G1.5 Gauge

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The micrometer quality of this gauge, due to a 1/50th mm vernier scale means that any tendency to change in structures can be rapidly assessed in the shortest times.

The G1.5 gauge is intended for measuring changes in cracks in a single plane with great precision.

The G1.5 gauge is reusable.

This G1.5 Saugnac Gauge is based on the same two concepts:

- Measurements are made using a vernier measuring to 1/50th of a mm ; measurement can be made to 1/100th of a mm using the Fresnel lens supplied.
- It can be fixed in place using double-sided self-adhesive tabs, or gluing if necessary. We recommend however mechanical attachment with plugs and screws supplied with the gauge. (See our instructions: Advice on fixing by mechanical means).

Increasing precision means reducing time needed for observation.

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Description of the G1.5 gauge

The G1.5 gauge pack

Dimensions 270 x 38 mm, depth 3 mm, weight 90 g.
Traction force: 25 g.

The gauge is composed of 2 metal rules sliding in a plastic sheath. The rules are made from cold laminated annealed invar metal with a very low expansion coefficient equal to 2.10^{-7}/°C

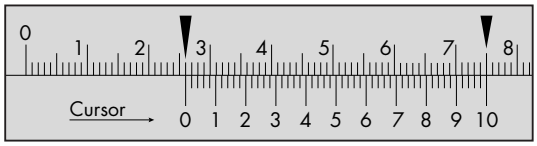
They have undergone a double surface treatment to improve protection. The sheath is in Lexan; this is a hard-wearing and flexible polycarbonate with stable dimensions. Screen-printing has been used for marking as it is unaffected by UV rays. A table is provided for noting dates, readings and the temperature in °C.

The G1.5 gauge is reusable. (See our instructions: Advice on fixing by mechanical means).

Examples of reading

1) Exact dimension

• The 0 of the cursor scale corresponds exactly to a millimetre graduation.
• the dimension in mm is obtained directly.

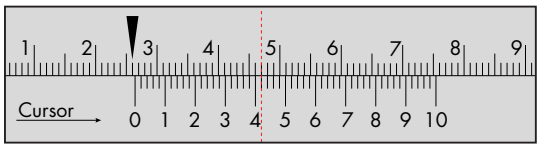


READING: 26 MM*

*It can be seen that in the case of an exact reading the marks 0 and 10 of the cursor correspond exactly to a millimetre graduation.

2) Reading with decimals

• The 0 of the cursor scale is between two millimetre divisions.
• The millimetre division to the left of the 0 gives a reading in whole numbers of mm.
• Now look for a mark on the cursor scale coÔnciding with any mark on the rule.
• This mark indicates the decimal figure to add to the size in whole mm.



READING: 26.42 MM*

*It can be seen in the example above, that it is clearly division 42 of the cursor scale which coincides with division 47 of the rule.

Re-using the G1.5 gauge

After removing the gauge, simply stick a fresh new self-adhesive table provided in the pack over the date and readings table. The gauge is then ready for use again.

Use of the G1.5 gauge

The graph on the left shows the change in size of a crack over a year.
The cause of such a chnage could be poor seating of the foundations on a clay soil.

In this case, between the months of January and March there was a change of 0.6/10th of a mm.
(26,18 read in January, minus 26,12 read in March = 0,6/10th of a mm).

The G1 gauge, the precision of which is 1/10th of a mm, cannot assess the change in closure of the crack over this period.

It would be necessary to wait till May to make a judgement and read a change of 1/10th of a mm.
(26,18 read in January, minus 26,08 read in May = 1/10th of a mm)

In a minimum of time, with the more precise G1.5 gauge a change of 0.6/10th of a mm, i.e. 6/100th of a mm can be detected, and the fact that the crack is tending to close.

Conclusion: observation time is halved