CHAPTER 46: ISOLATION AND SWITCHING

ISOLATION, OR SWITCHING OFF FOR MAINTENANCE?

The last chapter of Part 4, and the end of this lesson's ground. Four kinds of isolation and switching, and the exam wants you to tell them apart.

SECTION	TYPE	WHAT IT'S FOR	ON EVERY CIRCUIT?
462	**Isolation**	Making dead for work — the big red-and-yellow rotary switch on a machine, or the main switch	Every circuit must be **capable** of isolation, but not by its own separate isolator (a circuit breaker suitable for isolation does it)
463	**Functional switching**	Turning the thing on and off in normal use	**Yes**
464	Switching off for **mechanical maintenance**	Stopping moving parts safely	Where needed
465	**Emergency switching**	Cutting the supply quickly to remove an unexpected danger	Where needed

> § **463.1.1** — functional switching shall be provided for **each part of a circuit which may require to be controlled independently** of other parts of the installation.

So the answer to *"what is required for all single-phase equipment which requires separate control by the user?"* is a **functional switch**. Work the options out by elimination:

- **Double pole?** No — ordinary circuit breakers are single pole and that's allowed.
- **Isolator?** No — you don't have a rotary isolator on every circuit in a house.
- **Contactor?** No — same reasoning.
- **Functional switch?** Yes. A light switch is one. A switched socket is one. A cooker switch is one. And that unswitched socket behind the washing machine is controlled by the **switched fused connection unit** above the worktop — which is its functional switch.

462 — THE MAIN SWITCH IN A DWELLING

A typical Part 4 question: requirements for a main switch in a dwelling on a single-phase supply, **operated by an ordinary person**.

§ A main switch intended for operation by **ordinary persons** shall interrupt **both live conductors** of a single-phase supply — line **and** neutral. In other words it must be **double pole**, and it must be capable of switching **on load**.

What "on load" means in practice.
You don't have to switch every breaker off first and then pull the main switch. You can hit the main switch with the whole installation running. That's what the regulation is permitting.

Remember the person definitions from Appendix 5 here: **ordinary person** is the householder, **BA4 instructed** is someone working under a skilled person's instruction, **BA5 skilled** is a qualified electrician. The question hinged on that single phrase.

Chapter 46 · isolation and switching (Chapter 45 withdrawn)

462 · isolation · main switch, both live conductors, on load

463.1.1 · functional switching for each part controlled independently

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