

Inspectors Tools – Crack Measurement

DEMEC Gauge

The DEMEC consists of a standard or a digital dial gauge attached to an Invar bar. A fixed conical point is mounted at one end of the bar, and a moving conical point is mounted on a knife edge pivot at the opposite end. The pivoting movement of this second conical point is measured by the dial gauge.



A setting out bar is used to position pre-drilled stainless steel discs which are attached to the structure using a suitable adhesive.

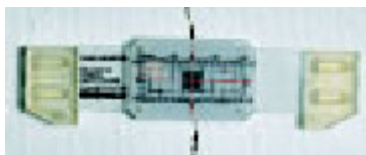
Each time a reading has to be taken, the conical points of the gauge are inserted into the holes in the discs and the reading on the dial gauge noted. In this way, strain changes in the structure are converted into a change in the reading on the dial gauge.

The gauge has been designed so that only minor temperature corrections are required for changes in ambient temperature, and an Invar reference bar is provided for this purpose.

Digital Gauges are available for every size except 50mm, simply because the digital gauge won't fit on the smallest gauge.

Crack Monitors

On some structures the rotation at cracks is also significant. This gauge is specifically designed to measure rotation, transverse and longitudinal movement. Special fittings are available to measure external and internal corners.



The crack monitor is:

- Made of polycarbonate
- Used for measuring movements:
horizontal ± 25 mm, vertical ± 10 mm.
- Reading accuracy of:
 ± 1 mm on grid,
 ± 0.1 mm with a calliper.
- Adapters permit the use on internal and external corners.

Measuring Magnifier

Crack widths are normally limited to 0.2mm or 0.3mm in concrete structures. This inexpensive crack width measuring device enables accurate determination of whether cracks exceed this limit.



- Magnification 10x
- Measuring range 20 mm x 0.1 mm
- Field of View 32mm
- Special design permitting to read on light and dark objects
- Plastic case.



This loupe also comes in a self-illuminating model. Powered by two c-cell batteries this model can be used in those poorly lit areas where the natural light is dim or non-existent.

Field Microscope

The field microscope is a small sized lightweight and conveniently portable microscope. Designed to cover the range between high grade heavily equipped microscopes and measuring magnifiers. With a magnification of 50 times this microscope can combine a calibrated focusing ring allow the depth of cracks to also be accurately measured.



- Magnification 50x
- Measuring Range 1.6mm x 0.02mm
- Field of View 1.7mm
- Detachable light holder attachment also available



Crack Width Meter

The crack width meter is used as a comparator to give an approximate crack size during visual surveys.

- Made of durable plastic
- Graduations from 0.05 – 5 mm

