SPECIAL PROFILES IN STEEL

HOT EXTRUDED

ONE STOP SOLUTION PROVIDER

RELIABILITY

+

SUSTAINABILITY

+

INNOVATION

+

INTEGRITY

=

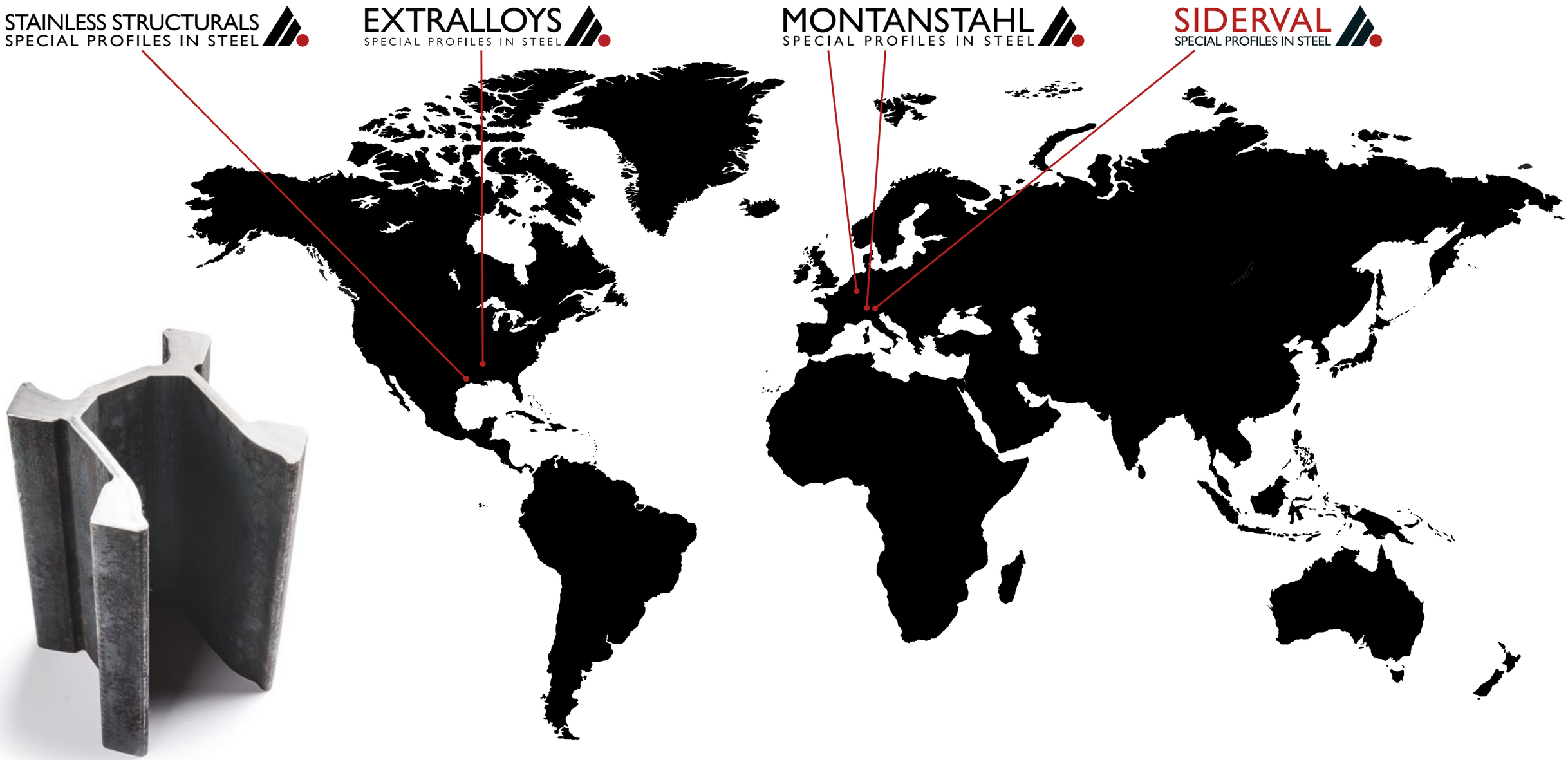
EXCELLENCE

THE NETWORK

With a distinguished history in avant-garde technology and science within the steel and metalworking sector, the MONTANSTAHL network of companies spans the globe, supplying customers internationally. These companies collectively harness five major production methods: hot extrusion, hot rolling, laser welding, cold drawing, and cold rolling. Thanks to this diverse array of metalworking capabilities, coupled with strong synergies among the companies, MONTANSTAHL is able to deliver highly customized and complex profiles designed to meet specific client needs.

