

ULTRA 2000[®]
ULTRA HEAVY DUTY
INTERNAL FLOATING ROOF
[MULTILOCK INTEGRAL BEAM TECHNOLOGY]



ATECO TANK TECHNOLOGIES ENGINEERING CO.LTD.
www.atecotank.com

ATECO ALUMAX ULTRA-2000

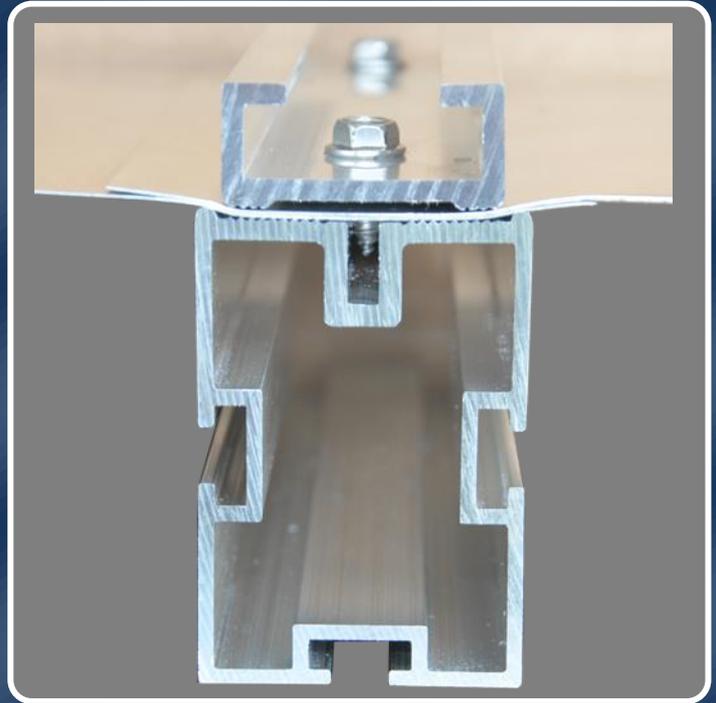
ULTRA HEAVY DUTY INTERNAL FLOATING ROOF

ATECO 's ALUMAX ULTRA2000 internal floating roof was developed in 2013 in response to market demand for a high quality, high strength aluminum skin and pontoon roof that can readily accommodate a mechanical shoe seal and not be subject to the failure modes that plague conventional lightweight designs.

The design of the **ATECO 's ALUMAX ULTRA2000** was conceived and developed under the guidelines of API 650 Appendix H.

For a ULTRA strong aluminum skin and pontoon internal floating roof that will stand the test of time even under heavy operating cycles, choose the **ATECO ALUMAX ULTRA2000®**.

MULTILOCK INTEGRAL BEAM TECHNOLOGY



Key benefits:

The **ATECO ALUMAX ULTRA2000®** is the ULTRA strongest skin and pontoon IFR on the market.

The unique structural design is unmatched.

Handles turbulence / operating loads with ease

INTEGRAL STRUT girder for excellent torsional strength and excellent bending resistance, which means minimal deflection and likely no risk of permanent deformation; bidirectional girders means no dead-load or live-load stresses on pontoons

Excellent performance under heavy operating cycles

Unique connection systems that transfers all landing/suspension loads to the girders, not to the pontoons

Heavy rim channel accommodates any seal system

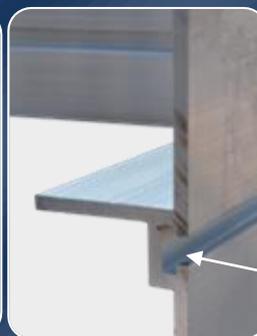
Extruded rim channel for extra strength can support a primary mechanical shoe seal and secondary seal without any modifications

Easy, fast installation

Components easily carried through manways; no welding required

Key design features

- Bidirectional INTEGRAL STRUT girder system creates exceptional strength.
- Extruded LOCK BOLTING and SCREW BOLTING slots eliminate penetrations into vapor space.
- Extruded rim channel for additional structural support.
- Extruded LOCK BOLTING slots rim channel for shoe seal
- 0.6 mm deck sheeting is 25% heavier than required by API 650.
- 10" diameter pontoons equipped with fully threaded test port for vapor testing.
- 10" SEAMLESS ULTRA STRENGTH (2.6 mm) pontoon is 100% heavier than required by API650.
- Pontoons attached to girders using saddles and straps; no landing stresses on PONTOON.
- Works with either leg-supported or suspended systems
- Leg supports connect to the girder structure instead of the pontoons allowing for repeated flexing without the potential for pontoon end cap failure.



