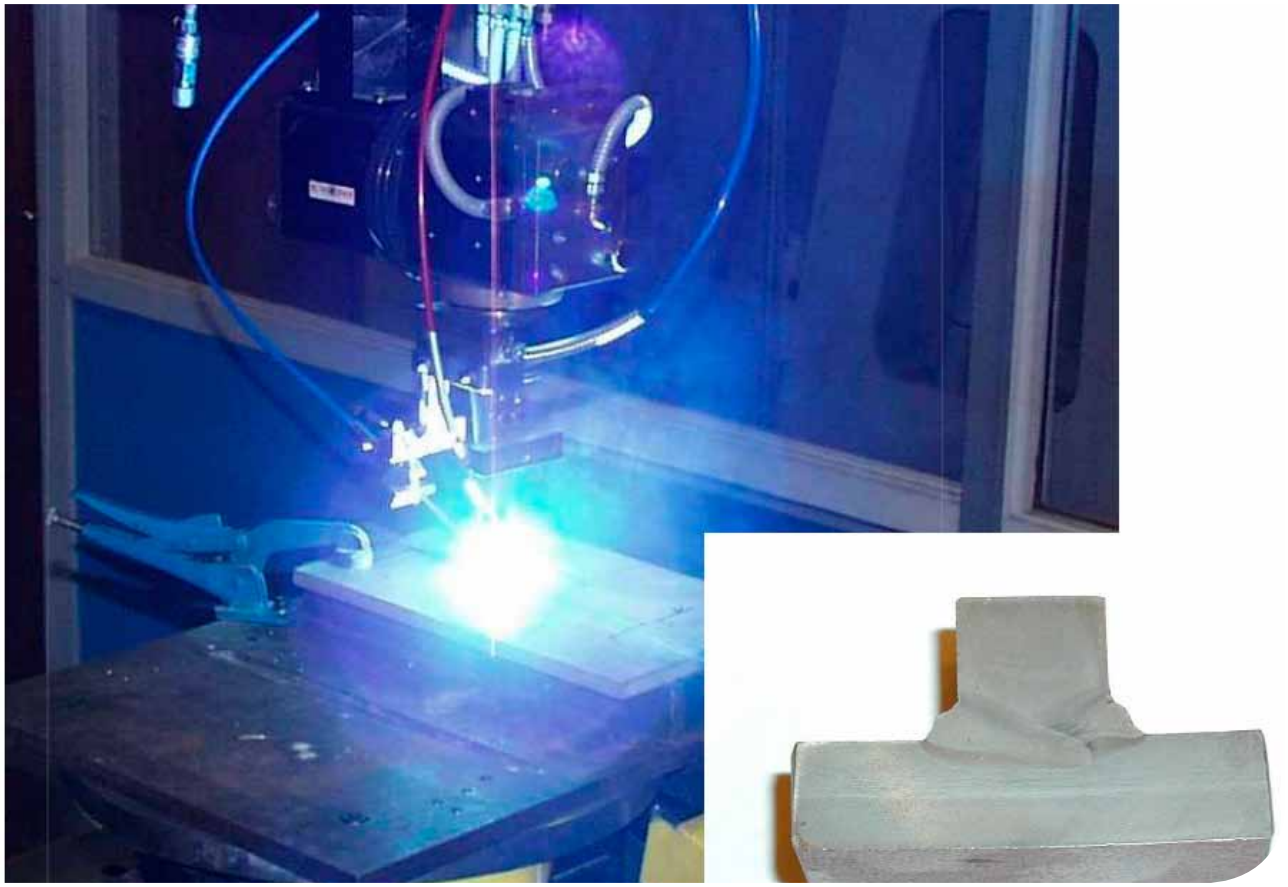
LASER Welding



You can weld:

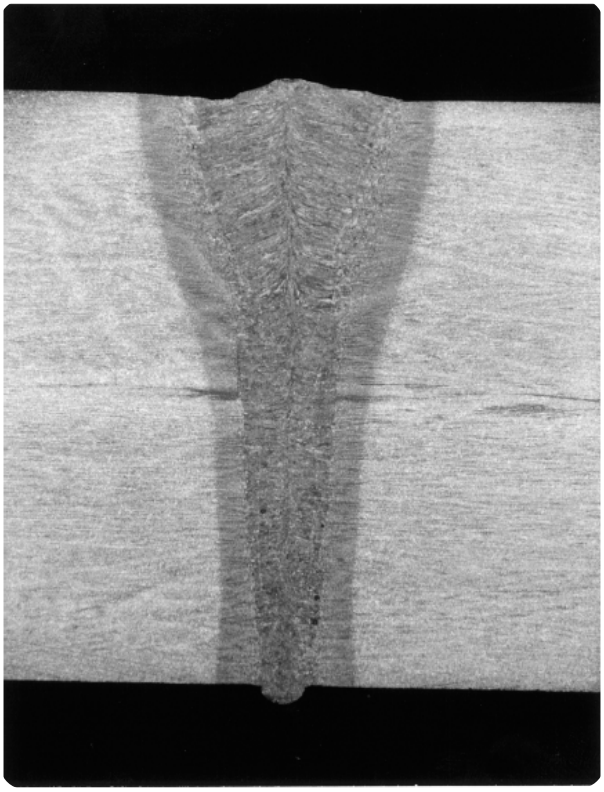
- Thin materials for micromechanics
- Thick section steel
- Many different materials e.g. steel, aluminium and titanium.