HOT EXTRUSION

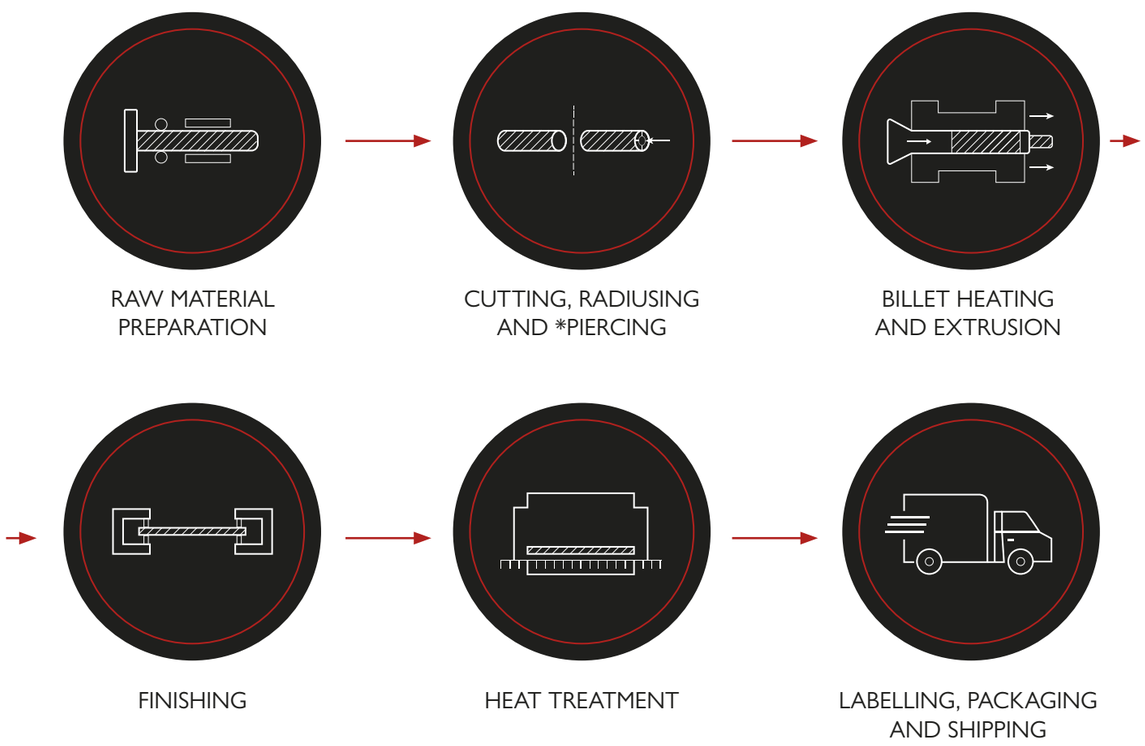
Three companies of the MONTANSTAHL network, **Siderval S.p.A.** in Italy, **Montanstahl GmbH** in Germany and Extralloys in USA, are highly specialized in the hot extrusion technology for the production of solid or hollow steel profiles. These manufacturing plants are able to process a **wide range of steel and alloys** (most carbon steel grades, stainless steel, superalloys and titanium) and provide solutions in **complex shapes**, based on customers drawings for various applications across different sectors (e.g. aerospace, agriculture, architecture & civil construction, material handling, mechanical engineering, power generation, railways and automotive).



