CABLE CALCULATION, STEP 5: THE PROTECTIVE DEVICE, IN

WHY A 32 AMP BREAKER AND NOT A 25?

In is the **rating of the protective device**, the number stamped on its front. It must be at least Ib.

You can "misuse" **OSG Table B6** to see what sizes exist. Appendix B is really for **maximum measured Zs** values, but the column headings list every circuit-breaker size (BS 3871, BS EN 60898 circuit-breakers and BS EN 61009 RCBOs). Don't write the table number on your design, so nobody later thinks B6 is "the circuit-breaker size table".

- **25 A** is the next standard size up from 24.5 A (Table 41.3 has a 25 A row), but it leaves almost no margin over Ib. There's no **30 A** circuit-breaker; the next size is **32 A**, which is what this design uses. So: **In = 32 A**.

Type B, C or D? Type B is for general use in domestic, commercial or industrial work. In a house you'll rarely need anything else, unless there's equipment with a high starting current (workshop machinery). Specialist equipment often states the type it needs. If a Type B keeps tripping on start-up, swapping it for a Type C is quick and cheap once you've checked the circuit's Zs against the lower Type C maximum (with an ordinary breaker at a few pounds, less so with a £140 AFDD RCBO).

OUR STATEMENT

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Ib ≤ In    24.5 A ≤ 32 A ✓
In = 32 A Type B RCBO with AFDD (30 mA)
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On-Site Guide · Appendix B · maximum measured Zs (Table B6 · **p.159**)

On-Site Guide · Table B6 · circuit-breakers and RCBOs (lists the ratings)

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