

Domed Floating Roof Tank

001-DFRT V2203



Maxwell Continental Tank Serv Engineering has combined experiences since 1998 with their Research & Development, through which it has engineered and produced increasingly innovative products for covering round storage tanks and square basins.

Maxwell covers are innovative free span structures custom designed for you within the requirements of international and local regulations, like EN-14015, API 650, GOST and other applicable law or regulations. Finding cost-effective ways to address the increasing burden of environmental regulation is a top priority for petroleum, chemical and liquid storage tank operators everywhere. Ideal for both new construction and renovation projects.

AGDR - Aluminium Geodesic Dome Roof

Maxwell Aluminium Geodesic Dome Roof covers are innovative clear-span structures custom designed to each individual tank.

Our dome roofs are featured for:

- oil & gas above ground storage tanks (AST)
- liquid water storage tanks
- dry bulk storage tanks



AFCO - Aluminium Flat Cover

Maxwell Aluminium Flat Covers for treatment plants are mainly used for odour control.

Our flat covers are featured for:

- waste water treatment plants
- oil separating basins



Aluminium Geodesic Dome Roofs

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Finding cost-effective ways to address the increasing burden of environmental regulation is a top priority for petroleum and chemical storage tank facility operators everywhere.

Maxwell Aluminium Geodesic Dome Roofs are designed to help control hazardous vapour emissions while in the same time preventing water and snow from entering your storage tank. By doing so, our aluminium domed roofs improve the environment, protect stored products and reduce the remediation costs associated with for example treating contaminated "bottom water".

When looking to the aluminium as used in our geodesic domes, where the aluminium is more specifically an aluminium alloy, it is one of the world's most commonly used construction metals. Summarised the lightweight combined with strength and its excellent corrosion resistance, the main reasons for being used in the design of our aluminium geodesic dome roofs.

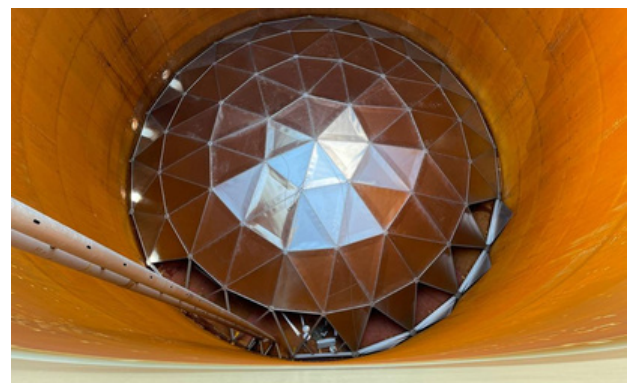
Our Maxwell Aluminium Geodesic Dome Roofs are ideal for both new construction and renovation projects and are used for coverage of any product.

Being corrosion resistant, lightweight, durable and thus economically applicable for any above ground storage tank (AST) an aluminium dome roof is the ideal solution.

The aluminium domes can be shipped anywhere in the world and erected quickly, usually with no interruption of tank operation.

Assembly wise any of our aluminium dome roofs can be assembled, either inside or outside the tank and lifted into its final position with a grip hoist pulley block system or a by a mobile crane. Next to this it can be put in place by an external floating roof flotation lift.

When using the "jacking method" to erect the tank, the Maxwell Aluminium Geodesic Dome Roof is fitted on the top course and jacked up connected to and together with the shell.



Aluminium Geodesic Dome Roofs

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Covered tanks eliminate rainwater entry, where rainwater:

- can sink floating roofs if roofs are not drained or if drain plugs are not functional
- add water at tank bottoms which may increase disposal/treatment costs or cause product contamination, though which bottom corrosion will accelerate



Also snow and freezing can cause floating-roof mechanical failures or sinking. Covered tanks eliminates roof drain, where roof drains:

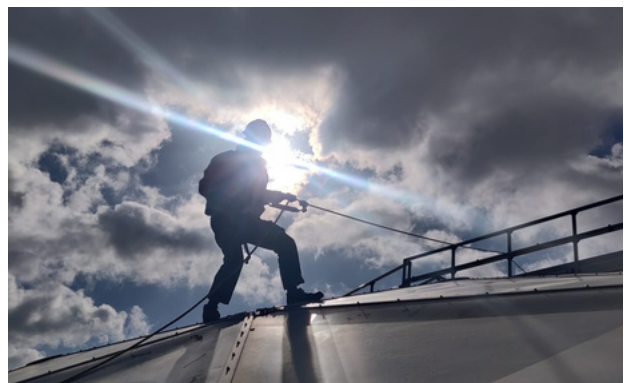
- use more vertical space to allow sufficient hydraulic head
- are a potential for serious external spills if the drain is not properly operated
- increase the potential for liquid on roof if the roof drain is damaged



When thinking about accessories of any kind...