Advantages:

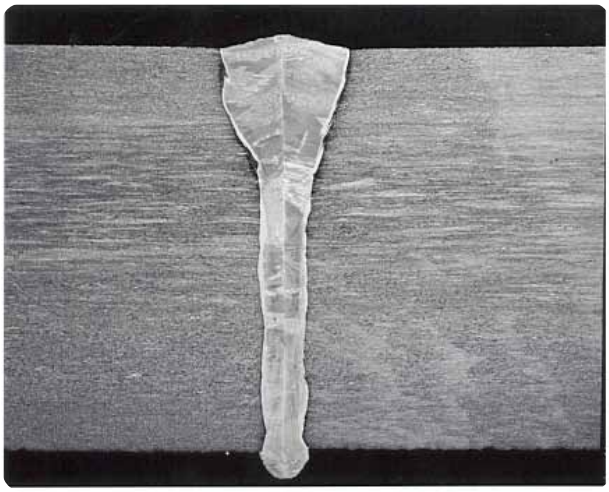
- Identical welds each time
- Minimal heat input and deformation
- High quality, no need for further machining
- New construction opportunities
- High productivity.

CO_2 laser welding

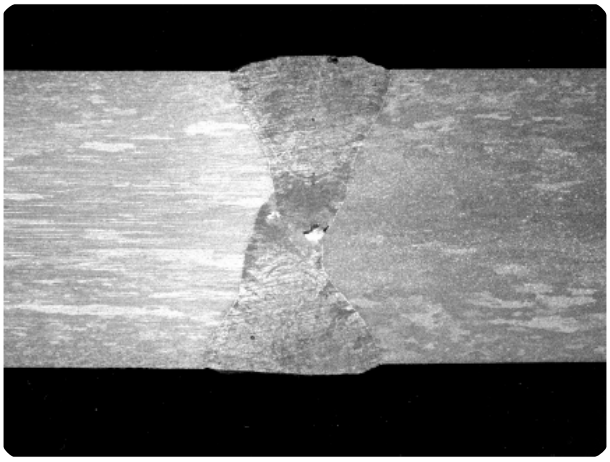
- Laser light in the far infrared region
- Laser source with high power
- Equally suited for thin and thick sections
- Welding in steel, aluminium and much more.



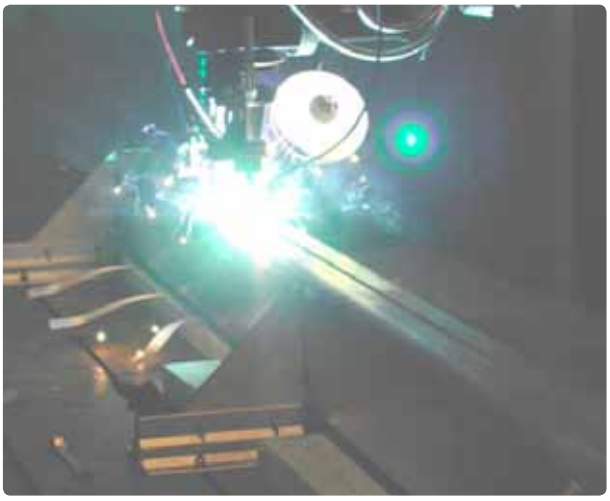
CO_2 laser welding in 18 mm construction steel, welded at 0.8 m/min



