

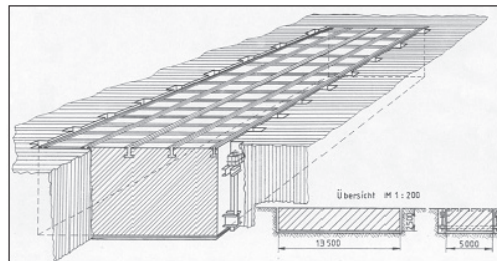


Component Testing in SLV Halle GmbH

The component testing is an important part of the materials engineering for the determination of the durability and the fatigue strength of sophisticated/complex components and weldments. Prerequisite for such investigations are an efficient inspection technology, a sufficiently dimensioned support foundation and a modular frame for the installation of the components to be tested.

Equipment

For putting on load to the components to be tested, there are several hydraulic and servo-hydraulic test cylinders to dispose. The system is controlled by a digitally controlled testing system. The height of the maximum achievable test frequencies depends on the natural frequency and the stiffness of the component concerned.



Oscillating foundation

Specifications

Number of simultaneously controllable channels: 6

Forces:

- 3 servo-hydraulic testing cylinders + - 100 kN
- 2 servo-hydraulic testing cylinders + - 250 kN
- 1 servo-hydraulic testing cylinder + - 500 kN
- several hydraulic cylinders for oscillatory load testing till 1,000 kN

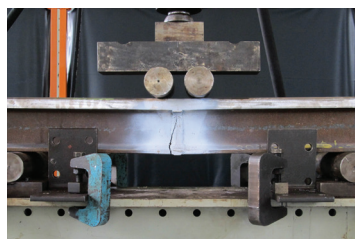
Foundation:

- loadability for static testings 1,000 kN
- loadability for dynamic testings 300 kN
- weight 400,000 kg
- critical frequency n 3.5 Hz

Testing capabilities

- dynamic fatigue tests on components
- static testings of components
- static internal pressure tests
- dynamic internal pressure tests
- pulsator tests on high masses

Examples



free breadboard constructions

Destructive material testing:

- investigation of mechanic-technologic values under German, European and international guidelines
- fatigue endurance limits and endurance strength of materials, welded joints and components
- strength analysis of welded components and other constructions
- experimental testing of complete components by simulation of the operating conditions on conceptualized test fields
- numerical strength analysis of welded components and other constructions (e.g. finite element method; FEM)

Non-destructive material testing:

- non-destructive testings as part of construction supervisions
- locally non-destructive testing
- preparation of test instructions and technologies
- testing of laser-welded joints
- testing of spot welded joints
- radioscopic testing of welded joints and castings
- expertise and control of non-destructive material testings

Welding metallurgy:

- determination of the chemical composition of basis materials and welding material by use of latest emission spectrometry
- development of metallographical workings to evaluate structure and metal materials
- low load and micro hardness testing on metallographic specimen
- failure analysis and expert activities
- welding metallurgy advice

Courses and further training:

- TÜV Cert® recognized educational institution for non-destructive testing spection personnel
- conduct of special training courses for qualification of welding professionals
- Accredited training facility for requalification for materials tester with IHK conclusion

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