R1 + R2 AS AN INSPECTOR: TABLE B2

B2 OR B3 IN AN INSPECTION EXAM?

Same calculation, different multiplier. This is what you'll need for your inspection and testing exams.

Designer

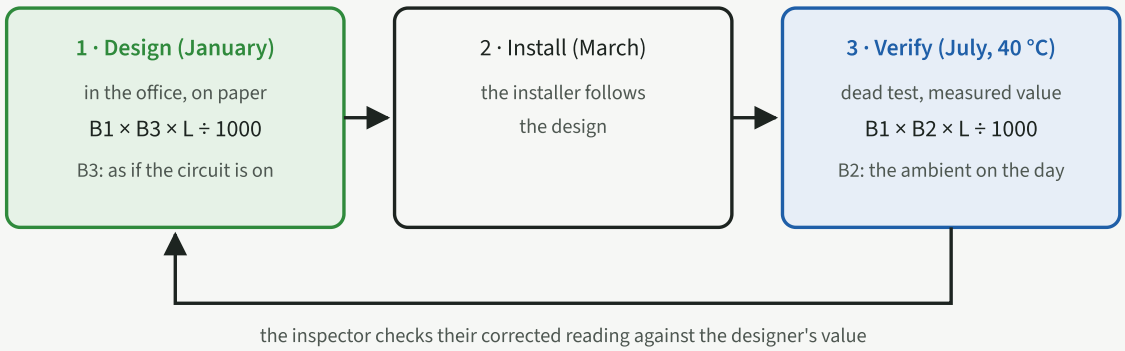
`R1 + R2 = B1 × B3 × L ÷ 1000`

Table **B3** corrects to the **operating temperature**, because an earth fault only happens while the circuit is running.

Inspector

`R1 + R2 = B1 × B2 × L ÷ 1000`

Table **B2** corrects to the **ambient temperature on the day** of the test.



A typical story. The design is done in January. Installation starts in March, and the inspector inspects as it goes, before floors, plaster and ceilings go in. Final testing is in July, in a boiling hot greenhouse or warehouse at 40 °C. The test is **dead**, so operating temperature doesn't matter, but the **room temperature** has warmed the conductors and changes the reading. Table B2 corrects for that.

A common mistake in design projects On Level 4 design projects (and other design qualification projects), people include **Table B2** in their R1 + R2 and get it referred. Table B2 corrects a **test reading** from 20 °C to the ambient temperature on the day. It's a test correction, not a design one. The designer's figure uses **Table B3**, for operating temperature. Table B2 is for the inspector on site, correcting the value they measured.

Guidance Note 3 · Table B2 "Ambient temperature multipliers (α) to Table B1" · **p.175**

Exam tip for initial verification and periodic inspection When you're asked to calculate R1 + R2 in these exams, **don't use Table B3**. If the question gives an **ambient temperature**, include **Table B2**. If it doesn't, leave B2 out and just do `B1 × L ÷ 1000`.

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