HOT EXTRUSION TECHNOLOGY

WE ARE EQUIPPED
WITH SPECIALIZED MACHINERY WHICH,
COMBINED WITH THE EXPERIENCE OF OUR
TECHNICAL STAFF, ENSURE A HIGH QUALITY
MANUFACTURING PROCESS ACROSS A WIDE
RANGE OF PRODUCTS.

The **hot extrusion** technology can be used to produce **profiled bars with complex geometries** in small or large volumes and in alloys that are hard to deform like steel and titanium. During hot extrusion, a pre-heated billet is placed in a container and pushed through an open special die that gives the desired cross section to the finished bar. The hot extrusion process can be employed to manufacture both **seamless solid or hollow profiled bars.** The horizontal hydraulic presses enable the production of customized steel profiles inscribed in a diameter up to 432 mm, a weight up to 744 kg/m and a length up to 27.432 meters. Hot extrusion is a multi-purpose and **flexible manufacturing** procedure with low tooling costs and the possibility to produce a small batch for prototyping, even a single bar.



*Only for hollow profiles.

QUICK FACTS

+ PROTOTYPING POSSIBLE

+ FROM 1.5 TO 744 KG/M

+ LOW TOOLING COST

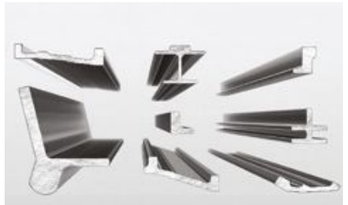
+ VERY HIGH DESIGN FLEXIBILITY

+ SEAMLESS SOLID AND HOLLOW PROFILES

+ SMALL PRODUCTION VOLUME POSSIBLE

APPLICATION FIELDS

MEETING THE TECHNICAL AND CONSTRUCTION REQUIREMENTS OF EVERY INDUSTRIAL SECTOR IS OUR PRIMARY GOAL

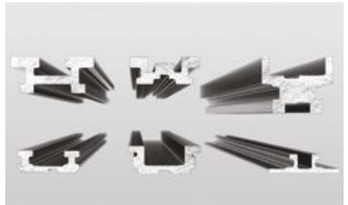


» AEROSPACE

Special profiles in titanium and a wide range of steel alloys for jet engine rings, seat tracks and structural parts.

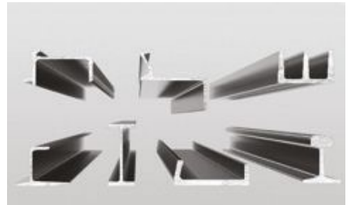
» FORKLIFT TRUCKS ATTACHMENTS

Special profiles for forklift masts; sideshifters and fork positioners in forklift attachments.



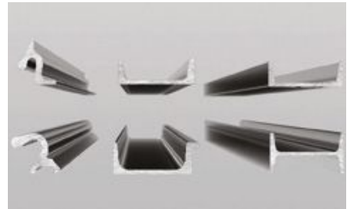
» MATERIAL HANDLING

Special profiles for telescopic guide rails in high storage systems and industrial warehouses.



» RAILWAYS

Special profiles for the construction of train wagons, undercarriages, bogie frames, and rails fastening elements.



» AUTOMOTIVE

Special profiles for assembly and painting lines (usually in stainless and duplex steel) as well as hinges for car and truck doors.

» AGRICULTURE

Special profiles for tool carriers and ploughes.

» ENERGY

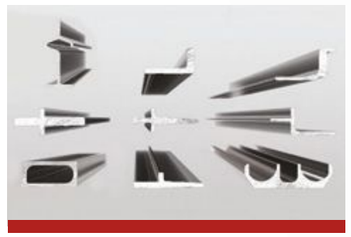
Special tubes (fin, omega, double omega) for heat exchangers in nuclear and gas/coal power plants; hydrodynamic profiles for grids in hydroelectric power plants.

