

Laboratory

Destructive Testing



MME Group's advanced metallurgical laboratory

Nothing is more valuable than life. Both that of people and of our planet. MME Group provides products and services that help manufacturers and operators in all sectors of industry to ensure the long-term reliability and profitability of their products and equipment. In doing so, we help protect the lives of those who deal with them: *"A Longer Life"*

With years of experience and a team of experts, MME Group's advanced metallurgical laboratory guarantees independent, high-quality services in the field of mechanical, chemical (including corrosion tests) and metallographic examination, heat treatment and failure analysis. These services are provided to leading players in, among others, the maritime industry, offshore (wind), civil engineering and construction, petrochemical industry, the energy sector and machine building.

Through a combination of destructive and non-destructive testing and the in-house production of test specimens, MME Group offers high-quality material testing with short delivery times.

Specialisations

- Welding tests for qualification of welding procedures and welders according to EN15614/ ISO 9606-1 / ASME / AWS
- Testing for upgrading of metal semi-finished products (plates, pipes, shafts, forgings and castings)
- Bolts, nuts and other mechanical fasteners according to ISO 898
- Gears (a.o. hardening depth)
- Testing of cutting edge roughness, hardness and squareness according to EN-1090-2
- Failure analysis



Special focus

X-ray Fluorescence Spectrometry PMI(XRF):

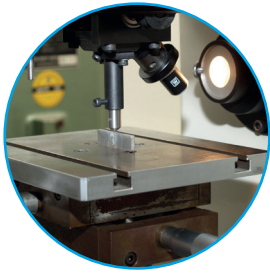
- Suitable for high-alloy steels such as stainless steel and nickel alloys
- Immediate material identification
- Non-destructive
- Possible from our laboratory in Ridderkerk and branch office Hengelo (The Netherlands)



A Longer Life

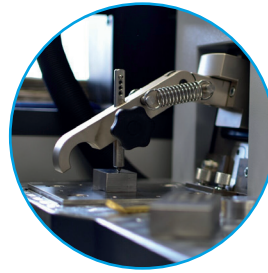
Our laboratory services

Mechanical testing



- Tensile strength / hot yield tests
- Impact (Charpy) test - ISO 148-1 and ASTM E23 (+20 to -196 °C)
- Bending tests - a.o. aufschweiss-biegeversuch
- Roughness test
- Hardness tests (Rockwell, Brinell, (micro) Vickers)
- Technological tests - a.o. ring tensile test, ring expanding test, flattening test and flaring test

Chemical analysis



Ridderkerk (NL) laboratory:

- Stationary Optical Emission Spectrometry (OES)

Ridderkerk (NL laboratory) and on site:

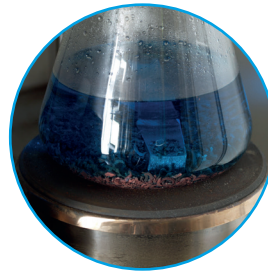
- Optical Emission Spectrometry PMI(OES)
- X-ray Fluorescence Spectrometry PMI(XRF) (also from branch office Hengelo)

Metallographic examinations



- Macro and micro structure examinations
- Detecting detrimental intermetallic phases according to ASTM A262 – method A or ASTM A923 method A
- Determination of grain size according to ASTM E112 or ISO 643
- Determination of case-hardened depth according to ISO 2639 or ISO 18203
- Detecting decarburization in bolts/studs acc. to ISO 898-1
- Ferrite measurements

Corrosion testing



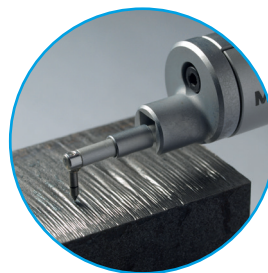
- ASTM G48 method A - pitting corrosion stainless steel
- ASTM A923 method C - detrimental intermetallic phases in duplex (austenitic / ferritic) stainless steel
- ASTM A262 method C (Huey test) & method E (Strauss test) – intergranular corrosion in austenitic stainless steel
- ISO 9227 of ASTM B117 (salt water spray) - corrosion resistance of coatings and base materials

Failure analysis



- Fracture surface
- Corrosion damage
- Surface defects

Other tests



- Roughness testing (EN-1090-2)
- Heat treatment (a.o. sensitizing for corrosion tests)
- Replica examination
- Mobile hardness testing

