



ahead of technology



## The VACONODECK

Heavy Duty Full Contact Stainless Steel

# VACONODECK Heavy Duty SS



- **Flexibility** due to R&D, Engineering, Sales Department, and Production at one place
- **Minimal Tolerances** due to CNC based production
- **5000 references** worldwide



# VACONODECK Heavy Duty SS



- **Full Contact** Internal Floating Roof for Maximum Efficiency
- **Solid Design** for heavy duty use (>20 kg/m<sup>2</sup>)
- **Stainless Steel** material for universal product compatibility

# VACONODECK Heavy Duty SS

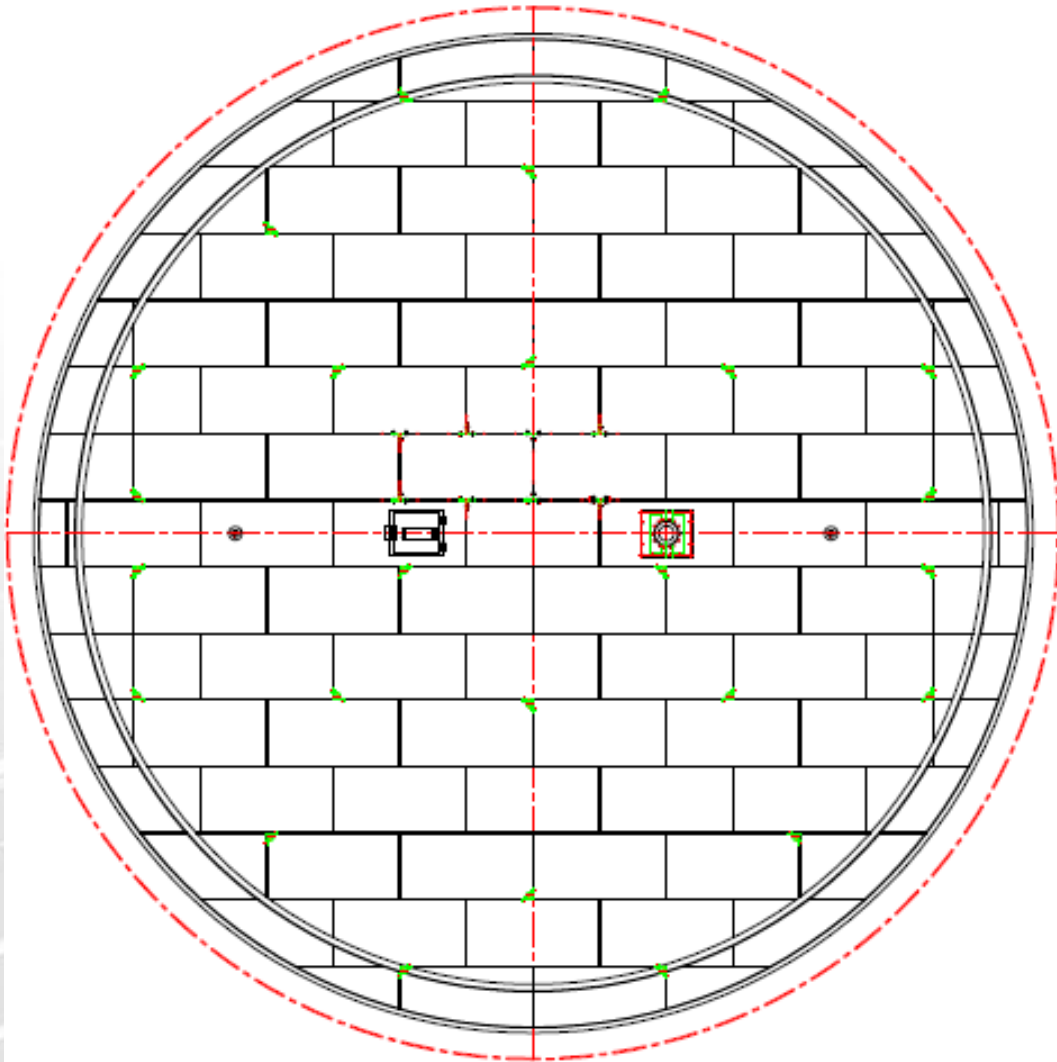
## Main Advantages vs. Conventional Steel Roof