» CIVIL CONSTRUCTION

Special profiles for expansion joints in bridges, connectors of concrete barriers on highways (New Jersey) and sheet pile wall locks.

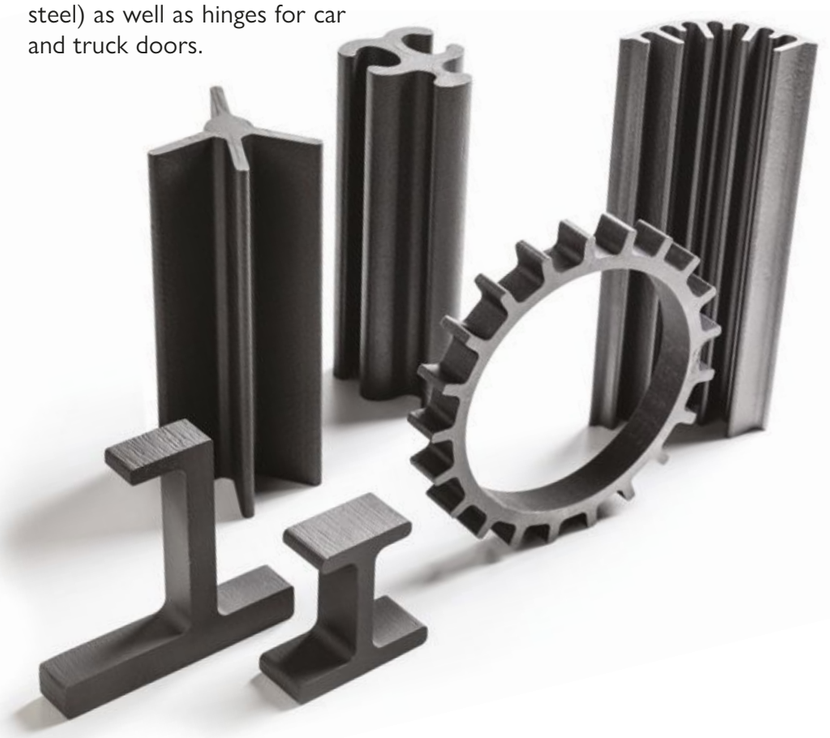
» ARCHITECTURE

Special profiles for steel and glass façades (curtain walls) as well as structural elements.



