SIZING EARTHING AND BONDING CONDUCTORS: THE QUICK RULE

HOW BIG SHOULD MAIN BONDING BE?

One last point: the **size** of the bonding conductors matters, and there are tables for it in your books.

- **Main protective bonding** depends on the size of the **incoming supply** (the tails and the earthing conductor).
- **Supplementary bonding** depends on the conductors at the **exposed conductive parts** being bonded.

Read it off the table (TN-S / TN-C-S) Earthing conductor (Electrician's Guide Tables 3.3.2a/b, p.59): tails 6 → **6 mm²** (10 on PME), 10 → **10**, 16 → **16**, 25 → **16**, 35 → **16**, 50 → **25**, 70 → **35**. Main bonding: TN-S **6 mm²** for 6 and 10 mm² tails; PME **10 mm²** for tails up to 35 mm². The distributor may ask for a 16 mm² earthing conductor.
Example (PME): `25 mm² tails` → `16 mm² earthing conductor` → `10 mm² main bonding`

Watch outA common mix-up is that supplementary bonding is sized from the "live cables" at the exposed parts. In BS 7671 (544.2) it's actually sized from the **protective conductors (CPCs)** connected to those parts, and whether the bonding conductor is **mechanically protected**. Use Table 3.3.3 in the Electrician's Guide. Also, BS 7671's general minimum for main bonding (544.1.1) is **6 mm²**. The **10 mm²** minimum applies to **PME (TN-C-S)** supplies (Table 54.8), which is why 10 mm² is the standard size in homes.

Electrician's Guide to the Building Regs · Tables 3.3.2a and 3.3.2b earthing and main bonding conductor sizes · **p.59**

Electrician's Guide to the Building Regs · 3.3.3 supplementary bonding · Table 3.3.3

BS 7671 · Reg 544.1.1 · Table 54.8 · Reg 544.2 · check your copy for the pages

Sparky's final word

Don't ignore main or supplementary bonding. When you price a job, **check the bonding is there**. If it's needed, include it and explain why. Plenty of electricians don't.

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