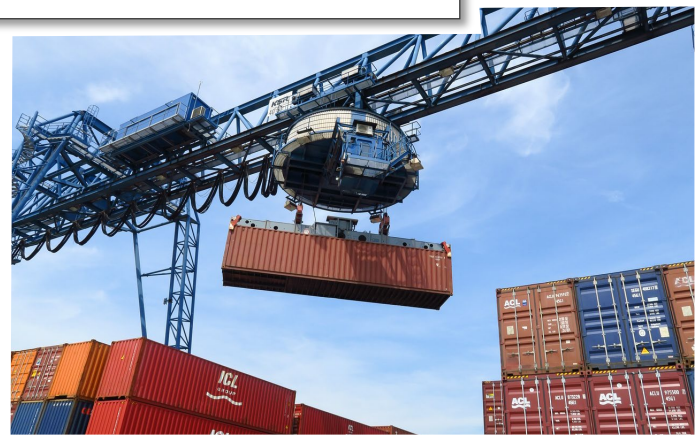
SIDERVAL
SPECIAL PROFILES IN STEEL

Hot Extruded Special Steel Profiles for Crane Spreaders

Profile:
Special Profile
Material grade:
Carbon steel S355J2
Execution:
Hot Extruded
Destination:
Sweden

BACKGROUND

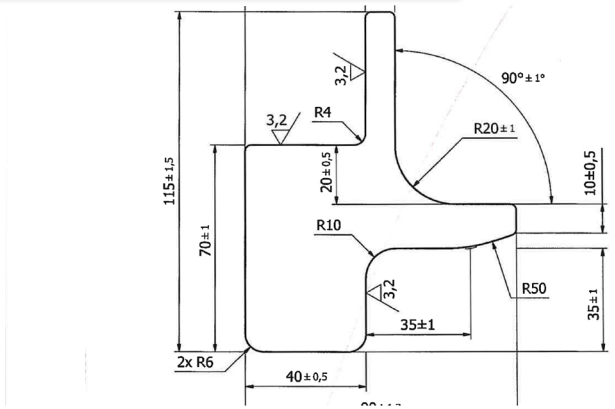


In port terminal operations, container spreaders play a crucial role in safely and efficiently handling containers during loading and unloading cycles.

A key component of the system is the carriage guide profile, which ensures precise sliding movements under heavy loads and continuous operation. In 2015, a leading manufacturer of container spreaders contacted Siderval to develop a more reliable and high-performing guide profile.

The goal was to improve the mechanical consistency of the component while optimizing production processes to reduce waste and costs, all without compromising the critical sliding performance required in these systems.

CHALLENGE



The project presented three main technical and production challenges:

- The guide profile needed a controlled surface roughness to guarantee smooth sliding over time and minimize wear.
- Precise geometry was critical to ensure correct alignment and smooth movement of the carriage, avoiding functional issues in demanding operating conditions.
- The solution had to balance high technical performance with optimized production cycles, minimizing material waste during machining and reducing overall costs while ensuring long-term durability.

SOLUTION

Together with the customer, Siderval engineered a hot-extruded steel profile capable of meeting all technical requirements.

Thanks to our extrusion process, we achieved high dimensional precision and controlled the surface roughness within Ra 6.3 – 12.5 µm, ensuring optimal performance of the sliding system. The near-net shape of the extruded profile significantly reduced material waste and post-processing, offering the customer a cost-efficient solution while enhancing the mechanical reliability of the spreader.

This optimized profile improved the consistency and durability of the system, minimized component variability, and helped streamline maintenance operations over the product lifecycle.