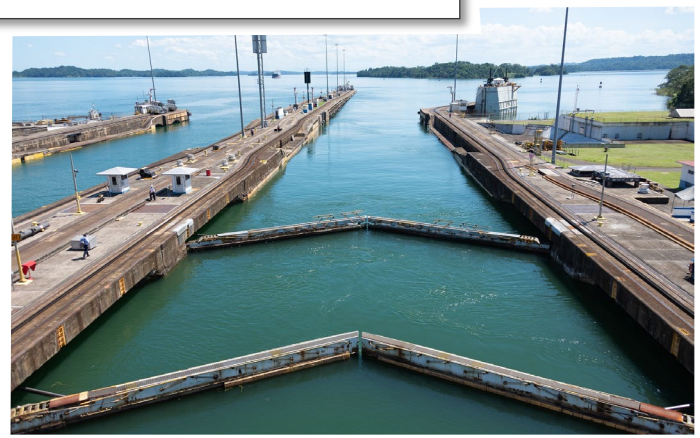
SIDERVAL
SPECIAL PROFILES IN STEEL

Special Profiles for Bulkheads in the Panama Canal

Profile: Special Profiles
Material grade: Carbon steel S235JR
Execution: Hot Extruded
Destination: Panama Canal, Panama

BACKGROUND



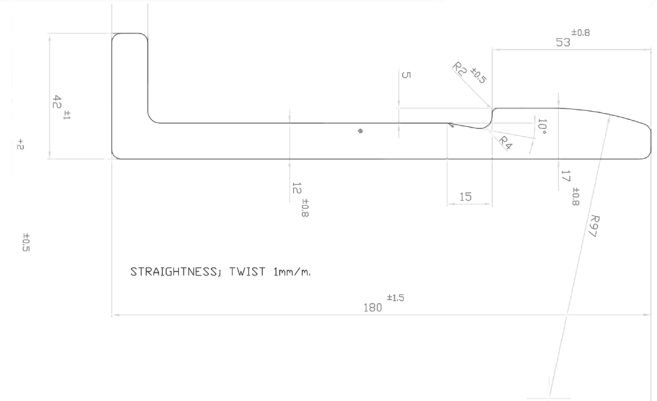
The Panama Canal is recognized as the 8th wonder of the modern world by the American Society of Civil Engineers and one of the most monumental hydraulic engineering achievements in history. It connects the Pacific Ocean with the Atlantic Ocean through a navigable canal, effectively cutting a stretch of land in two. The Panama Canal bulkheads are partition structures designed to control the flow of water within the canal's locks, allowing the water level to rise and fall and thus granting safe passage of ships through the canal. The customer contacted us looking for a suitable solution, in terms of both shape and maintenance, for these systems. Initially the client identified two plates welded together as the right profile, but due to problems with existing structures, he was forced to look for a better solution. Siderval so proposed a solution with hot extrusion technology.

CHALLENGE

By using our internal know-how, we proposed a different solution that could solve the difficulties faced by our customer, which were:•

- **Welding** over such long lengths has greatly increased costs and material waste
- **Special profile geometry** that does not interfere with other parts of the mechanism
- Bars in multiple lengths
- **Urgency** of the work, hence speed of delivery, as a prolonged closure of the strait would lead to serious delays in international maritime deliveries.

SOLUTION



For this project Siderval designed and developed a special **hot extruded** profile that provides the necessary space to avoid any interference with other parts of the structure.

The profile was supplied in **multiple lengths**, from 7850 mm to 8450 mm, with 15 different sizes based on the customer's requirements.

This enabled on one hand a **faster** processing of the profile and, on the other hand allowed for reduced scrap and thus savings.

Within a month we delivered the prototype, and then we manufactured and shipped the remaining 40 tons in less than 3 months after receiving the order.