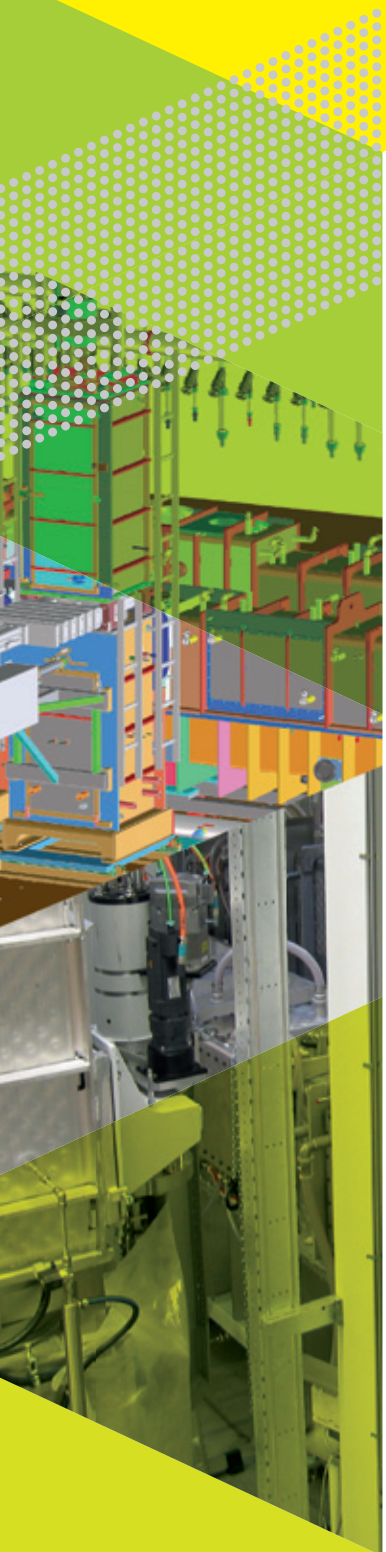
ECN
Your energy. Our passion.



Joining technique

"Tight?"

There are various ways to join your materials and products. For example by means of welding, soldering, bolts, latches, adhesives, et cetera. Based on our extensive knowledge, we can advise you on the most suitable joining technique for your specific situation.

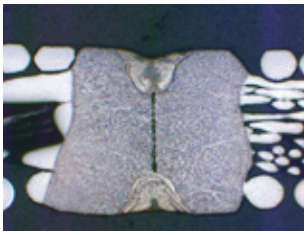
Our specialties include:

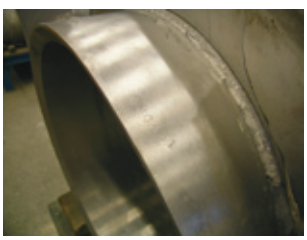
- High temperature vacuum soldering
- Adhesive bonding and particularly pre-treatment and procedure
- Welding advice, supervision or inspection
- Welding techniques
- Laser
- Mig
- Tig
- Mag
- Orbital welding
- EB welding
- FSW welding
- Thermal spraying techniques

Choosing the right joining technique

The choice of joining technique depends on the specific process or ambient factors such as:

- High temperature
- High pressure
- Specific chemical gases or liquids
- Special materials
- Use/operation time
- Costs (material, operation, maintenance)





Specialties

ECN is an expert in the field of mechanical engineering, process technology, chemistry, materials engineering, corrosion and welding. Our specialists are experienced in building installations in practice as well as pilot set-ups that need to comply with strict process requirements. We are specialised in various techniques. For example, we have a specialised International Welding Engineer (IWE) for welding and soldering, who offers concrete and practical advice and conducts inspections.

If you would like to hear more about joining techniques and how ECN can be of service to you, please feel free to contact us.

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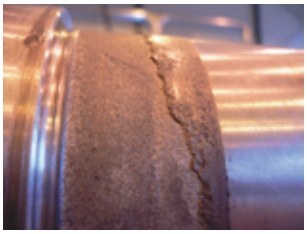
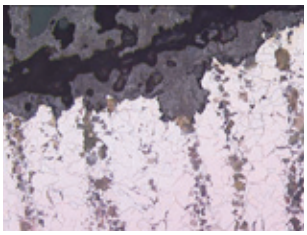
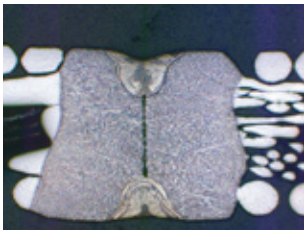
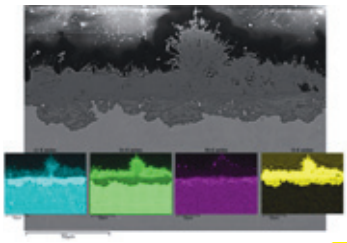
Materials, testing & analysis

Are you faced with a problem in your installation, process or product? In most cases, the ECN experts can solve this together with you. Our group of complementary specialists covers a broad knowledge area, enabling us to help you quickly with practical solutions or clear advice.









We can offer you the following expertise:

- Failure analysis
- Corrosion analysis
- Materials engineering
- Joining technology
- Manufacturing technology

Strong solutions

ECN can solve both complex and more practical engineering issues. We have built many pilot set-ups and installations that involved extremely highly demanding process conditions. They involve deployment of chemicals, high or low temperatures and/or high or extremely low pressure. Required process purity and interaction with media (fluids/gases) are also critical.

Solutions are often found through practical combinations of different materials such as glass, ceramics and metals. This way the special process demands can be met in a cost-effective manner.

Common material combinations are:
- Construction materials such as high-strength steels and high alloys
- Refractory metals and ODS steels
- Aluminium, non-ferrous materials
- Composites
- Glass and quartz
- Ceramic materials
- (Fibre reinforced) graphite
- (Fibre reinforced) plastics
- Coatings; organic, hybrid and inorganic

References

We are a valuable partner for small and medium-sized businesses, but also for multinationals in the following markets: the energy sector (nuclear, biomass, solar, wind), aviation, aerospace, offshore, defence, process industry, environment and infrastructure. Our clients comprise the following organisations: Fokker, Alcoa, CEA, Soterem, Stork, ASML, FEI, Shell, Friesland Campina, Bravilor, RGS, Covidien, NRG, EADS, ITER, CERN and Attero.