WHAT THE METER SHOULD READ, AND WHAT TO DO WITH AN UNSATISFACTORY RESULT

0.54 MEGOHMS ON NEW WORK. PASS?

WHAT THE METER SHOULD READ

Find the table in **Guidance Note 3** · p.70. The table gives the minimum. The number to actually work to is higher:

FIGURE	WHAT IT IS
1 MΩ	The minimum in the table. A reading of 1 MΩ **conforms**.
20 MΩ	What you should expect on a **brand new** installation. Anything less wants looking at.

> `Conforms at 1 MΩ. Expected above 20 MΩ.`

In practice a healthy new circuit reads at the top of the meter's range — **>200 MΩ** or **>2000 MΩ** depending on the instrument.

> **Your tester must cover the range.**
> An insulation resistance tester has to be able to produce every test voltage you need. A basic instrument does the basic tests; for installations above 500 V and up to 1000 V you need the higher setting.

UNSATISFACTORY RESULTS, AND WHAT YOU DO WITH THEM

Two worked judgement calls.

A CONTINUITY READING SHOWING OVER-RANGE

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Meter shows "greater than" — off the top of the scale.

Check first:  are the leads the right way round? Is the meter set correctly?
              Is the switch operated, if it is a lighting circuit?
Then:         that is an open circuit — a break in the conductor.
Action:       installer pulls out and replaces that cable. Retest from the sta
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Continuity wants **as low a resistance as possible**, so an over-range reading means there is no connection. The consolation: on a continuity failure you

have not got far into the sequence, so retesting from the beginning costs you very little.

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AN INSULATION RESISTANCE READING OF 0.54 MΩ

Minimum in the table    = 1 MΩ      → 0.54 does not even conform
Expected on new work    = >20 MΩ    → nowhere near

Verdict:  not acceptable. Degraded or contaminated insulation,
          or a load still connected.
Action:   find the cause, put it right, retest.
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