



INTERNAL FLOATING ROOFS (IFR'S) FOR STORAGE TANKS, PONTOON TYPE

Pontoon type internal floating roofs (IFR) eliminate VOC (Volatile organic compounds) 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).

Aluminium IFR's, standards and safety

CTS' Aluminium IFR's are designed and constructed according all relevant international standards such as API 650 and/or EN14015. Safety standards such as ATEX and NFPA. local or user requirements are also incorporated in the design process.

Engineering

Each IFR will be designed for the tank it has to be fitted in. CTS has developed engineering information sheets with all relevant engineering information. This includes the tank diameter, stored product, cleaning routines, pumping rates and pigging requirements. All IFR materials will fit through a 24" manhole.

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

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Tank seals

Different tank seals are available for internal floating roofs. Each seal has its own specific areas of service and characteristics. Used seal materials play a major role in the performance of the seal system and will be reviewed in the design process.

The most common seals are:

- Single wiper seal (economic choice)
- Double wiper seal (economic choice)
- Liquid mounted mechanical shoe plate seal (often combined with an independent rim mounted secondary seal)
- Double shoe plate seal
- Foam seal

Engineering aspects

Each IFR will be designed for the tank it has to be fitted in. CTS has developed sheets with all relevant engineering information. This includes amongst others the tank diameter, stored product, cleaning routines, pumping rates and pigging requirements. All IFR materials will fit through a 24" manhole.

Proven efficiency

Our pontoon type IFR's are tested and monitored. Overall emission reductions will typically be at least 98%. Upon request details of these emission measurements can be made available.

Replacing corroded external floating roofs

Besides being used in fixed roof tanks an internal floating roof is an excellent alternative for replacing heavily corroded external floating roofs, when combined with an aluminium dome roof. This combination will eliminate rain water ingress, drain lines and will avoid extensive repairs such as blasting and painting. The converted tank will be more efficient in emission reduction when compared to a steel external floating roof tank. The gains go well beyond reducing only maintenance costs and out of service time!

Support and assistance

If this datasheet triggers more questions our team of experts will be always available to support and assist you in selecting the optimal solution for your specific application.



Cable suspended IFR, no legs, top and bottom view.



IFR's and domes make a great alternative for replacing a corroded steel roof.



Skin and pontoon IFR under construction, 70m diameter.



Liquid mounted shoe plate seal on skin and pontoon IFR.



Cable suspended skin and pontoon IFR, bottom view.

All our product information and specifications are drafted with care but can be subject to change. We reserve the right to change product specifications.

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