All essential equipment that is usually seen on a conventional steel dome or cone roof tank can be fitted on our Maxwell Aluminium Geodesic Dome Roof, this without any significant modification to the equipment of the roof.

Our aluminium dome roofs can be equipped with prefab walkways and platforms, this allow operators for safe access to take their product samples or do visual inspections of the dome roof accessories.



Aluminium Geodesic Dome Roofs

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Hatch Covered Sample Point



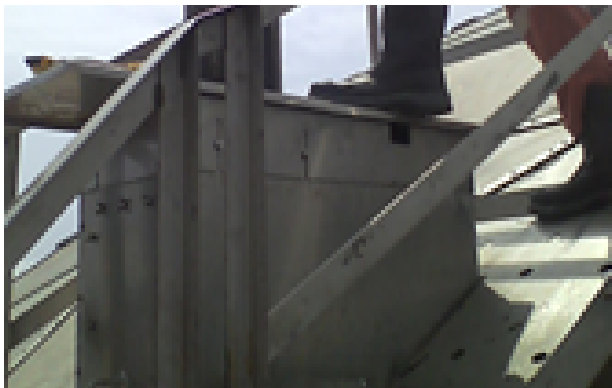
OCU Ventilation Piping (Pressure + Relieve)



Flashing Inspection Hatch



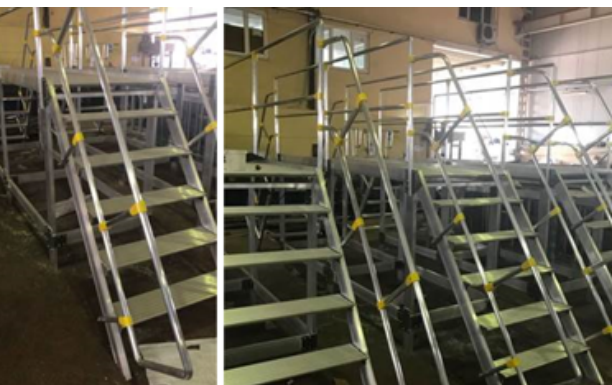
Foam Poarer Flashing Entry



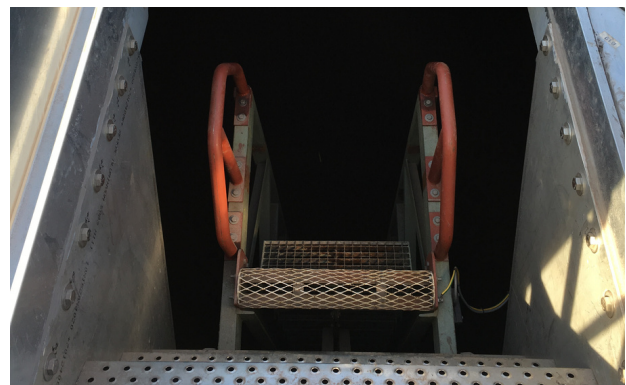
Aluminium Periphery Platform



Conduit Piping (power supply)



Aluminium Walk-Through Staircase



Rolling Ladder Access

Aluminium Geodesic Dome Roofs

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Tank Shell Stiffner



Guide Pole Cover Box



Vertical Ladder



Dome Sprinkler



Elevated Manway Hatch



Center Platform



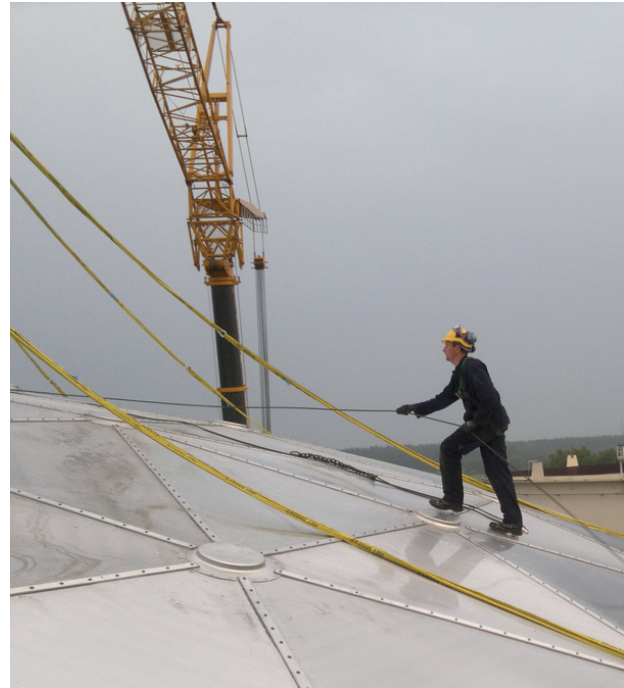
Corrugated Alu Sheeted Side Walls - Outside