- **Maintenance Free** due to Stainless Steel material
- **No Painting** necessary
- **Industry Standard** life expectancy
- **Easy retrofit** in existing tanks
- **No oncost** vs. carbon steel roof

# VACONODECK Heavy Duty SS

## Design and Function



- **All Diameters** >10m, smaller diameters by special request
- **Minimal Evaporation Loss** due to precise fit of individual elements
- **Fully compatible** with API 650, 11th edition, App. H
- **Easy installation** reduces Tank Down Time
- **Easy replacement of components** due to all bolted construction



# VACONODECK Heavy Duty SS

## Advantages vs. Conventional Steel Roof



- **Prefabricated Components** in Stainless Steel
- **Workshop precision** instead of Field Installation
- **Individual pressure testing** of every flotation unit in the workshop
- **No welding or trimming** during installation
- **Custom CAD design**

# VACONODECK Heavy Duty SS Design



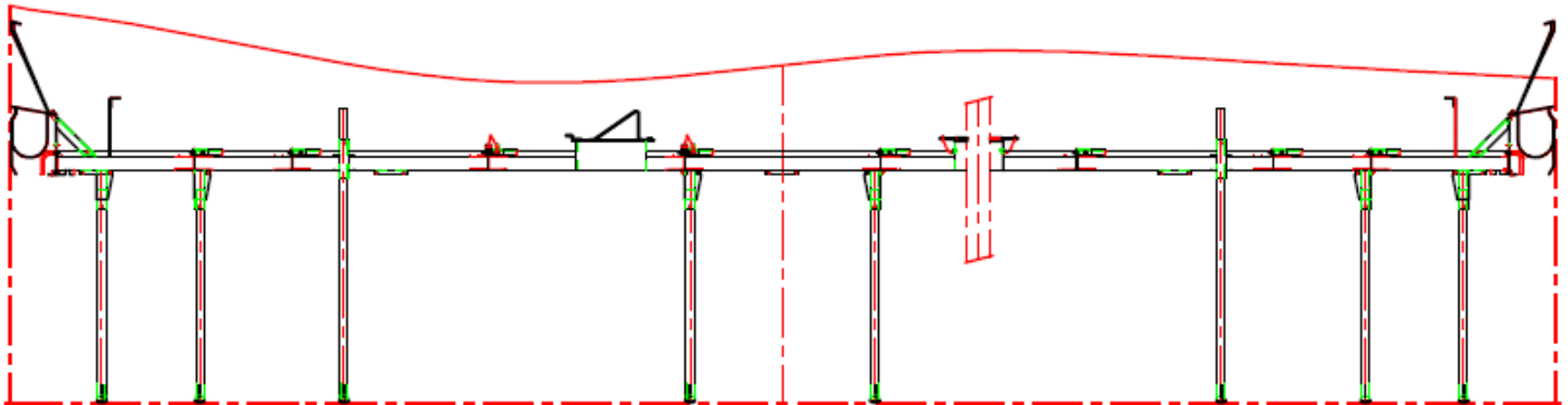
- **Highest quality standards**  
due to standardized industrial manufacturing processes
- **Ultra Low profile**  
(<100 mm) to maximize storage volume



# VACONODECK Heavy Duty SS Design and Accessories



- All usual Mechanical, Wiper and Foam Seals are compatible
- Fixed and Adjustable Legs
- Hanging System
- Negotiation Devices, Antirotation and Antistatic Systems
- Foam Dam, Manholes, Funnels, Ladder Platforms, Pressure and Vacuum Reliefs, etc.





