- ⑧ Concrete baseplate

MATERIAL

- » PP-loop fabric (on concrete side)
- » Full-surface PP-coating (shuttering side)
- » Impermeable to gas and liquids
- » Ensures permanent resistance to aggressive materials



Concrete protection WireTarp for concrete reservoir



Concrete reservoir with reinforced concrete ceiling

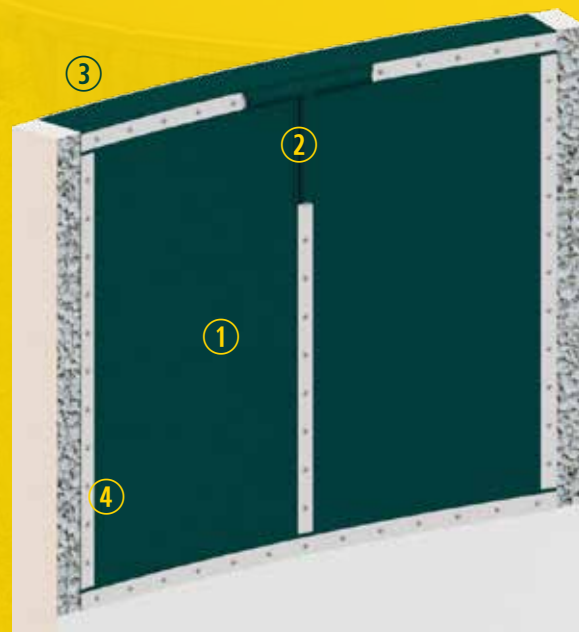
Concrete Refurbishment



SaniTarp was developed as a cost effective and efficient way to subsequently protect the concrete walls of biogas fermenters or secondary fermentation tanks requiring renovation.



- ⊕ Reliable protection of the concrete surfaces against corrosion
- ⊕ Weather-independent refurbishment
- ⊕ Short refurbishment times
- ⊕ Easy and fast installation
- ⊕ Mechanical stainless steel fixing
- ⊕ Optimum price performance ratio



CONSTRUCTION

- ① SaniTarp concrete repair foil
- ② Weld over mounting
- ③ Crown protection
- ④ Stainless steel (1.4571) fixings

MATERIAL

- » PP-coating: gas-tight and media resistant
- » Fabric base made of PP: covers all mechanical requirements

External Gas Storage

AGROTEL gas storage tanks are suitable for closed rooms and covered areas and can be manufactured in various geometric shapes. The gas tanks are offered with volumes from 5 up to 5000m³.

Special membrane (plastic coated polyester fabric)

- » High tear resistance, very good welding seam adhesion flame retardant B1 according to DIN 4102 (B1, S2, d0) and EN 13501-1
- » UV-resistant, weatherproof, gas-resistant and anti-mildew-treated
- » Standard base weight 830 g / m²



Liquid Tank

AGROTEL liquid tanks are used for storage of agricultural waste water, extinguishing water or liquid fertilizer (AHL). The tanks are self-supporting and can be put into operation on a level surface immediately. The containers are filled laterally or from above. Removal takes place either by pump on the broad side of the container or by gravity on the underside. Manufactured sizes from 10 to 1000 m³.

Special membrane (plastic coated polyester fabric)

- » High tear resistance, very good welding seam adhesion
- » Flame-retardant B1 accord. to DIN41021 (B1,s2,d0) and EN13501-1
- » UV-resistant, weatherproof, gas-resistant and anti-mildew treated
- » Surface weight 900 g/m² up to 1500 g/m²
- » Resistant to the intended liquids





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