The first barrier against emission in the rim area of an external floating roof is the primary rim seal. It also serves as a safety device reducing the risk of combustible vapours in this area. The design of these primary seals is therefore very important. Our seals solutions provide an optimal combination of reliability and performance with a low total cost of ownership. We offer a full range of primary seals in all common seal design types in a wide variety of materials, including all grades of stainless steel and galvanised steel.

The foam seal is one of the most effective primary tank seals when considering emission reduction. With this sealing system the resilient foam core provides a uniform sealing force regardless of the shape of the tank shell. A hold down plate and reinforced polymer fabric provide maximum sealing pressure against the tank shell. This seal has a large contact area and is therefore a very tight seal. Primary foam seals can either be vapour mounted or liquid mounted.

The liquid mounted foam seal completely avoids vapour formation, but the direct contact between the liquid and the seal envelope however makes the requirements for the material much more demanding. When executed in vapour mounted variation the foam seal is not in direct contact with the product, which reduces these requirements and makes the seal move maintenance fire.

Our CTS 7 foam seal can be designed with different foam core materials and shapes to tailor the seal to the tank it will be fitted on.

**CTS7**

**PRIMARY FOAM SEAL**

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**Solutions**

- Liquid mounted gas tight seal type for maximum emission reduction
- Excellent vapour tightness, resulting in maximum emission reduction
- Good operability in all hydrocarbons and chemicals up to 30% aromatics
- Available as vapour mounted or liquid mounted seal design

**Highlights**

- Custom designed and manufactured for each specific tank and product service
- Short installation time with experienced supervisor or full crews
- Available in vapour mounted or liquid mounted execution
- Turn key solution: engineering, supply and installation available
- Compliant with all international (environmental) standards such as API, EN, BREF IPPC, EPA, ATEX and the specific standards such as EMUA 159, PGS 29, VLAREM, etc.
- Best available emission control technology per EPA and IPPC BREF
CTS7

Design and engineering
During the engineering phase our team of engineers will review local emission requirements, safety aspects and tank geometry to tailor the seal to each specific tank. This seal can be designed for large rim gap variations. All other important properties, such as material selection are taken into consideration for optimal performance of the seal. Proper material selection ensures a long term maintenance free service life. Seal materials have to withstand the stored product as well as the elements for longer periods of time. CTS will provide an optimum sealing solution that is suitable for dealing with these specific conditions. Completely in line with our sustainability vision all emission requirements will play a major role in the decisions we make during design.

Liquid mounted or vapour mounted
A foam seal can either be liquid mounted or vapour mounted. The seal will not trap any vapours under the seal in liquid mounted design and emissions will be reduced to an absolute minimum. The direct contact between the liquid and the seal envelope however makes the requirements for the envelope material much more demanding. A vapour mounted foam seal is not in direct contact with the stored product and therefore less vulnerable. In case of a defect seal envelope a vapour mounted seal will also not trap liquid product inside the foam elements.

Suspended seal configuration for liquid mounted foam seals
Liquid mounted foam seals are often executed suspended by using a steel construction to lower the seal in the rim/pontoon area. The advantage of suspending the liquid mounted foam seal is that the required amount of foam seal materials can be reduced.

Different foam shapes
The shape of the foam and exact geometry will vary subject to the rim gap and other seal requirements.

Materials
Not just the design of the seal is important for its performance. Correct material selection is also very important to ensure a long term adequate performance for any seal. Seal materials have to withstand the stored product, ozone, UV-exposure and rain water contact. CTS is able to give you a reliable advise on the optimal combination of materials. This ensures an economic seal design that is able to deal with the specific conditions.

Complete solution
The CTS sealing solution is complete from engineering to commissioning. We will provide a turn key solution, experienced supervision or supply drawings, installation manual and installation advice that offer the opportunity for local crews to install the seal as well without compromising safety, durability or performance.

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.

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