

RCD (Safety Switches) & Electrical Work

Effective January 2012 and as stated under the model WHS Regulations, it is mandatory for all businesses to install and have RCD's tested on every circuit in their business.

An electric switchboard is an assembly of panels where each panel contains switches that allow electricity to be redirected from one source to another. All users are protected from electrocution by safety switches (RCD's) and Circuit Breakers by automatically shutting off the electricity supply when current is detected leaking from faulty switches, wiring or electrical appliances. This stops the chance of current flowing to earth, through a person, electrocuting them.

RCD's monitor the current flow in the active and neutral wires of the power lead or device connected to it, all the time looking for an imbalance or difference in the currents in each wire. All RCD's must undergo a trip and push button test every 12mths and have a push button test performed every 6 months (as per Australian Standard AS3760:2010). When performing a 12 month trip test of the RCD, both the 180 degree circuits are tested by applying a load current of 30 amps, the RCD must then trip under 300msecs. If either the RCD fails to trip or fails to trip under 300ms, then it's an automatic failure and requires replacing. The 6 month test requires for the push button to be tested to ensure that there is tension in the spring and that the RCD cuts out the power supply to that particular circuit, if the RCD fails to trip or reset then it requires to be replaced.

A circuit breaker is an automatically operated electrical switch designed to protect an electrical circuit from damage as a result of overload or short circuit. Its purpose is to detect a fault condition and to immediately discontinue electrical flow by interrupting continuity. Circuit breakers also cut the power off when electrical wiring in a building has too much current flowing through it. In these cases, too much current flowing through a circuit heats wiring to unsafe levels, which eventually results in an electrical fire.