

Earth leakage

From: George Robotham [mailto:fgrobotham@gmail.com]
Sent: Friday, 17 July 2009 12:18 PM
To ?
To: Subject: Safety Inspection

Gidday ?,

Just to follow-up on the brief safety inspection report I sent you yesterday.

One of the things I mentioned was that I suspected the main building did not have earth leakage protection, I further suggested you should get an electrician to check out if my suspicions were correct in this instance and that all ? be checked to see if earth leakage was fitted.

These devices are referred to as earth leakage, E.L.C.B., Residual Current Devices, safety switches, core balance devices and probably a few other names I am not aware of.

There are some differences with these devices but essentially my understanding is that they interrupt a leakage to earth in under 20 milliseconds which has a reasonable chance of preventing an electrical fatality.

In case you are not familiar with these devices some information can be found at-
En.wikipedia.org/wiki/Residual/current_device and
ji.com.au/pdfs/RCDINSTRUCTIONS.pdf

A search on google under earth leakage or residual current device will pull up many other references.

A study that was quoted at a recent major safety conference showed electrical fatalities in Japanese manufacturing plants. In 1969 there were 38 fatalities. In that year R.C.D.'s were introduced and by 1972, electrical fatalities had dropped to 18 and by 1980 to 1. An extract from the paper "Be updated on a Recent Study of Damage Done at Work in Australia" by Geoff McDonald M.E., B.Sc., F.S.I.A. presented at The Qld Safety Conference 2009 says "Again a considerable number of Australians died unnecessarily because such devices were not legislatively required or installed"

I have not checked the legislation but would suspect with most ? in Qld. they would have been built awhile ago and there may not be a strict legal requirement to fit these devices because of the age of the buildings.

One must abide by all legal requirements but what I aim for is best practice that has been proved to save lives.

If my memory serves me correctly I was led to suspect ? did not have these devices during a safety inspection I conducted there.

It may well be that the fitting of these devices is not widespread in ?, it would therefore require a decision from senior management to fit these devices.

I had earth leakage fitted to my house about 20 years ago and experienced the occasional nuisance trip. A real trip was when my young son stuck a knife in the toaster.

Some people will tell you that nuisance trips are a major problem with these devices, my advice is that this is only a problem if your electrical circuits are poorly designed and / or maintained.

I have come across some organisations that only fit these devices in outside and workshop areas arguing that nuisance trips will be a problem with computers if they install them in office areas. I do not think this is a wise approach particularly as you also have things such as microwaves, toaster, jugs etc. in office areas.

My recollection is that these devices were made compulsory in the Qld. mining industry about 20 years ago and that they are now compulsory in all new homes built in Qld.

I will leave you with this matter to consider.

Regards,
George Robotham

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