INTERNAL FLOATING ROOFS

Sustainability
The most noteworthy challenge when storing bulk liquids is prevention of emission of VOC (Volatile Organic Compounds). CTS offers a range of products that are perfectly suited to deal with this challenge. We offer a very efficient full contact roof and a high quality pontoon type internal floating roof. We supply a complete solution from engineering to delivery and installation, which is the only way to truly get all benefits these solutions have to offer. With over 7,000 floating roofs supplied worldwide, CTS is the leader in engineering supply and installation of these solutions.

Installation
During the engineering phase our team of engineers will review all aspects of the specific tank and location the roof is fitted. We will also select the optimum seal for your application. Our engineering service includes assessment of emission requirements per API, EN, BREF IPPC, EPA and EEMUA 159 and local codes such as PGS 29 or Vlarem. CTS will also make an emission assessment and inspect the actual emission after installation of the floating roof solution to ensure full compliance.

Full contact roofs
The most efficient solution for reduction of VOC (Volatile Organic Compound) emission on storage tanks is the direct contact IFR. Full contact Internal floating roofs (IFR’s) eliminate these emissions at the source. The roof covers the majority of the surface of the stored product and therefore prevents formation of vapours.

This solution is categorised as BACT (Best Available Control Technique). CTS full contact internal floating roofs are manufactured from aluminium (other materials are available upon request). The modules are bolted together on site, so no welding is required. This emission reduction solution maximises tank capacity, while reducing emission to almost zero.
The quality of the modules is essential for the long term performance of the roof. The modules consist of a skin with a light and strong aluminium honeycomb that gives the panel its strength. All our modules are seal welded and pressure tested with helium prior to shipment. The basic design of the roof exceeds the floatation requirements of API 650 by 350%, where the metallic skin exceeds API requirements for minimum thickness by more than 180%. This is the best way to ensure the all-important structural integrity of the roof.

**Solutions**
- High quality unsinkable full contact roof
- No maintenance
- Compatible with all products stored, including 100% aromatics
- Suitable for between 6 and 120 meters diameter
- All common tank seal designs can be installed
- Available in different grades of aluminium (other materials available upon request)

**Highlights**
- Reduction of VOC emission exceeding all major relevant codes and guidelines
- No vapour on the covered area
- Suitable for rim fire protection only (often deluge systems are also not required)
- Strong and durable
- Short installation time with experienced CTS crews
- Suitable for many operational activities such as high pump speeds, pigging and mixing
- Expected service life more than 30 years
Pontoon type internal floating roofs (IFR) eliminate VOC emissions by saturating vapour and preventing new vapour to form. These skin and pontoon IFR are designed as light weight floating structure sealed with a closed skin. This design will reduce emission with more than 98%. It is categorised as BACT (Best Available Control Technique).

Proven efficiency
Our pontoon type IFR's are tested in the factory. Overall emission reduction will typically be at least 98%. Upon request details of these emission measurements can be made available.

Support and assistance
We hope this leaflet triggers more questions. Our team of experts will be happy to support and assist you in selecting the optimal solution for your specific requirement.

Solutions
- No maintenance
- Compatible with all products stored, including 100% aromatics
- Suitable for between 6 and 120 meters diameter
- All common tank seal designs can be installed
- Available in Aluminium, Hybrid and Stainless Steel

Highlights
- Reduction of VOC emission compliant to all major relevant codes and guidelines
- Designed for each specific tank
- Optimal strength against minimum cost
- Short installation time with experienced CTS crews
- Suitable for many operational activities such as high pump speeds, pigging and mixing
- Expected service life more than 30 years
The most efficient solution for reduction of VOC (Volatile Organic Compound) emission on storage tanks is the direct contact IFR. Full contact Internal floating roofs (IFR’s) eliminate these emissions at the source.

The roof covers the majority of the surface of the stored product and therefore prevents formation of vapours. This solution is categorised as BACT (Best Available Control Technique) CTS full contact internal floating roofs are manufactured from aluminium or stainless steel modules. These modules are bolted together on site, so no welding is required. This emission reduction solution maximises tank capacity, while reducing emission to almost zero. CTS offers a full solution from engineering to supply and installation, which is the only way to truly get all benefits these solutions have to offer. With over 7,000 floating roofs supplied worldwide CTS is the leader in engineering supply and installation of these solutions.

Engineering
During the engineering phase our team of engineers will review all aspects of the specific tank and the location where the roof is installed. We will also select the optimum seal for your application. Our engineering service includes assessment of emission requirements per API, EN, BREF IPPC, EPA and EEMUA 159 and local codes such as PGS 29 or Vlarem. CTS will also make an emission assessment and inspect the actual emission after installation of the floating roof solution to ensure full compliance. Completely in line with our sustainability vision we will strive to ensure optimal emission reduction during the service life of the IFR.

Support and assistance
We hope this leaflet triggers more questions. Our team of experts will be happy to support and assist you in selecting the optimal solution for your specific requirement.

Solutions
- High quality full contact roof
- No maintenance
- Compatible with all products stored, including 100% aromatics
- Suitable for between 6 and 120 meters diameter
- All common tank seal designs can be installed
- Available in Aluminium and stainless steel

Highlights
- Reduction of VOC emission exceeding all major relevant codes and guidelines
- No vapour on the covered area
- Suitable for rim fire protection only (often deluge systems are also not required)
- Designed for each specific tank
- Strong and durable
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