SIDERVAL
SPECIAL PROFILES IN STEEL

Shipbuilding

Hot Extruded Stainless Profiles for Naval Hatches

Profile:
Custom structural profile
Material grade:
Stainless Steel AISI 316L
Execution:
Hot Extruded
Destination:
Italy

BACKGROUND

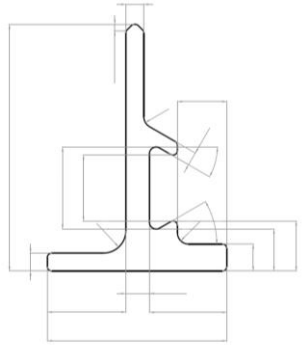
In the naval sector, structural components are exposed to highly demanding environmental conditions.

Continuous exposure to saltwater, high humidity, and aggressive atmospheres requires materials that provide excellent corrosion resistance, mechanical reliability, and long-term durability.

Ship hatch doors are critical components that must ensure structural integrity and precise operation over time, even under repeated mechanical loads.

A company specialized in technical solutions for naval applications required a custom stainless steel structural profile capable of meeting these requirements while integrating seamlessly into the hatch system design.

CHALLENGE



The project required a structural solution capable of delivering high performance in a **marine environment**, while ensuring durability, mechanical strength, and geometric precision.

- High corrosion resistance in aggressive marine environments
- Stringent structural requirements for components subjected to repeated loads and stresses
- Complex geometry not efficiently achievable with standard profiles
- Need to minimize secondary machining and overall production complexity

SOLUTION

Siderval developed a custom stainless steel profile in AISI 316L, manufactured through hot extrusion and specifically designed for naval hatch applications.

The selected alloy provides excellent resistance to corrosion in marine environments, ensuring long-term reliability even under harsh operating conditions.

Thanks to the **hot extrusion** process, the required geometry was achieved as a single, continuous structural element with optimized wall thicknesses and high dimensional accuracy.

The continuity of the profile contributes to a more robust and mechanically uniform guide, improving load distribution and enhancing the overall reliability of the hatch system.