THE WHOLE INSTALLATION: A WORKED BOARD

DOES THE TOTAL FIT THE SUPPLY FUSE?

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A domestic board whose protective devices total **130 A**:

CIRCUIT	DEVICE
Ring final	32 A
Kitchen ring	32 A
Cooker	32 A
Immersion heater	16 A
Lighting, upstairs	6 A
Lighting, downstairs	6 A
Smoke alarms	6 A
Total	**130 A**

> ✋ **130 A on a 100 A supply fuse.** Without diversity that is an overload — and it would not announce itself. A modest overload on a PILC supply cable takes a very long time to show: weeks or months, not minutes. By then there is heat damage.

Which is why the supply is sized on **maximum demand**, not on the sum of the devices.

ARE THESE STANDARD CIRCUITS?

The question that decides which entry of Table A2 you use. On-Site Guide · Appendix H sets out the standard arrangements of final circuits. An ordinary domestic board is all standard circuits.

TABLE A2, ITEM 9 — STANDARD CIRCUITS

In On-Site Guide · Table A2, **item 9** (p.152) is the **"Standard arrangement of final circuits in accordance with Appendix H"**. For a household installation it says:

`100% of the largest circuit + 40% of every other circuit`

STEP	WORKING	RESULT
Total of all protective devices		130 A
Set aside the largest circuit at 100%	one of the 32 A circuits	32 A
What remains	130 − 32	98 A
40% of the remainder	98 × 0.4	39.2 A
Maximum demand	32 + 39.2	**71.2 A**

Which is the largest circuit?

Here there were three at 32 A — the kitchen ring, the cooker and another ring. Where several tie, it does not matter which you pick.

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