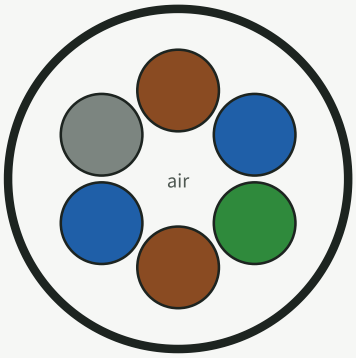
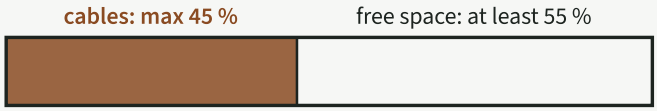
WHAT GOES INSIDE CONDUIT, AND HOW FULL IT CAN BE

45 % FULL, OR A 45 % GAP?

- Conduit and other **containment** can carry most types of cable, but it's mostly used for **single-core** cables (singles). These have **only one layer of insulation** and no sheath.
- Singles **must** be installed in containment, and conduit is perfect for it.
- **General rule** for any containment, conduit or trunking: **don't overfill it**. For **trunking**, keep to the **45 %** space factor in **Appendix E of the On-Site Guide**. For **conduit**, Appendix E uses **cable factors and conduit factors** instead.
- There are calculations to work out exactly how many conductors fit in a given conduit or trunking. Those are beyond these notes.





Cable area ÷ internal area of the trunking ≤ 45 %.
Room is left so cables can be drawn in without damage and heat can escape. See On-Site Guide Appendix E.

The idea behind the 45 % rule: cables take up **no more than 45 %** of the inside, so **at least 55 %** is left empty. (Drawing shows about 43 %.)

Watch outA common mix-up is that Appendix E explains there should be "a 45 per cent gap" in the conduit. It's the other way round: **cables may fill up to 45 %** of the space (the **space factor**), leaving **at least 55 %** free. Also, Appendix E handles **conduit** with a **cable factor / conduit factor** method (which allows for bends and length of run) and uses the 45 % space factor for **trunking**. Check the tables in your own copy.

On-Site Guide · Appendix E · cable capacities of conduit and trunking (45 % space factor)

KEY REFERENCE: TAB IT

BS 7671 · Reg 521.10.1 · non-sheathed (single-insulated) cables must be enclosed in conduit, ducting or trunking

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