SIDERVAL
SPECIAL PROFILES IN STEEL

Mech. Engineering

High-Performance Extruded Profiles for Drilling Machines

Profile:
Finned tube
Material grade:
Carbon steel S275J2
Execution:
Hot Extruded
Destination:
Worldwide

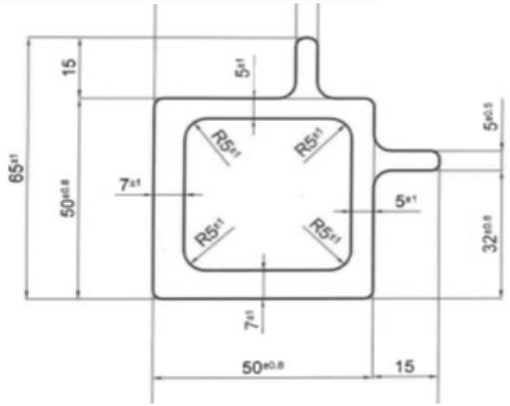
BACKGROUND

The client, a leading manufacturer of drilling machines for foundations, geotechnics, geothermal drilling and mining exploration, produces approximately 400 machines annually.

Operating under extreme conditions, these machines require structural components with exceptional strength and water resistance to ensure durability. Currently, the frame design incorporates tubes with welded fins, which present risks such as water infiltration and potential structural degradation. To enhance durability and minimize maintenance, the client is seeking to eliminate the use of welded fins.

They are looking for a partner capable of providing custom steel profiles that adhere to industry standards for quality, performance, and reliability, while also optimizing production processes and reducing maintenance requirements.

CHALLENGE



The customer required extruded carbon steel profiles (Fe430D / S275J2) with:

- Centered bore for balanced assembly on different machines.
- Customized lengths of 7330 mm and 7100 mm to fit various machine sizes.
- Certification EN 1.0204/3.1 for complete traceability and quality assurance.
- Weld-free fins to prevent water infiltration and enhance structural strength.

Reducing machining costs and maintaining precise dimensional tolerances were also critical requirements.

SOLUTION

Siderval provided a custom solution using hot extrusion to create profiles with integrated fins, eliminating welds and reducing water infiltration risk. Using S275J2 carbon steel, we ensured the profiles met the client's standards for strength and durability. The extrusion process achieved a centered bore with precise tolerances, enabling easy, balanced assembly across different machine types. This approach also minimized material waste and machining costs, thanks to near-net shape profiles requiring minimal finishing.

Our solution not only met all technical specifications but improved the structural integrity and lifespan of the frame.

We are now exploring additional custom profiles and components to further support the client's drilling applications.