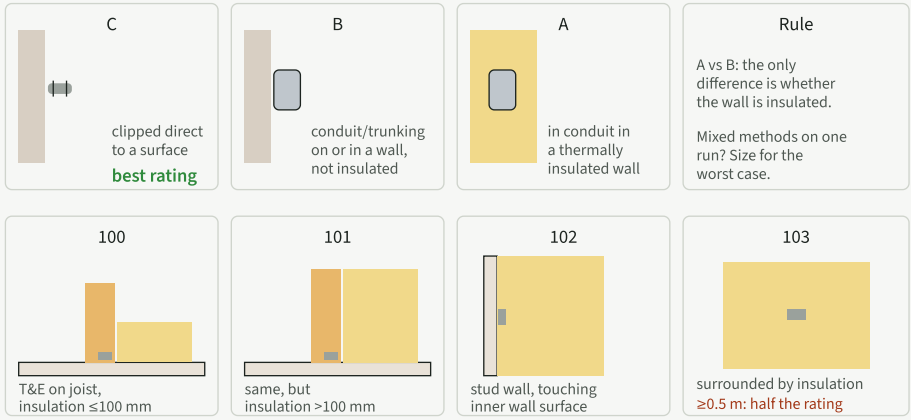
INSTALLATION REFERENCE METHODS

WHY DOES THE SAME CABLE CARRY LESS CURRENT IN INSULATION?

The **reference method** describes how and where a cable is installed. This affects how much current it can carry, because heat has to escape. **More insulation around a cable means more heat trapped**, which means more resistance and a lower current rating. You may then need a bigger cable.



Simplified sketches. Methods 100–103 apply to **flat twin and earth** (thermoplastic, PVC/PVC, 70 °C). "Multicore flat cable" is another name for T&E. **Method C** (clipped direct) gives the highest current rating.

- **A cable surrounded by thermal insulation** for a short length is derated by its length (cables up to 10 mm², BS 7671 Appendix 4, section 2.6, p.451): **50 mm → 0.88**, **100 mm → 0.78**, **200 mm → 0.63**, **400 mm → 0.51**. Totally enclosed for **0.5 m or more** means the rating is **half** that of clipped direct (0.5).
- Examples from the table: **1.0 mm² T&E clipped direct = 16 A** (enclosed in insulation, about half), and **2.5 mm² clipped direct = 27 A**. The rating drops for method B and the 100-series methods.
- PVC-sheathed cable **must not touch polystyrene**, which degrades it over time.
- Twin and earth *can* go in conduit or mini-trunking for extra protection. Councils often run mini-trunking along skirting and ceilings instead of chasing. But more cables bunched together means more heat.

Electrician's Guide to the Building Regs · 2.3.1 Cable installation methods A, B, C

Electrician's Guide to the Building Regs · Reference methods 100, 101, 102, 103 · **pp.39–41**

Electrician's Guide to the Building Regs · Table 2.3.1 T&E current ratings · **p.41**

BS 7671 · Appendix 4 · section 2.6 · cables surrounded by thermal insulation · **p.451**

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