CO_2 laser welding in 12 mm austenitic stainless steel, welded at 1.8 m/min



CO_2 laser welding in 8 mm aluminium, welded at 3 m/min

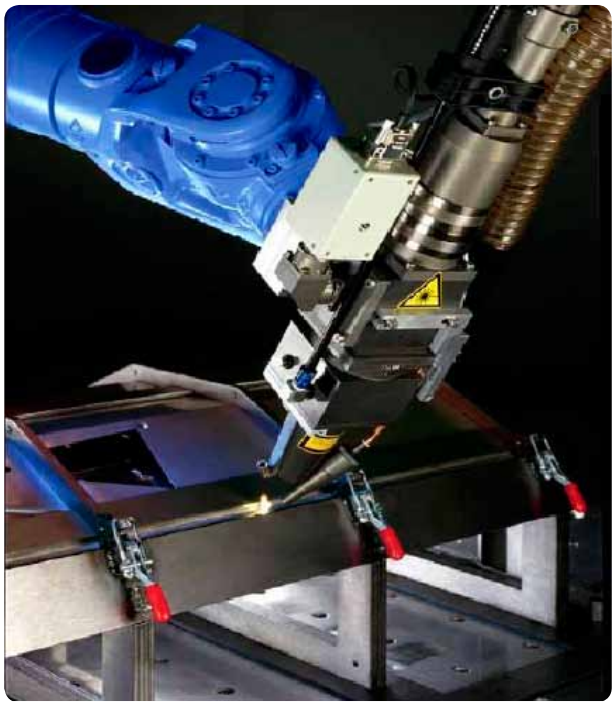


Laser welding of aluminium profile

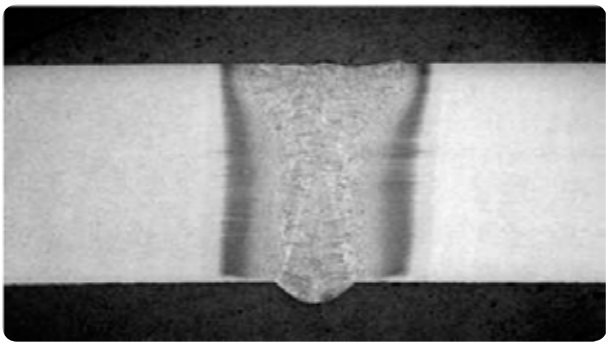
Nd-YAG laser welding

- Laser light in the near infrared region
- Possibility for optical fibres
- Flexible laser source
- Suited for welding with robots.

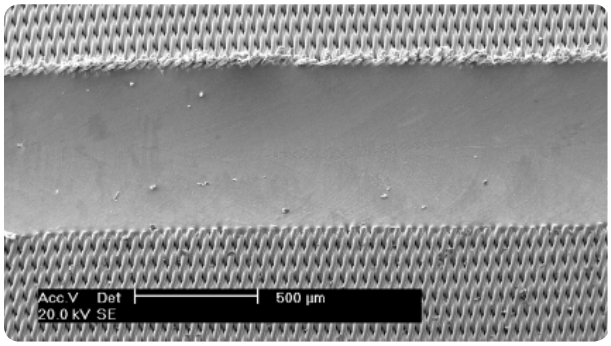
A look into the Nd-YAG laser



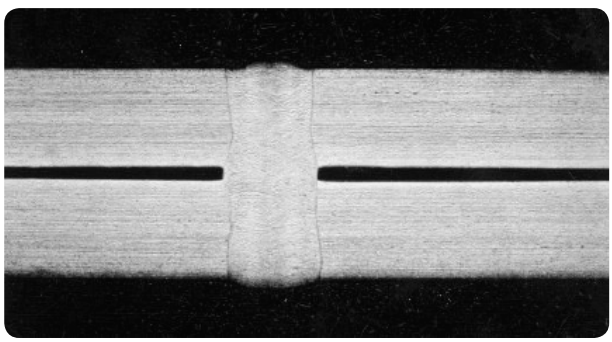
The ease of mounting on a robot makes the Nd-YAG a flexible tool



From welding in 10 mm steel -



to welding in thin materials, the laser can handle it all



Overlap joint in 0.7 mm stainless steel, welded at 13 m/min

With the Nd-YAG laser you can:

- Weld in many different materials e.g. steel, aluminium and titanium
- Use welding robots for 3D geometries
- Weld from foils and up to 8 mm with the same source.

Laser welding - An excellent welding process

Nd-YAG laser welded accelerometer with pre-mounted sensitive electronics

- Laser welding is a thermal process where a concentrated beam of light welds the parts together
- The laser beam is focussed by a lens or a mirror
- The high energy density in the focalpoint immediately melts the material
- Welding can be performed with or without fillerwire, a protective gas is used
- The weld seem is very narrow, the process control accurate, the heat input minimal
- The weld is deep and narrow
- The welding speed is high.

Assistance from FORCE Technology

FORCE Technology has extensive knowledge and experience in laser welding:

- We can evaluate the company's possibilities with laser welding
- We offer help with construction and design, so the weld is performed under optimum conditions
- We teach and train operators, technicians and engineers.

At FORCE Technology the following can be performed:

- Initial trials
- Test production
- Production
- Special production
- Repair work.

FORCE Technology also has expertise in the fields of sensors, NDT, mechanical testing and metallurgy. This knowledge is of course integrated in laser welding jobs, from simple mechanical testing through complicated process monitoring.

Nd-YAG welded part for a magnetic valve

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