Corrugated Alu Sheeted Side Walls - Inside

Alu Geodesic Dome Roofs

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DESIGN FEATURES

- Tight umbrella to prevent direct UV ingress and so generating a contribution to VOC emissions.
- Preventing ingress of water, snow and debris, through which OPEX maintenance costs are reduced significantly.
- Looking to CAPEX compared to steel roofs; Typically steel roofs have a lower initial cost, but upon examining the true total costs of ownership, when looking to coating costs or if life span is considered then aluminium often gives a better total cost of ownership.

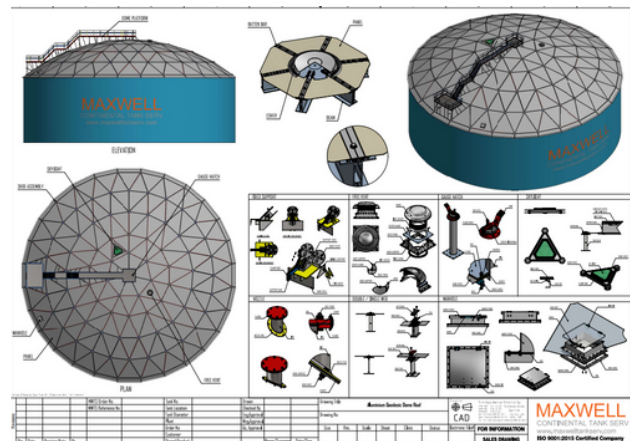
TECHNICAL

Covered tanks requires only a primary seal*. Although EPA, EN and some local districts have stricter requirements, where EFRT tanks requires primary plus secondary seal, which requires more vertical spacing to accommodate secondary seal.

Fully compliant with the requirements of EN-14015, API 650, GOST and other applicable law or regulation.

MAXWELL DESIGN

- Tailor made solution.
- Our panels are attached continuously along their edges to the structural members by clamp bars engaging the panels in an interlocking joint.
- All essential equipment that is usually seen on a conventional steel dome or cone roof tank can be fitted on the Maxwell Aluminium Geodesic Dome Roof, this without any significant modification to the equipment of the roof.



Aluminium Flat Cover

001-DFRT-AFCO V2203



Wastewater consists often pathogens, nutrients, solids, chemicals and water. During the process of recycling, regeneration and cleaning of waste water, strong unpleasant odours can arise.

Next the sight of unpleasant wastewater lagoons, process tanks and large facilities in the middle of growing neighbourhoods are in most regions unwelcome attributes.

Maxwell offers custom designed sustainable flat covers that can be easily installed and removed when needed. Our multiple aluminium cover are always specifically designed for your facility to provide excellent odour control, environmental protection and safety for your operations personnel.

The first and most important step in the waste water treatment of a refinery is the oil separation.

The oil separator uses the differences in the specific gravity of oil and water to filter out most of the free oil in the mixture. The lighter oils will remain at the top of the liquid and can be skimmed off, while the heavier oil will settle to the bottom.

With an aluminium design (although the flat covers are more expensive for the cover system itself) the odour control system is much easier to handle and at the end much cheaper to control, since less air is to be treated.

Choosing the correct type of aluminium wastewater cover it positively affects the cost and efficiency of wastewater treatment.

Due to the high grade of aluminium used, our aluminium flat covers meet and even exceed the requirements of material that can withstand severe snow load requirements and next to this also having lower friction coefficients of thermal expansion than an alternative such as fibreglass.



Aluminium Flat Cover

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DESIGN FEATURES

- Sustainable, strong, lightweight and durable aluminum is a perfect choice for sealing waste water treatment tanks or basins.
- Provides excellent odour control, through which it contributes to Environmental protection.
- Prevents from unsafe working risks, therefore Safety for operating personnel is improved significantly.
- Oil Separating or removal of free oil and grease from wastewater reduce potential equipment problems further downstream.

MAXWELL DESIGN

- Tailor made solution, where Maxwell flat covers are made of aluminium modules assembled together and most common supported on existing (concrete) structures
- Covers over sand and oil removers are most often fitted together with the use of auxiliary struts.

TECHNICAL

Flat panels are designed removable, allowing access to the plant operators. In general they are passable for maintenance and are allowing for any additional future required installation of accessories for maintenance, sampling, etc.

Fully compliant with the requirements of EN 10204-3.1, EN 485-2, EN 515, EN 573-3, EN 755-9, EN-14015, API 650, GOST and other applicable law or regulation.

