SIDERVAL
SPECIAL PROFILES IN STEEL

Mech. Engineering & Machinery

Hinge Profile for Industrial Door Manufacturing

Profile:
Custom profile
Material grade:
Stainless Steel 304
Execution:
Hot Extruded
Destination:
Italy

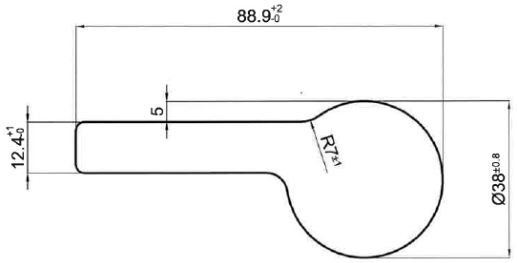
BACKGROUND

An Italian precision engineering workshop specialising in the production of **industrial doors** required a structural hinge component in AISI 304L.

The profile integrates a flat web with a cylindrical head in a single cross-section, a geometry **not available in standard catalogue** sections and traditionally obtained through time-consuming machining from flat bar.

The customer needed consistent **dimensional accuracy** along the full bar length, a corrosion-resistant finish, and a supply format ready for direct use in assembly without further machining operations on site.

CHALLENGE



Replacing a machined flat bar stock approach with a near-net-shape extruded section, ready to use:

- Significant **material waste** when machining the circular head geometry out of flat bar stock
- Extended machining time per component, adding labour cost and driving up the overall unit cost
- Width and diameter tolerances to be maintained **within ±0.5** mm across all critical cross-sectional features
- Profile to be delivered pickled in **6-metre bar lengths**, with no downstream operations required before assembly

SOLUTION

Siderval supplied the hinge profile as a hot extruded **special section in AISI 304L**, produced to the client's proprietary drawing.

Key controlled dimensions: web width 88.9 mm (+2/0 mm), thickness 12.4 mm (+1/0 mm), head diameter Ø38 mm (±0.8 mm), fillet R7.4 mm.

Delivered pickled in 6-metre bar lengths, the customer cuts to working length on site and proceeds directly to assembly, no additional surface treatment or machining required.

Following sampling approval, the customer transitioned to series supply.