

Consumer units – blanking pieces

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Question

Where blanking pieces are inserted to fill unused circuit breaker spaces, within a consumer unit, should the infill pieces fully fill the spaces or are small gaps permitted?

Considerations

1. BS 7671 'Requirements for electrical installations. IET Wiring Regulations. Seventeenth edition' refers to the requirement for consumer units to comply with BS EN 61439 - 3 'Low-voltage switchgear and control gear assemblies. Particular requirements for low-voltage switchgear and control gear assemblies intended to be installed in places where unskilled persons have access to their use. Distribution boards'.
2. BS EN 61439 requires consumer units to achieve a protection rating of IP2XC to avoid anyone contacting hazardous parts within the enclosure.
3. IP rating first numeral (0-6) relates to protection by limiting ingress of solid objects or parts of the human body. The second numeral (0-8) relates to resistance to ingress of water. (X = no requirement). The third letter (A-D) relates to enhanced personnel protection (C = an opening/ gap which allows a wire probe 2.5mm diameter to penetrate 100mm and be swivelled round without contacting hazardous parts).

Answer

When fitting a consumer unit all openings i.e. cutouts, knockouts and fitting of circuit breakers and blanking pieces are the responsibility of the installer to maintain the IP2XC rating. Any instructions provided by the manufacturer should be strictly observed.

IP2XC rating requires that hazardous parts within the enclosure cannot be contacted by a wire probe 2.5mm diameter and 100mm long. Any gaps between blanking pieces and circuit breakers should meet this requirement.



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