

ICS 49.100
CCS V 56

MH

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

MH/T 6115-2017

**The excellent equipment technical requirement of internal
aluminum floating roof for commercial aviation fuel tank
(English Translation)**

Issued on: December 16, 2017

Implemented on: March 1, 2018

Issued by: Civil Aviation Administration of China

Table of Contents

Foreword	
1 Scope	
2 Terms and definitions	
3 Basic requirements	
4 Components of the inner floating roof	
4.1 Skeleton	
4.2 Skin board	
4.3 Float	
4.4 Peripheral sealing device	
4.5 Support column	
4.6 Automatic ventilation valve	
4.7 Anti-rotation device	
4.8 Electrostatic conductive device	
4.9 Oil measuring hole	
4.10 Manhole	
5 Equipment files	

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the Aircraft Airworthiness Certification Department of the Civil Aviation Administration of China.

This standard is under the jurisdiction of the China Academy of Civil Aviation Science and Technology.

Drafting organization of this standard. China National Aviation Fuel Corporation.

1 Scope

This standard specifies the technical requirements for equipment integrity of the aluminum inner floating roof of civil aviation fuel storage tanks.

This standard applies to the use, inspection and maintenance of the aluminum inner floating roof of civil aviation fuel storage tanks.

2 Terms and definitions

The following terms and definitions apply to this document.

Skeleton frame

The aluminum profile is connected by bolts to form an inner floating roof frame.

Frame skin

Aluminum sheet covering the inner floating roof frame.

Pontoon

A closed cylindrical component that provides buoyancy for the inner floating roof.

Peripheral seal

An elastic device for sealing between the inner floating roof frame edge and the inner wall of the storage tank.

Supports

The supporting member when the inner floating roof is lowered to the bottom of the tank.

Automatic bleeder valve when the inner floating roof is in the supporting state to floating, it can open and close automatically.

Anti-rotation mechanism A device used to restrict the rotation of the inner floating roof.

Gauge hatch

The components on the inner floating roof are used for oil measurement and sampling.

Manhole

Installed on the surface of the inner floating roof for personnel to go up and down the floating roof.

2.10

Electrostatic conductive mechanism A device that collects static electricity on the inner floating roof is derived.

3 Basic requirements

3.1

The inner floating roof should be able to operate smoothly without obstruction during the full stroke, and should be in a horizontal floating state when lifting and stationary, with anti-rotation devices, the automatic vent valve and surrounding sealing device have no jamming phenomenon, and should not cause damage to the storage tank and accessories.

The schematic diagram of each component of the inner floating roof is shown in Figure 1 Shown.

3.2

The inner floating roof should not fall to the bottom during normal use, and the maximum floating height should not exceed the safe height of the storage tank.

3.3

When the inner floating roof is in a supporting state, the flow rate of oil entering the tank should not be greater than 1 m/s, and the flow rate out of the tank should not be greater than the maximum ventilation valve Air volume.

3.4

After the inner floating roof is fully floated, its maximum lifting speed should meet the design requirements.

3.5

All metal parts on the inner floating roof should be electrically connected to each other.

3.6

There should be no oil on the upper part of the inner floating roof, otherwise it indicates that the inner floating roof is faulty.

3.7

The allowable deviation of the radius of the inner floating roof edge plate is ± 10 mm.

3.8

The level deviation of the inner floating roof should not be greater than 10 mm (as shown in Figure 2).

3.9

The newly built and overhauled inner floating roof should be fully inspected within one year after it is put into use or when the cumulative operation reaches 60 times the full stroke (the first arrival is the inspection period should not exceed 5 years. The inspection can be carried out in conjunction with tank cleaning. The checklist can be found in Appendix A.

Note: The stroke of the inner floating roof rising from the lowest liquid level to the highest liquid level and then falling back to the lowest liquid level is the full stroke.

4.1 Skeleton

4.1.1

The bolts connecting the skeleton and the skin plate shall not be loose or missing.

4.1.2

All aluminum profiles should not have obvious deformation, cracking and damage. The straightness of the main and auxiliary beams should not be greater than 1 per mille of their length and not greater than 1 mm.

4.2 Skin board

4.2.1

The skin panel should not be damaged, twisted or wrinkled.

4.2.2

The skin board and the bead should be tightly connected, and there should be no gaps. It can be inspected by strong light, and it is qualified if it is opaque.

4.2.3

The local corrosion depth of the skin plate should not exceed 1/2 of the thickness of the skin plate.

4.3 Float

There should be no pits or perforations on the surface of the buoy, no distortion or wrinkles in the welding part of the buoy, and no oil infiltration inside the buoy, otherwise should be replaced.

4.4 Peripheral sealing device

4.4.1

The peripheral sealing device should be closely attached to the inner surface of the tank wall, and its sealing length should not be less than 90% of the circumference of the storage tank.

The maximum gap does not exceed 6 mm.

4.4.2

The sealing rubber belt should be free of damage or cracks.

4.4.3

The sealing rubber band and the edge plate of the inner floating roof should be connected tightly without loosening or peeling.

4.4.4

The sealing rubber belt should be wear-resistant and oil-resistant.