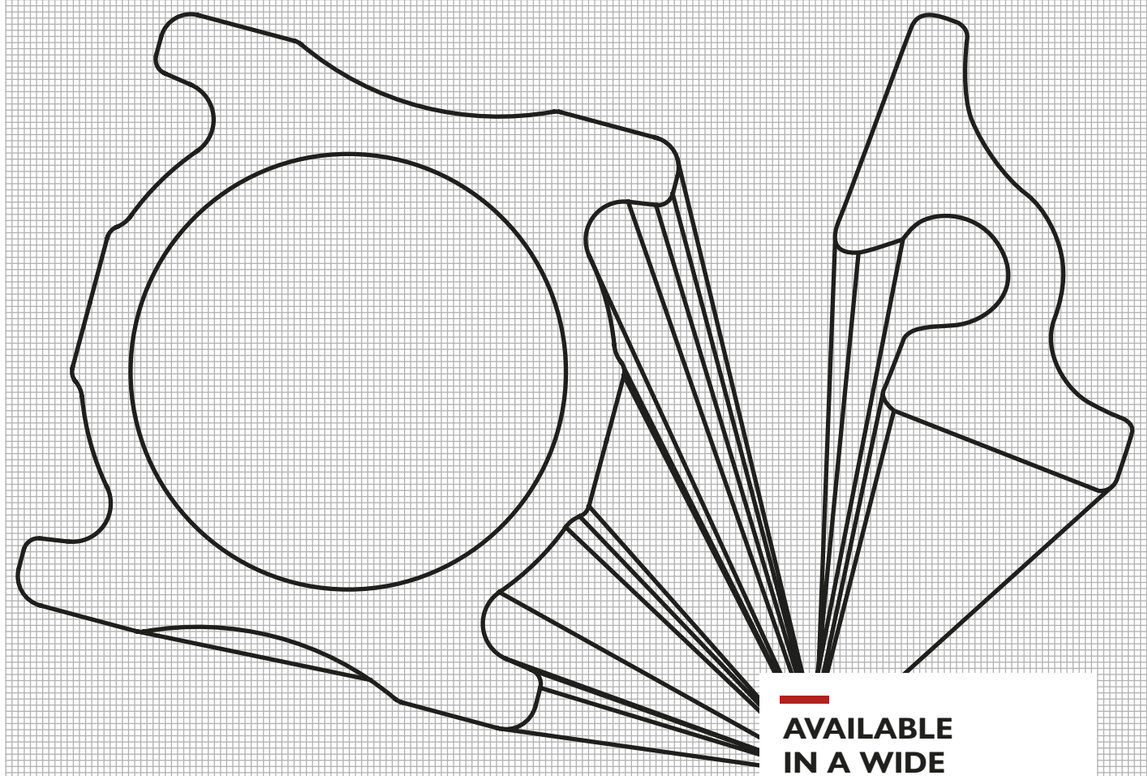
» FURTHER APPLICATIONS

Special profiles for shipbuilding, heat exchangers in boilers, industrial conveyor belts, high-pressure valve bodies and more.