# VACONODECK Heavy Duty SS Connection of Elements (Top Side)



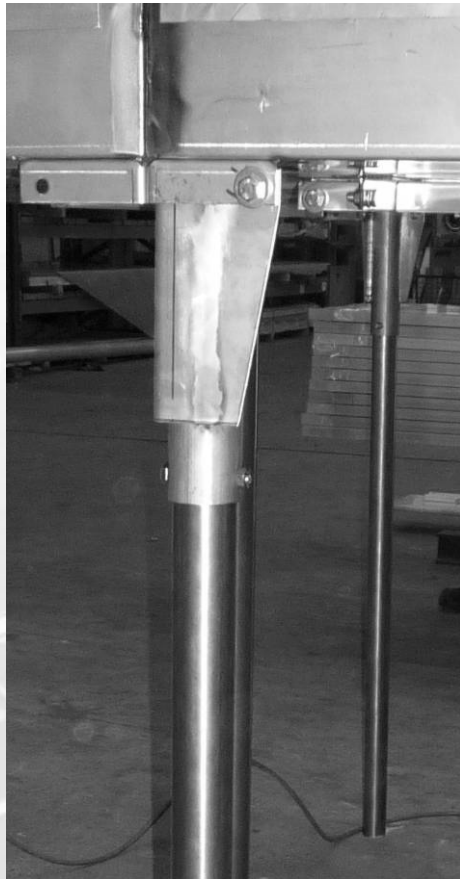
- **Gastight metal to metal connection** between flotation units
- **Pre-tensioned clamping profiles** ensure tight fit under all operating conditions
- **Low tolerance 3-way connectors** bolted to the structure for ultimate rigidity and gas tightness

# VACONODECK Heavy Duty SS Connection of Elements (Bottom)



- **Heavy duty connection** flanges on the underside of the flotation units
- **Easy Installation** due to precise prefabrication
- **High overall stiffness** against live loads from all operating conditions

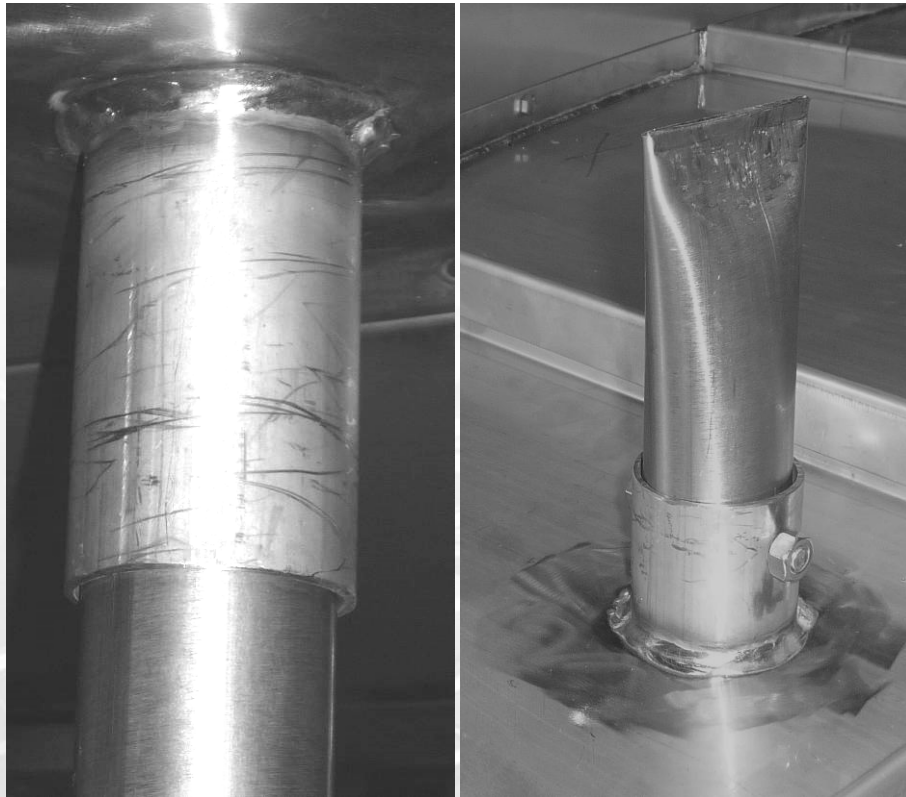
# VACONODECK Heavy Duty SS Fixed Legs



- **Maximum Stiffness**  
Fixed legs are installed in the corner connection between flotation units for maximum stiffness
- **Standard Operating Position**  
individually set

