

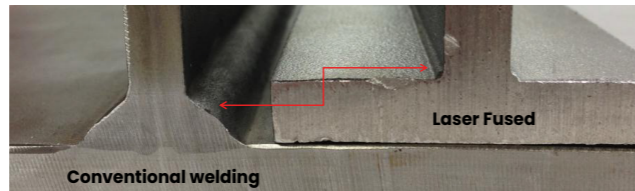
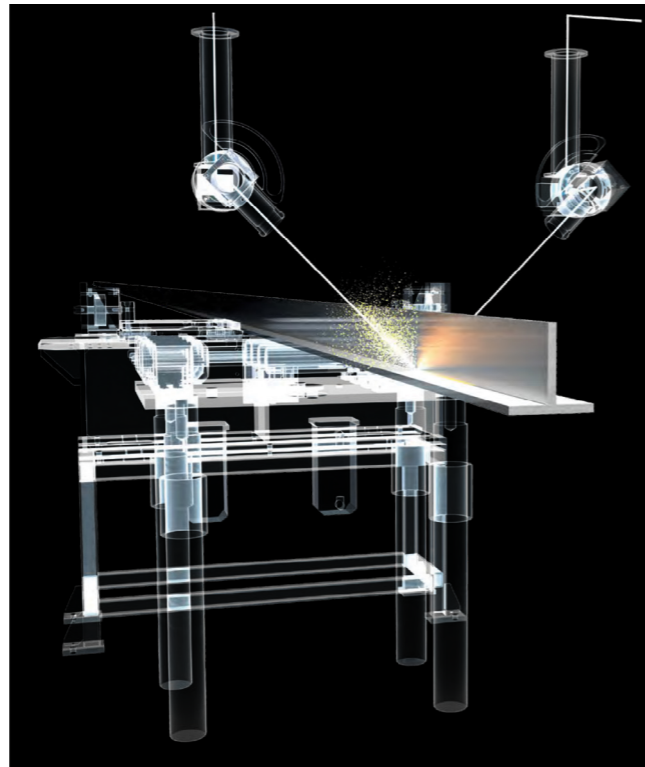
# Laser Fusion Solutions

## Laser Fusion

In many fields where a high degree of precision is required, laser technology has become a basic feature. Like no other tool the laser is able to focus and discharge energy to a precise point. These are ideal conditions for a low stress and reliable fusion of stainless steel.

### What makes Laser Fusion so unique compared to conventional welding?

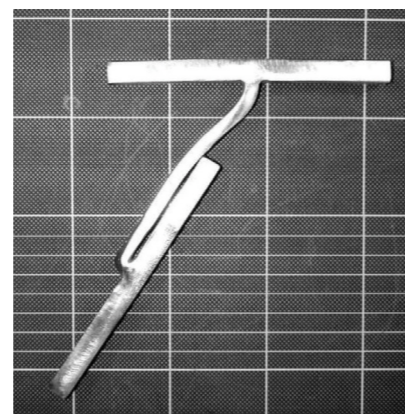
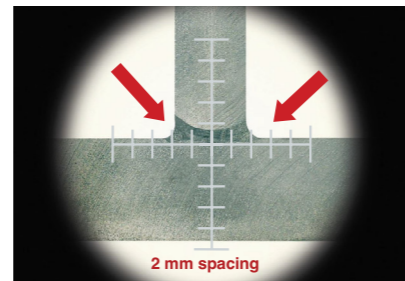
- Industrial process – controlled, automated, constant
- Monolithic structure – no filler material, full penetration up to 20 mm, no weld correction factor
- High accuracy – uniform, small, barely noticeable
- Product & process approvals – GSI SLV (German Welding Institute), TÜV (German Technical Inspectorate), DIBt (German Building Authority), EN ISO 13919-1, EN ISO 15614-1, EN ISO 15609-1, ASTM A276, A479, A484 compliance



### Advantages:

- High quality product
- High flexibility on profile design
- Small batch sizes
- No tooling cost
- Large range of standard sections stocked

Tolerances	IT 13 to IT 12
Straightness	down to 1.0 mm/m
Size range	from 25x25 mm to 2000x1000 mm
Surface finish	hot rolled & shot blasted
Grades	stainless steel 304 & 316 standard (duplex & other special grades on request)

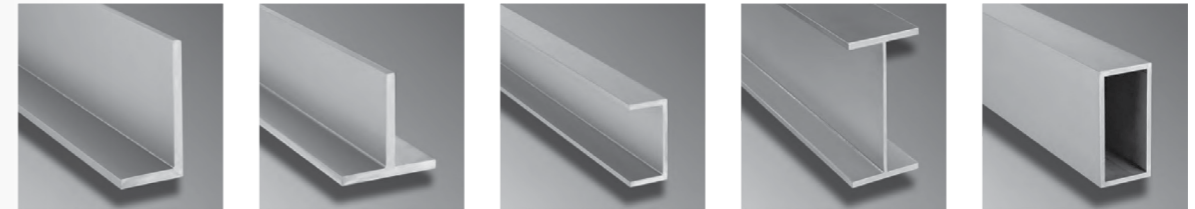


Crash test on Laser fused H beam.

## Standard Structural Range

Equal angles	Unequal flange tees	Square hollow sections
Unequal angles	Channels	Rectangular hollow sections
Flat bar	Universal beams & columns	
Equal flange tees		

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## Standard Laser Fusion profiles

The equipment technology developed by Montanstahl utilizes the advantages of laser fusion to produce special sections with outstanding product characteristics. Special sections made of stainless steel have been successfully marketed by Montanstahl in the most diverse industry sectors. All necessary certificates and approvals for a broad range of applications have been obtained.

Typical applications are in architecture, building and construction, machinery, food processing plants, automotive, shipbuilding as well as water treatment plants and petrochemical industries.



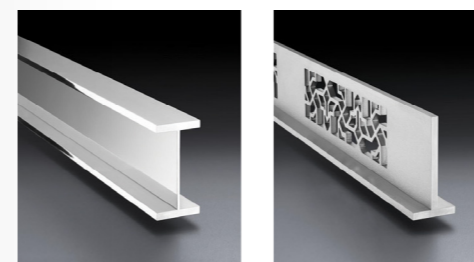
## Low-impact Laser Fusion architectural profiles

Low impact laser fusion is a process which allows the welding together of pre-polished flat components to a special profile without damaging the visible surface.

These products have been specifically developed for high-end stainless steel architecture and design. With a special low heat and spatter free laser beam, almost any profile design can be achieved. Thanks to the great design flexibility, functional optimisation and high precision, these new products are popular among architects for visible and representative steel curtain walls, canopies and a wide range of other uses.

## Design & special shapes

With increasing importance being attached to design and quality of finish, Laser Profiles give a very high degree of design freedom not only in size and geometry but also in web design. From small perforations to large cut-outs the web can be designed in a very individual way generating attractive solutions.



## Laser Fusion In 3D

A 5-axis robot allows the production of non-linear sections and fabricated components, allowing the production of complex sections and fabricated components.

