

National Metrology Laboratory

Schedule of Force Calibration

Issue No: 01 Rev: 00

Issue date: 11 August 2003

SUMMARY OF SERVICES

Calibration performed on permanent laboratory premises

Force

Force gauges, lever and push pull types
Force gauges, electronic with transducer
Load cells
Proving devices
Swaged terminal pull testers

Calibration performed on site

Force

Compression testing machines
Force testing machines
Universal testing machines
Concrete cube testing machines
Soil testing machines
Stability testers

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DETAIL OF CALIBRATION SERVICE

| Measured Quantity Instrument or Gauge | Range | Best Measurement Capability Expressed as An Expanded Uncertainty (k=2) | Remarks |
|---|--|--|--|
| FORCE | | | |
| NOTES | | | |
| Force gauges, lever and push pull types. Electronic force gauges with transducer. Tension and compression modes | From 0.1 N to 1000N | 0.005 % | <p>Notes</p> <p>The uncertainties stated are for the application of the calibration force and do not take into account the characteristics of the device being calibrated.</p> <p>Calibrations may be undertaken expressed in other units of force as required.</p> <p>Calibrations are carried out at a reference temperature of 20°C.</p> |
| Load cells, proving devices and other force-measuring devices in compression and tension modes. By comparison with NML reference load cells. | <p>Compression</p> <p>10N to 25N 25N to 500N 500N to 2kN 2kN to 100kN 100kN to 3000kN</p> <p>Tension</p> <p>25N to 100N 100N to 1kN 1kN to 2kN 2kN to 50kN 50kN to 100kN</p> | <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.26%</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.25%</p> | |

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|---|---|---|--|
| FORCE | | | |
| NOTES | | | |
| <p>Universal force testing machines. Tension and compression modes</p> <p><u>Materials testing machines</u> Verification and calibration of Materials testing machines in compression.</p> <p><u>Compression testing machines for concrete.</u> Verification and calibration of the force measuring system by force proving instruments in compression.</p> <p><u>Swaged Pull Testers</u></p> | <p>Compression 10N to 25N 25N to 500N 500N to 2kN 2kN to 100kN 100kN to 3000kN</p> <p>Tension 25N to 100N 100N to 1kN 1kN to 2kN 2kN to 50kN 50kN to 100kN</p> <p>Compression 10N to 25N 25N to 500N 500N to 2kN 2kN to 100kN 100kN to 3000kN Class1, 2 and 3 machines to BS EN ISO 7500-1:1999</p> <p>Compression 10N to 25N 25N to 500N 500N to 2kN 2kN to 100kN 100kN to 3000kN Class1, 2 and 3 machines to BS EN ISO 7500-1:1999</p> <p>From 200kN to 2000kN to BS 1881</p> <p>Tension 25N to 100N 100N to 1kN 1kN to 2kN 2kN to 5kN</p> | <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.26%</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.25%</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.26%</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.1%</p> <p>(k=1)</p> <p>± 0.14%</p> <p>± 0.09%</p> <p>± 0.14%</p> <p>± 0.09%</p> | <p>Notes</p> <p>The uncertainties stated are for the application of the calibration force and do not take into account the characteristics of the device being calibrated.</p> <p>Calibrations may be undertaken expressed in other units of force as required.</p> |