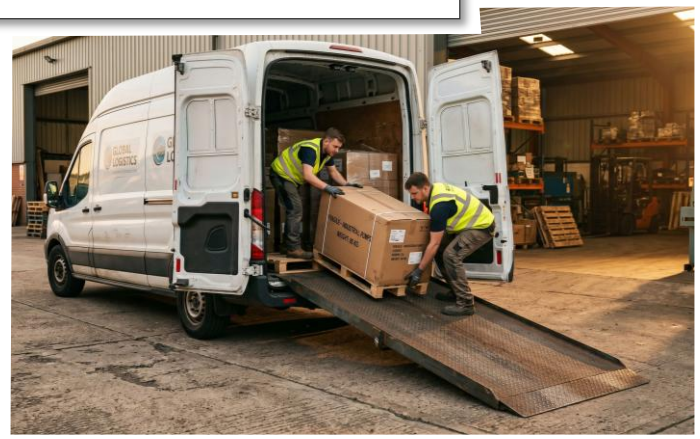
SIDERVAL
SPECIAL PROFILES IN STEEL

Automotive

Hot-Extruded Steel Hinge Profile for Commercial Vans

Profile:
Special Profiles
Material grade:
Carbon steel S235JR
Execution:
Hot Extruded
Destination:
Worldwide

BACKGROUND

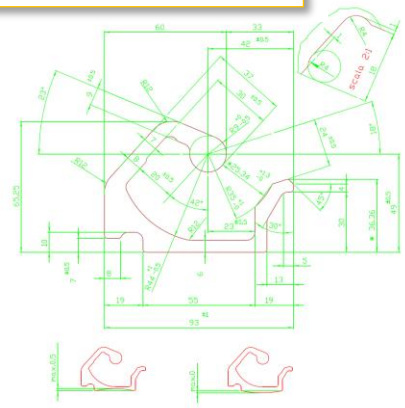


Siderval has long-standing experience supplying hot-extruded steel profiles to the commercial vehicle industry.

Components of this kind must meet strict functional requirements, as they are integrated into mechanical assemblies where dimensional consistency directly affects the safety and usability of the final product.

In this specific case, the customer required a carbon steel hinge profile for the rear doors of commercial vans, a component that must allow smooth, reliable movement across the full length of the bar, and bear significant structural loads during operation.

CHALLENGE



Manufacturing this hinge profile in hot-extruded carbon steel involved a series of technical and production challenges, addressed with tailored solutions.

- Maintaining tighter tolerances than those typically achievable in hot extrusion, with particular attention to straightness and concavity/convexity along the entire bar length
- Defining a profile geometry and wall thicknesses that guarantee both smooth door movement and the structural resistance required to bear significant loads
- Achieving the required dimensional consistency through cold stretching and straightening, verified with gauges and precision measuring instruments

SOLUTION

Through hot extrusion followed by cold stretching and straightening, Siderval produced a highly complex profile, the result of 15 drawing revisions developed in close collaboration with the customer's technical department, including an on-site visit to their facility in Germany.

Once opened, the rear doors act as loading ramps, bearing the weight of heavy goods and the operators handling them.

The hinge is therefore a safety-critical component where dimensional precision directly impacts the reliability of the entire assembly.

The outcome is an excellent combination of geometry, functionality, strength, and safety, a precision-engineered profile in S235 carbon steel, ready for installation.