

# **ALUWIND**

## Railing Systems



**UK version**  
april 2021



## GENERAL INFORMATION

Aluminium structures fulfil service category SC1 and execution class EXC2 according to EN1090.

- Generally, the UR for all the structures is UR3.
- Coating systems according to offshore requirements, paint system agreed during project execution.
- Concept is based on similar projects that were successfully used in previous projects, e.g., Godewind, Racebank, Walney extension, Borssele Hornsea II, Greater Changhua.
- The distances between profiles and other dimensions will be adjusted to the exact dimensions of the platform.

### The design is based on the following standards:

- EN 1090-1: Requirements for conformity assessment for structural components (CE-Marking)
- EN 1090-2: Technical requirements for the execution of steel structures
- EN 1090-3: Technical requirements for the execution of aluminium structures
- EN 50308: Wind turbines. Protective measures. Requirements for design, operation and maintenance
- SO 14122 part 1 to 4: Safety of machinery Permanent means of access to machines
- DNVGL-OS-C401: Fabrication and testing of offshore structures
- EN 50308 Wind turbines. Protective measures. Requirements for design, operation and maintenance

## RAILING STRUCTURES

- Aluminium Materials: Railings - According to EN1090, alloys to be used: EN AW-5754 H111, EN AW-6060 T6, EN AW-6082 T6.
- Steel Materials: Hook-on point - According to EN1.4404 with 3.2 Certificate, Corner post - According to S355J2 with 3.1 Certificate.

### Welds and weld testing

- Welding quality to be in accordance with 10042-C.
- Welding according to DNV-C401.
- NDT: Aluminium 100% visual by operator. 100% visual, 20% PT by 3rd party.



# Aluwind Railing System

## GENERAL INFORMATION

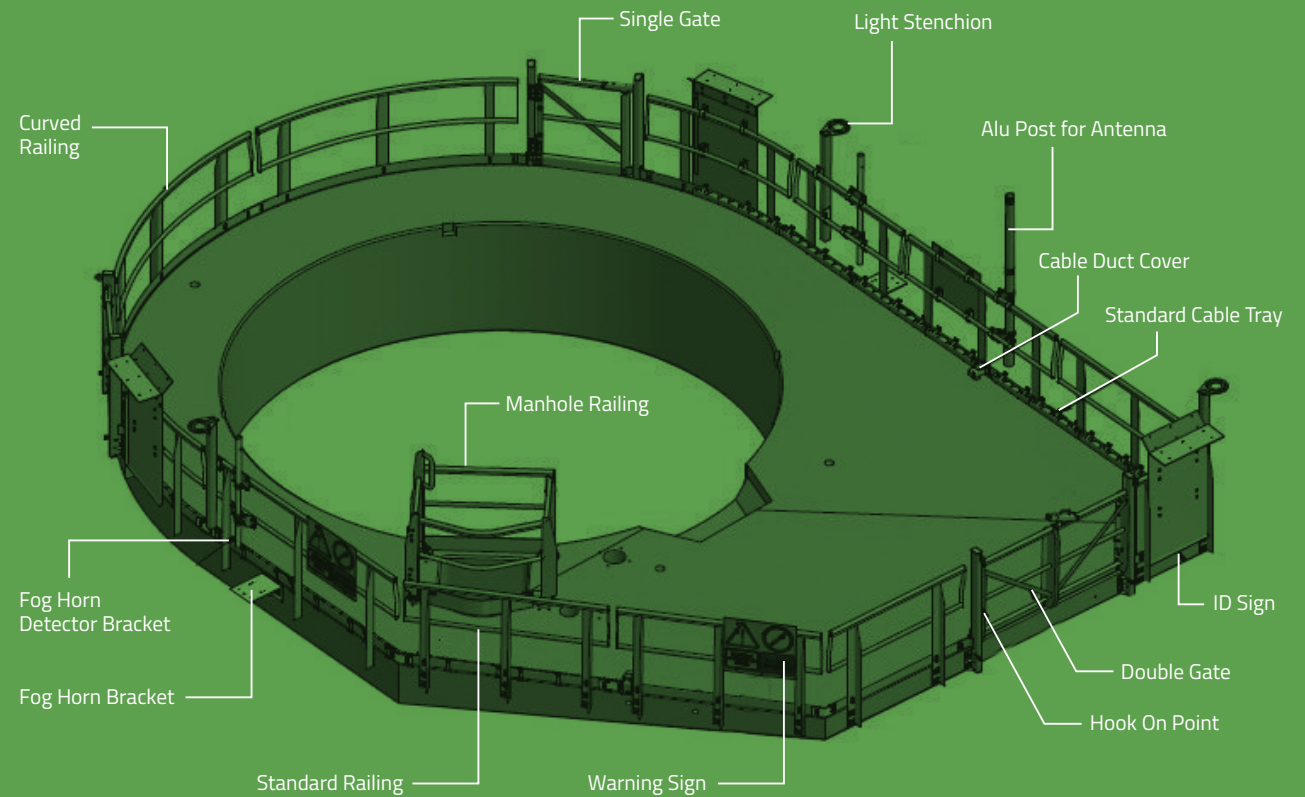
Aluwind Railing system is a proven concept, produced and tested over the past decade in the offshore wind industry.

The System was designed for a large offshore wind developer in 2010 and has been used and developed to meet offshore environment and operations demands. Since 2010, more than 800 foundations on more than 10 different projects have been equipped with the Aluwind Railing system. The design has been optimised for a supply chain in the offshore foundation segment with a focus on high quality, documentation and longevity.

The railing system is made of high-grade sea-resistant aluminium built to last 25+ years in the offshore environment. The bolting connection is designed to prevent galvanic corrosion and with grounding connection built to ensure grounding on all parts.

