

The long lead of my appliance or extension lead has failed the earth continuity (Rpe) test!

How do I calculate whether the measurement value given is acceptable?

Original Result e.g.
X Rpe 0.72 Ohms

Calculation

What is the length of the lead,
e.g. 25 metres?

What is the cross sectional area
(CSA) of the lead? This should be
stamped on the lead e.g. 0.75mm²

Add 0.1 Ohm (tolerance
allowed for all leads)

Cable CSA	Ohms per metre
0.5mm ²	0.039 Ω
0.75mm ²	0.026 Ω
1.0mm ²	0.0195 Ω
1.25mm ²	0.0156 Ω
1.5mm ²	0.0133 Ω
2.5mm ²	0.008 Ω
4.0mm ²	0.005 Ω

25

×

0.026 Ohms

=

0.65 Ohms

+

0.1 Ohms

=

0.75 Ohms

Is the original result
equal or lower?

Yes, equal or lower

Pass

No, higher

Fail