INSULATION RESISTANCE WITH LOADS CONNECTED

WHO UNPLUGS THE CLIENT'S EQUIPMENT?

INSULATION RESISTANCE

An **insulation resistance tester**, reading in **megohms** — millions of ohms. The default test voltage is **500 V DC**.

TEST	VOLTAGE
Live conductors (line and neutral linked) to earth	500 V DC
Between live conductors	500 V DC
Where sensitive equipment cannot be removed — live conductors linked, to earth	**250 V DC**

✋ **The client removes the loads, not you.** Move their equipment and break it and you are liable for it. Removing loads is part of the extent and limitations agreement — agreed before you start.

WHAT COUNTS AS SENSITIVE

Anything with electronics in it. 500 V DC through it will not do it any good.

SPDs	RCDs and RCBOs
AFDDs	USB socket outlets
Neons in FCUs and cooker switches	Dimmer switches
Voltage-operated earth leakage circuit breakers — obsolete, but still found on old installations	

SITUATION	BEST APPROACH
New installation, not yet terminated	Test on the cable itself at the full 500 V, before anything is connected
Device at the board	**Pull the conductors out of the device** and test on the cable
Something sensitive downstream that cannot come out	Drop to **250 V**, or drop the faceplate and link the conductors in a connector block to bypass the electronics

AFDDs are increasingly combined units

— AFDD, RCD and overcurrent protection in one module. There is nothing to unplug, so pulling the conductors and testing the cable is the only option.

Test circuit by circuit as you install.
Continuity then insulation resistance on each circuit before moving to the next, rather than wiring the whole board and then pulling every conductor back out.

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