The **ATECO's ALUMAX ULTRA2000®** rim channel is extruded, not fabricated, providing additional structural support to the roof. The rim channel is designed with the strength to support both a primary mechanical shoe and secondary seal without the need for additional Modifications. **NO NEED SITE DRILLING. GAS TIGHT SHOE SEAL INSTALLATION. LOCK BOLTED INSTALLATION FOR STRONGLY AND SAFELY SHOE SEAL.**

THE ATECO ALUMAX ULTRA 2000 DESIGN

ATECO's **ALUMAX ULTRA2000®** eliminates traditional problems with skin and pontoon IFRs like broken leg gussets, legs ripped through deck sheeting, cracks in welds of pontoon end caps, hydrocarbon vapor leakage through deck bolting and many other common AIFR problems. Here's why:

1. INTEGRAL STRUT GIRDER SYSTEM

The **ATECO's ALUMAX ULTRA2000®** deck support system allows for complete support of the roof independent of the pontoons. The INTEGRAL STRUT girders are capable of safely supporting twice the design point load required by API-650 prior to considering the additional strength provided by the completed structure. In addition, the INTEGRAL STRUT girders are designed with continuous threaded bolting slots. These bolting slots prevent vapors from escaping through the bolt holes and allow easier attachment of the leg assemblies, pontoon saddles and cross girders. They also provide more thread engagement area than conventional designs.

2. RIM CHANNEL DESIGN

The **ATECO's ALUMAX ULTRA2000®** rim channel is extruded, not fabricated, providing additional structural support to the roof. The rim channel is designed with the strength to support both a primary mechanical shoe and secondary seal without the need for additional modifications.

3. LEG SUPPORT CONNECTION

The leg supports connect to the girder structure instead of the pontoons, allowing for repeated flexing without the potential for pontoon end cap failure.

4. DECK SHEETING

Deck sheeting is 0,6 mm nominal thickness which is 25% heavier than the minimum required by standards.

5. PONTOON CONNECTION

Standard 10 inch pontoons are attached to the roof using extruded pontoon saddles and straps. Pontoons are not structural components; they do not contain gussets and are not interconnected. Additionally, each pontoon is equipped with fully threaded test port for vapor testing.

6. SUSPENSION CAPABILITIES

The **ATECO's ALUMAX ULTRA2000®** can be suspended from the tank's fixed roof, including cone roof tanks and geodesic dome roofs. This option allows AIFR height adjustments to be completed from the outside of the tank. With no leg structure under the roof, cleaning inspection and repairs to the tank bottom are simplified.

7. Alterations available for product compatibility

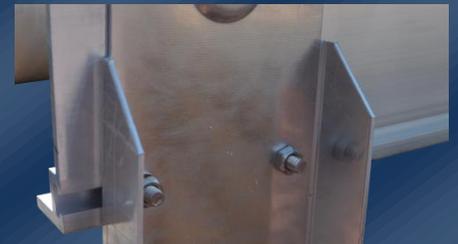
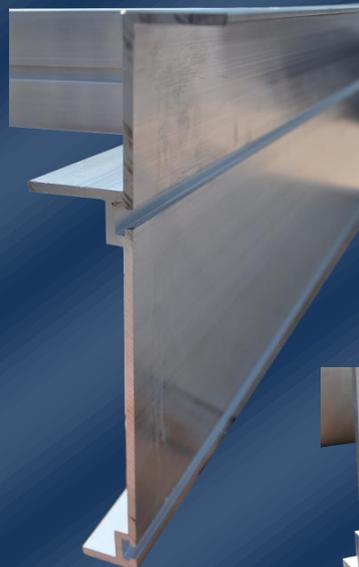
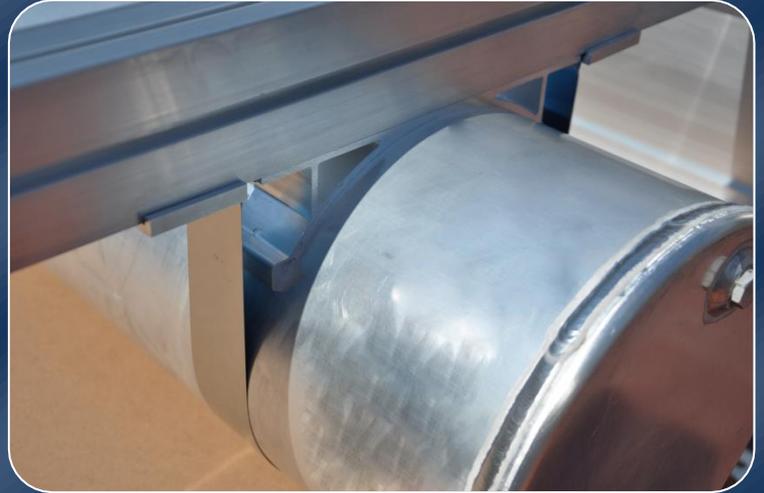
The **ATECO ALUMAX ULTRA2000®** can be altered to a hybrid stainless steel / aluminum design when the stored product is not completely compatible with aluminum alloy.

8. Supports mechanical shoe seal and secondary seal without additional modifications

The **ATECO's ALUMAX ULTRA2000®** is easily fitted with a mechanical shoe seal utilizing a laminated Teflon® vapor barrier fabric. This provides a compatible seal system to the many products and additives stored in floating roof tanks.

9. EASY, FAST INSTALLATION

The **ATECO's ALUMAX ULTRA2000®** is completely constructed without welding and can fit through a 24 inch manway, allowing for much faster installation and quicker tank turnaround.



ATECO TANK TECHNOLOGIES ENGINEERING CO.LTD.

Yazlık Yeni Mah. Başöğretmen Cad. No:46
Gölcük 41200 KOCAELI-TURKEY
Tel : +90.262.3351598 – 3351599 Fax : 90.262.3351567

www.atecotank.com info@atecotank.com