EXTRUDING HARD METAL IS POSSIBLE

WE CAN PRODUCE YOUR PROFILE, YOUR HOLLOW SHAPE

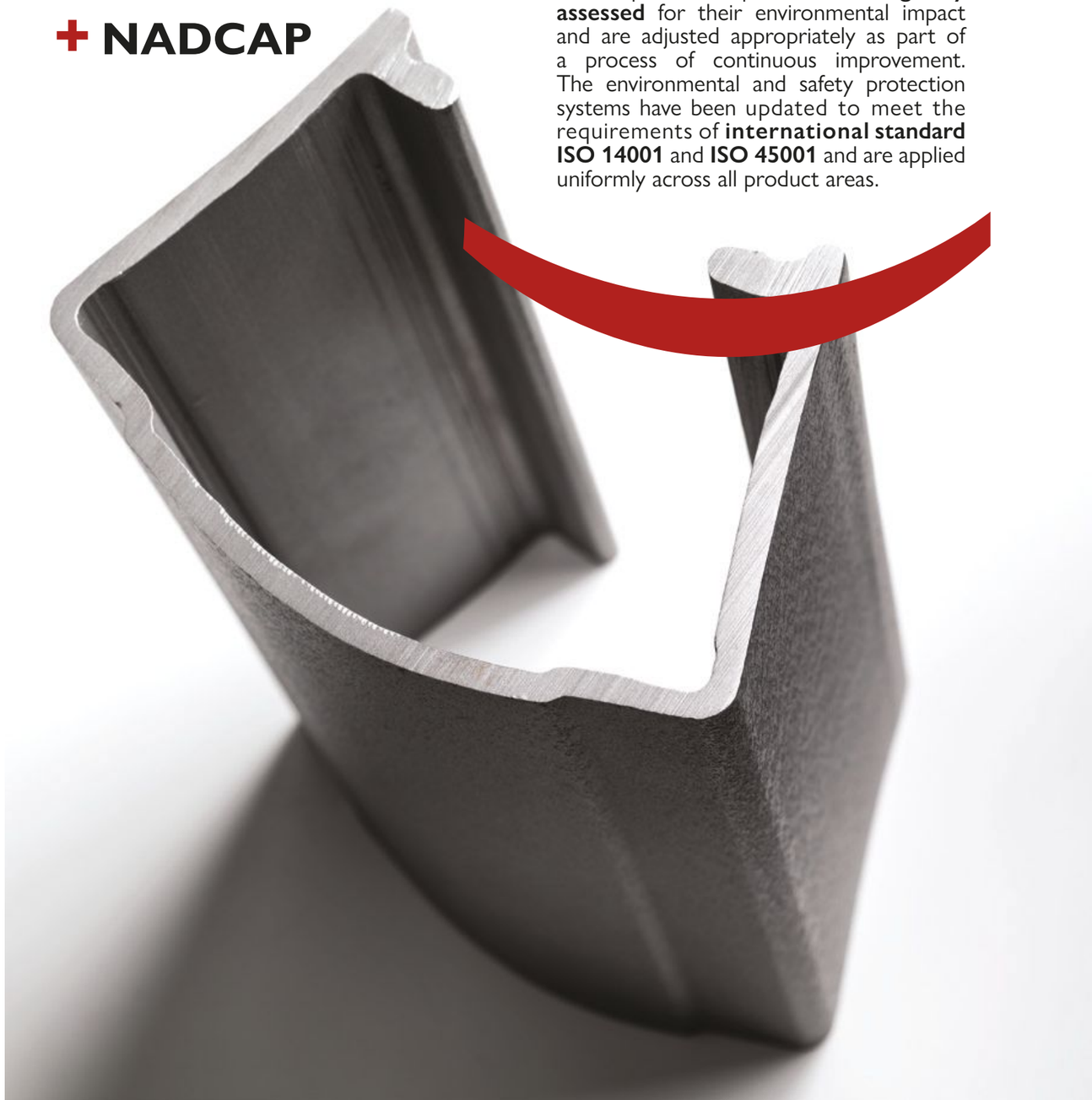


AVAILABLE IN A WIDE RANGE OF STEEL, NICKEL ALLOYS AND TITANIUM.

+ ISO 9001
+ EN 9100
+ ISO 14001
+ ISO 50001
+ ISO 45001
+ NADCAP

CERTIFICATIONS

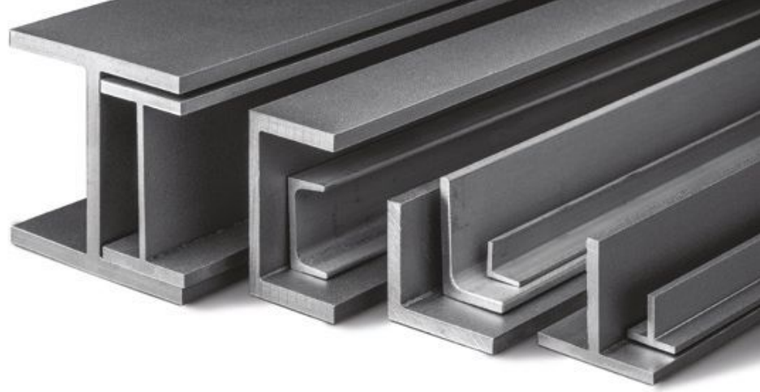
The companies of the hot extrusion business unit maintain a management system to ensure quality and environmental protection according to the **highest standards.** Quality management is certified by an independent accredited institute **in accordance with EN 9100.** Environmental protection is a paramount component of our business, which is oriented towards long-term sustainable growth.
All the production processes are **regularly assessed** for their environmental impact and are adjusted appropriately as part of a process of continuous improvement. The environmental and safety protection systems have been updated to meet the requirements of **international standard ISO 14001** and **ISO 45001** and are applied uniformly across all product areas.