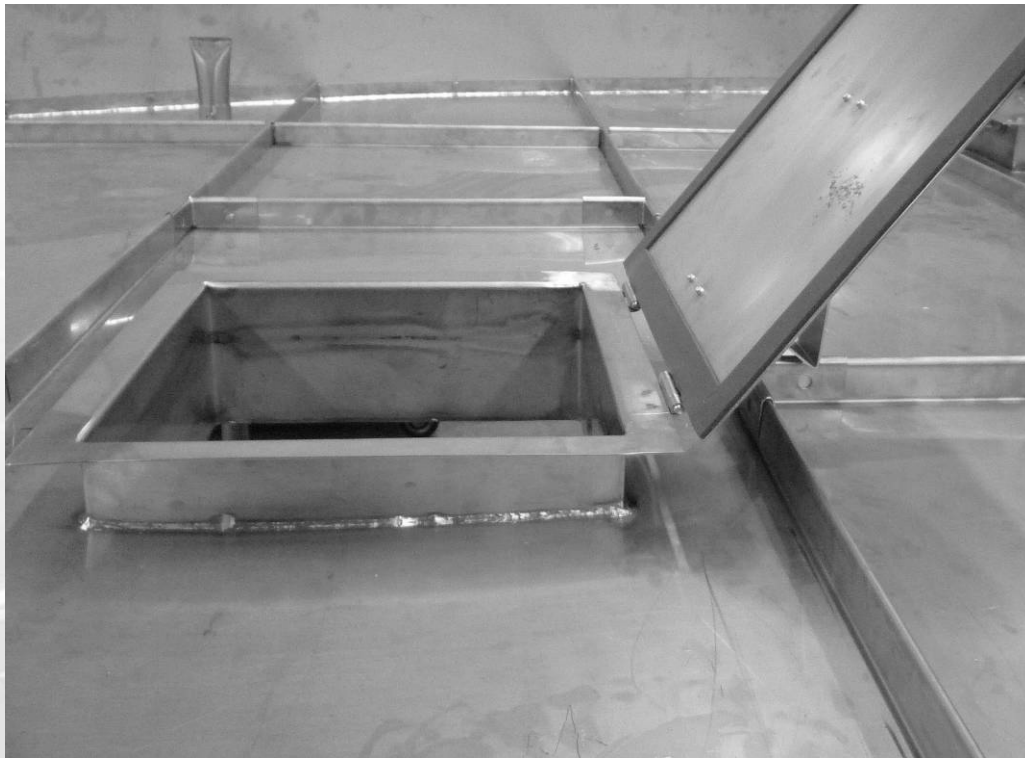


# VACONODECK Heavy Duty SS Accessories - Adjustable Legs



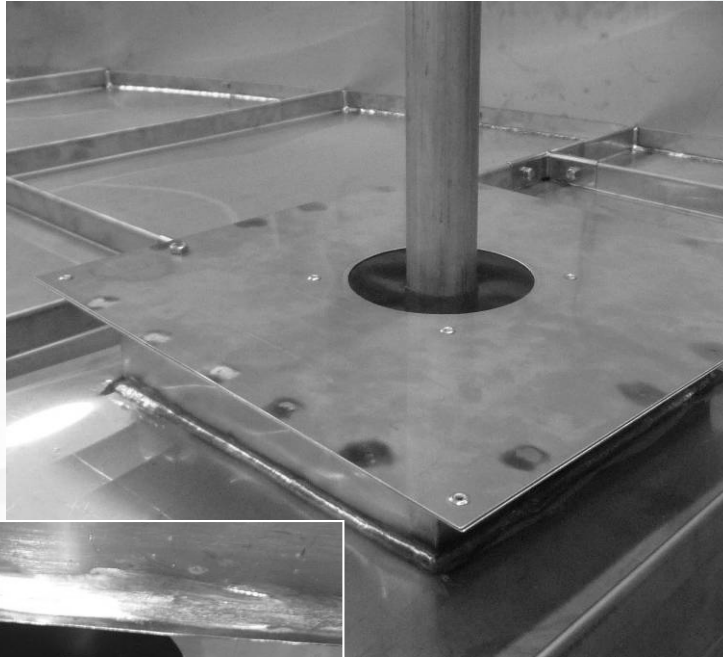
- **Maximum operational flexibility** in a wide range of pre-set levels
- **Minimal loss in Efficiency** due to prefabricated and pressure tested penetrations
- **Vapor tight leg caps**

