

Material Testing



Material test facilities

Universal testing machine Zwick 1475/DUPS-M.

Load cell 100 kN and 5 kN.

Hydraulic grips, maximum grip 60 mm.

Extension measuring device, length of Sensor arm 205 mm.

Extension measuring device, 3-point bending arms.

Maximum length between hydraulic grips, 750 mm.

Maximum width 630 mm. Maximum depth 400 mm.



Yearly DKD certification by Zwick.

The calibration of the complete measuring chain, including all soft- and hardware components are carried out at site according DIN EN ISO 7500-1, edition November 2004.

Open programmable machine with programs for:

- Universal tensile test.
- Universal compression- flexure test.
- Universal hysteresis test on elastomers.
- Universal tear growth, adhesion and peel test.
- Simple compression test for Fmax determination.
- Simple tensile test for Fmax determination.
- Testing of tension- and compression springs.
- Test program for determination of the correcting curve.

Equipment for:

- Climbing drum peeltest in accordance to ASTM-D-1781.
- Determination of apparent interlamminar shear strength by short beam method in accordance to EN ISO 14130..
- 3-point bending test.
- 4-point bending test.

Universal testing machine Zwick 1435.



Loadcell 5 kN and 100N.
Maximum length between grips, 900 mm.
Maximum width 400 mm
Maximum depth 300 mm.

Yearly DKD certification by Zwick.

The calibration of the complete measuring chain, including all soft- and hardware components are carried out at site according DIN EN ISO 7500-1, edition November 2004.

Open simple programmable machine with programs for:

- Simple compression test for F_{max} determination.
- Simple tensile test for F_{max} determination.

All tests without printable output and store.

If you need specific information on measurement accuracy, number of measurement channels or likewise, please contact us:

E-Mail: ecc@nl.thalesgroup.com

Material test facilities



Scanning Electron Microscope Facility

Scanning Electron Microscope, FEI (Philips) XL30. (SEM)
combined with
Energy Dispersive X-ray spectroscopy, Oxford INCA x-stream. (EDX / EDS)

W-system / filament.



Scanning Electron Microscopes (SEM) are used for inspecting topographies of materials with a magnification range that encompasses that of optical. An SEM can scan the surface of a sample with a finely focused electron beam to produce an image from the beam-specimen interactions detected by detectors. Secondary electron detectors to provide surface information, to backscattered detectors for compositional information in high vacuum modes.

The SEM is equipped with an Oxford INCA x-stream EDX-system for analyses.

- Acquire spectra of the sample.
- Confirm elements.
- Quantification of elements.

Maintenance and calibration:

- SEM, two times a year.
- EDX, once a year.

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Material test facilities

Hardness Testers

Hardness testers



Vickers pyramid hardness tester.

Maintenance and calibration:

- UKAS, yearly.



Microvickers hardness tester.

Maintenance and calibration:

- Zeiss, yearly.

If you need specific information on measurement accuracy, number of measurement channels or likewise, please contact us:

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Material test facilities

Thermal analysis equipment

Thermal analysis equipment, Mettler Toledo.

- DSC 30 (Dewar N2).
- TMA 40 (Dewar N2).
- TC 15 TA controller.



DSC 30.

- - 170 ÷ + 600 °C.
- heating rate 0 ÷ 100 °C/min.
- 40 µl Al Crucible with pin and Al pierced lid.

TMA 40.

- - 100 ÷ + 300 °C.
- heating rate 0 ÷ 100 °C/min.
- Force of measuring probe: 0 ÷ 0.499 N.
- Dynamic operation: 0 ÷ 0.499 N, frequency 1/12 Hz, or remote controlled.
- Film measurement.
- 3-point bending device.
- Purge gas N2.

Maintenance and calibration:

- Mettler Toledo, yearly.

If you need specific information on measurement accuracy, number of measurement channels or likewise, please contact us:

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Material test facilities

Several equipment

Several equipment.



Temperature oven.

- 1300 °C, programmable.

Burn-out oven.

- 1000 °C.

Several light-microscopes.

Casting equipment for sample preparation.

Struers grinding and polish equipment.

Struers Exotom cut-off machine.

Struers Minitom cut-off machine.

Sputter coaters, carbon and gold.

Ultra sonic cleaners.