The railing system is designed to be implemented on main access platforms of both concrete and steel solutions. The design has room for multiple interface options without impacting cost, installation method or durability.

Each project is bespoke engineered to individual requirements, but our design is based upon the system to ensure a running supply chain setup and deep understanding of the possibilities and weak points of the products.

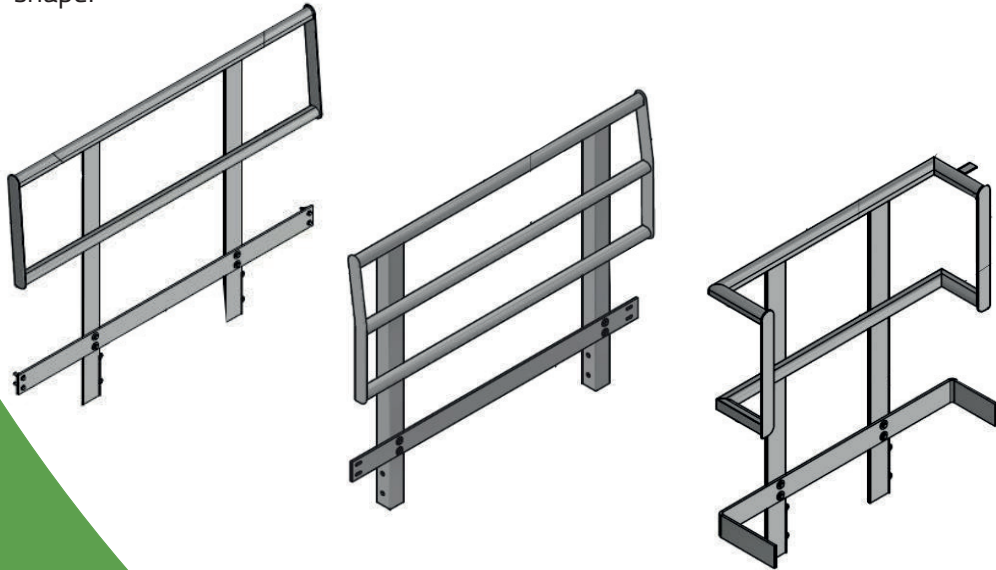


## RAILING SECTIONS

The heart of our Railing system is our different railing sections that are based upon a robust stanchion with an interface to the main access platform. The handrail and knee rail are made from a robust D-profile that ensures a comfortable grip. The D-profile is also used as a knee rail, thus minimising the risk of hitting profile corners. The railing section can be fitted with 1 or 2 knee rails, depending on location and specification.

All edges above the kickplate are rounded to minimum radius 2 to ensure that HSE regulations are met and the risk of danger to personnel is minimised.

The kickplate is attached to the stanchion using bolts to allow for adjustment of height. Adjustment can be necessary at concrete platforms as the surface is manually formed and variation may occur. Special shapes and sizes can be tailored to fit your platform shape.

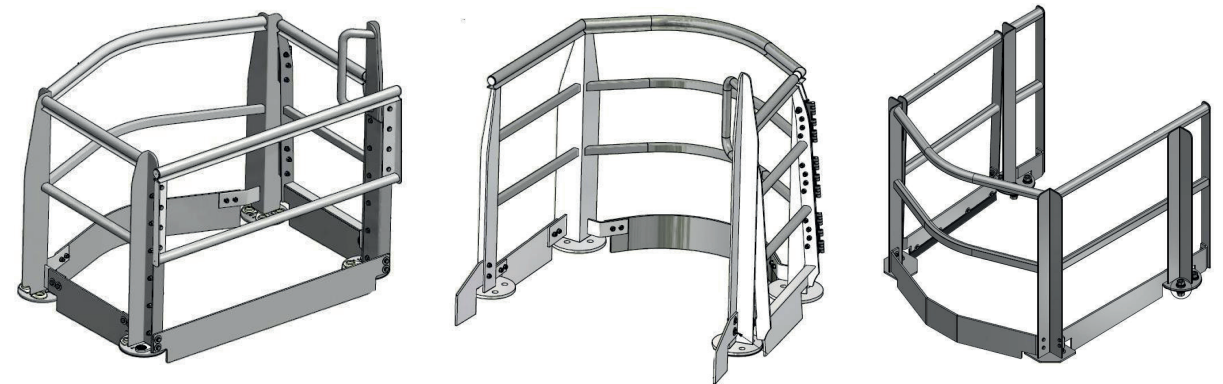


## MANHOLE RAILING

Most platforms are equipped with an access ladder from the boat landing through a manhole in the platform. The manhole is surrounded by a railing to ensure safety.

The manhole railing has multiple interfaces such as ladder, platform, tower and safety routs on the platform. Aluwind Railing Concept can be adjusted to fit your needs, from a removable section to the special shape of the platform.

The Manhole railing comes with a self-closing gate without gate lock, as entering and exiting the ladder must be as safe as possible.





## GATES SECTIONS

Over time, Aluwind has designed many solutions for gate sections as methods of accessing the main access platform have evolved over the years. The self-closing gates are attached to either a steel stanchion with the option for a hookon point or an aluminium stanchion.

Our solutions are designed with focus on user safety and offshore operation to minimise the risk of injuries and for easy replacement of parts that are subject to wear and tear. An adjustable kickplate is included to allow for uneven surfaces and a flexible kickplate part can be included to allow for surfaces that have large slopes.

The gate solution can be adjusted to a single or double gate solution to be used as a primary or secondary access point. The safety features are identical and most of the parts subject to wear and tear are reusable on both solutions to minimise the need for spare parts. Width and the need for an extra knee plate can be incorporated.