# VACONODECK Heavy Duty SS Accessories - Manhole



- **Integrated Manways** in different sizes
- **Shaft Pressure tested in the workshop** and fully integrated in flotation element

# VACONODECK Heavy Duty SS Accessories- -Negotiation Device



- **Custom made** Negotiation devices
- **Shaft Pressure tested** in the workshop and fully integrated in flotation units





# VACONODECK Heavy Duty SS Accessories - Suspended DECK



- **Heavy duty design** for suspension of the DECK
- **Flexible Installation** under all roof types
- **Retrofit installation** possible
- **API Safety factors** can easily be met or exceeded

# VACONODECK Heavy Duty SS Seal Systems



- All Standard Sealing Systems for Internal Floating Roofs are compatible
- Mechanical Primary
- Primary Wiper Seals
- Secondary Seals



# VACONODECK Heavy Duty SS

## TÜV Certificate



Inclusive Service

TUV SUD Industrie Service GmbH - 80684 Munich - Germany

Vacono Aluminium Covers GmbH  
Friedrichstr.- 50  
D 79618 Rheinfelden

Choose certainty.  
Add value.

### Drafting of an expert's report on "Vacono Fullcontact-Deck"

#### Item for this expertise:

Internal floating roof construction for flat bottom storage tanks.

#### Requirements requested by the customer:

Grade of contact to the surface of the liquid for use on liquids with a density down to 0,7 kg/l

#### Corresponding technical documents:

- Drawing No.: 12743-01-00 system drawing fullcontact deck"stainless steel"
- Drawing No.: 62636-00 detail workshop drawing for stainless steel pontoon
- Calculation of floatability

#### Result of the survey:

Every single pontoon (1m x 0,5m x 0,07) made from 1 mm stainless steel is liquid tight welded. These pontoons are gather together by flat-sealing screw joints. The gap between these Joints is the same as the thickness of the gasket of 1mm – 3mm. The pontoons will sink into the liquid 10- 50 mm depending on the liquids density. In worst case a gap of 3 mm x 80 mm will be remaining. For this type of gap you have not to take in account a special risk to get hazardous areas, because in a 3 mm gap a formation of an explosion is not possible. The underside of each pontoon is always in fully contact with the liquid.

#### Conclusion:

The design of these internal floating roof is a full contact floating roof. The small gaps between each pontoon does not produce hazardous areas. Our **expertise** is not valid for the area of the sealing between floating roof and tank shell .

Abteilung Druckbehälteranlagen / Tankanlagen

The expert Peter Szalata

*Peter Szalata*



Supervisory Board:  
Dr.-Ing. Manfred Bayerlein (Chairman)  
Board of Management:  
Dr. Peter Langer (Spokesman)  
Dipl.-Ing. (FH) Ferdinand Nowwässer

Telefon: +49 89 5791-  
Telefax: +49 89 5791-  
www.tuv-sud.de/ifs  
TUV®

TÜV SÜD Industrie Service GmbH  
Niederfassung München  
Abteilung Druckbehälteranlagen /  
Tankanlagen  
Westendstrasse 199  
80686 Munich  
Germany

Headquarters: Munich  
Trade Register: Munich HRB 96 869

**„Conclusion:**  
The Design of this internal floating roof is a full contact roof. The small gap between each pontoon does not produce hazardous areas.“