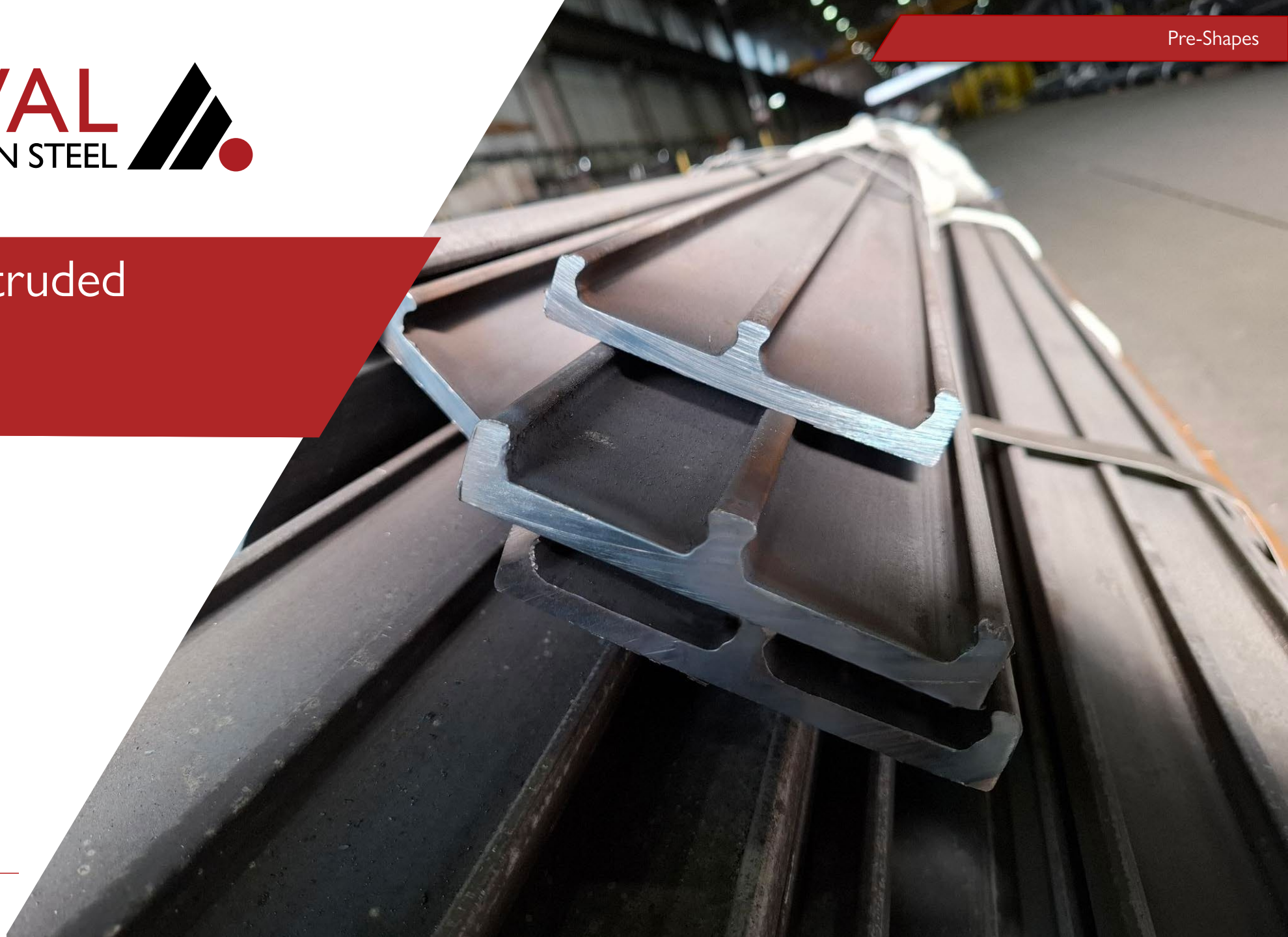
SIDERVAL
SPECIAL PROFILES IN STEEL

Special Hot Extruded Linear Guides Profiles

Profile:
Special E Profiles
Material grade:
Carbon steel C45
Execution:
Hot Extruded
Destination:
Worldwide



BACKGROUND

Linear guides for drawers and sliding systems are usually produced by cold drawing. However, when starting with a laminated material, the process requires multiple drawing steps and high production volumes, which are difficult to manage in an industry where orders are often limited to a **few bars**, making traditional methods less efficient and costly.

The customer came to us looking for a more efficient solution for the production of its linear guides; the design flexibility they were looking for and hot extrusion proved to be the **ideal choice**, offering greater design flexibility, the ability to create complex shapes with tight tolerances, and the ability to produce smaller batches without compromising **quality**, performance, and reliability.

CHALLENGE

For this order, the customer set strict requirements, demanding a precise and functional solution. Complex geometry, **tight tolerances**, and low production volumes made the project particularly challenging:

- The need for very tight dimensional tolerances of **±0.5** mm to ensure smooth and precise sliding.
- Tailor-made shape in carbon steel C45
- Low quantities from 500 kg up to 2000 kg
- **Various sizes** needed for telescopic guides, which must extend and retract efficiently.

SOLUTION

To achieve this complex geometry and tight tolerances without production constraints, **hot extrusion** is the perfect solution to meet the precision and functionality requirements of the telescopic linear guides.

We supplied this special profiles meeting the stringent tolerances required of ±0.5 mm which ensuring seamless and precise movement even in batches of 500kg. After the first order, we began an ongoing **collaboration** with the customer that resulted in the production of profiles of the same geometry in different sizes in both C45 carbon steel and 315L stainless steel and other alloys.

This approach ensures **flexible solutions**, high performance, and more efficient batch management.