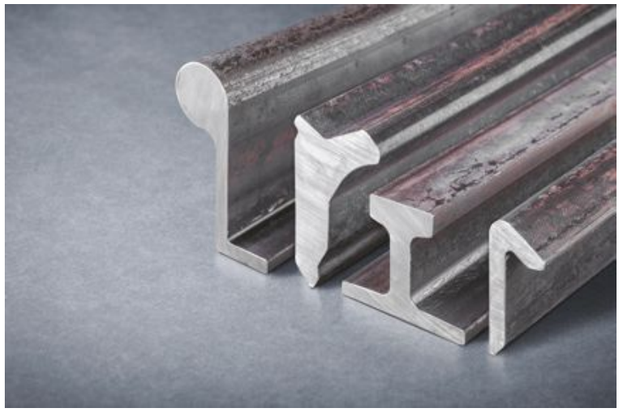


MONTANSTAHL NETWORK PRODUCTION TECHNOLOGIES

DISCOVER ALL THE OPTIONS AT YOUR DISPOSAL

In addition to hot extrusion, our network is equipped with a range of production technologies to manufacture both **standard and special profiles**. The selection of a production method for each profile is based on its dimensions, complexity, surface finish, tolerances, and required production volume.
Each **manufacturing technology** offers unique advantages, making it well-suited to specific shapes and materials.



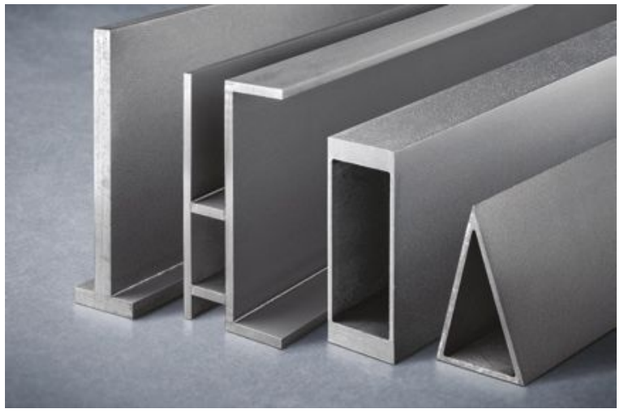


HOT ROLLING

Material thickness: min. 2.5 mm
Size range: fit in circle of max. 90 mm
Weight: from 0.5 kg/m to 10 kg/m
General tolerances: ±0.5 mm

LASER WELDING

Material thickness: 2 - 80 mm
Size range: max. 2000 mm x 1000 mm
Weight: from 0.5 kg/m to 200 kg/m
General tolerances: ±0.5 mm



COLD ROLLING

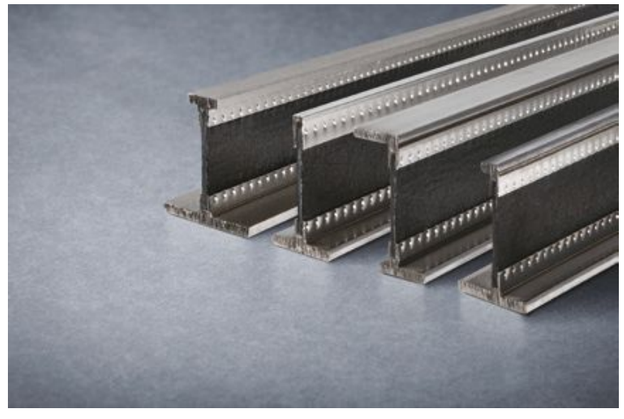
Material thickness: min. 0.5 mm
Size range: fit in circle of max. 50 mm
Weight: from 0.1 kg/m to 6 kg/m
General tolerances: ±0.05 mm

COLD DRAWING

Material thickness: min. 2 mm
Size range: fit in circle of max. 200 mm
Weight: from 0.5 kg/m to 70 kg/m
General tolerances: ±0.1 mm

MECH. CRIMPING

Flange thickness: 3 – 12 mm
GRP web thickness: 3 or 6 mm
Size range: fit in circle of max. 200 mm
General tolerances: ±0.3 mm



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