ELECTRICAL NOTE

CHANGING CIRCUIT PROTECTION

How to classify as alterations/ additions or repairs

A Certificate of Electrical Safety (CES), for either; additions/alterations or repair, is required when you change the circuit protective device of a final subcircuit.

These examples are considered an addition/alteration and a CES form is required under this category where;

- The circuit protection is a rewireable fuse and changed to a Miniature Circuit Breaker (MCB)
- The circuit protection is Eframe (or Quicklag) style and is changed to a MCB DIN mount style
- The circuit protection is changed from one value to another, for example:
  - from 20A to 16A
- The circuit protection is change from non RCD to an RCD
- The purpose of the circuit has changed, for example:
  - From a hot water supply to a socket outlet
  - From a wall heater to a socket outlet
- Where the meter box is changed or upgraded, then all circuit protection is required to be upgraded to meet the current wiring rules. For example:
  - from the old Canberra style (300mm x 300mm) to the NSW style (600mm x 600mm) meter box.
  - new meter box to accommodate additional meters.

These examples are considered a repair and a CES form is required under this category where;

  - The circuit protection is replace like for like
  - a 20A MCB fails and is replaced with another 20A MCB
  - a Quicklag CB to the Eaton equivalent CB

Electricians need be aware of AS/NZS 3000:2007 clause 2.6.3.4 regarding installing RCD circuit protection. In some situations, additional protection by RCD is required.

Rewireable fuse holder replacement is not allowed as they are now **banned**.

Changing the circuit breaker type – curves

Where the circuit breaker (CB) is changed from one response curve to another, (for example C curve to D curve), a Certificate of Electrical Safety (CES) is required. It is considered an alteration of the circuit protective device even if the current rating remains the same. The requirements of AS/NZS 3000:2007 clause 2.6.3.4 would also apply in this case.

Care should be taken as this change of CB response curve effects the maximum route length of the conductor and earth fault-loop impedance. The electrician should consult AS/NZS 3000:2007 clause 8.3.9 regarding earth fault-loop impedance and AS/NZS 3000:2007 Appendix B before making this change.