

## Electrical Installation & Condition Report Common Problems



Proudhouse Property Management advocate electrical safety in the home and therefore we advise landlords that an Electrical Installation Condition Report (EICR) should be carried out on a periodic basis. However, landlords are often surprised by the findings of the report or sometimes state they don't need a report as they've already had electrical work completed recently and "everything was checked". Also, the EICR form is not very user friendly for the consumer and often needs further clarification. The aim of this information sheet is to provide further information and highlight some common issues that can arise.

### What is an EICR?

An EICR stands for Electrical Installation Condition Report and is an inspection and test of the electrical installation. The requirements and benchmarks are laid down in the IET Requirements for Wiring Installations (BS 7671). For a regular domestic property the process should take around 2 -3 hours although larger and older properties may take up to a day. Examples of aspects inspected include condition of accessories, presence of earthing and bonding conductors, correctly configured circuits and protective devices, correct glanding and termination of cables and conductors and correct IP rating (protection against ingress of water and dust). Areas of testing include resistance of circuits, insulation resistance (a test of the integrity) of cables, continuity of ring-mains and RCD reaction times. All the testing aspects are unseen! There is no way of knowing or predicting the results until the tests are done. So that's the overview - what are the common problems?

### Improvement Recommended, Potentially Dangerous or Danger Present

When the electrician observes a fault or non-standard aspect, he or she will allocate one of 3 codes.

C3 = Improvement Recommended

C2 = Potentially Dangerous - this usually means that if the fault found is compounded with another potential or foreseeable issue, then a dangerous situation will occur. e.g. if incorrect or lack of bonding cables are observed then this in



itself is not immediately dangerous; however, if a fault in the future caused exposed metal objects (eg pipes or radiators) to become live then very dangerous or potentially lethal voltage potential could arise.

C1 = Danger Present - this is an immediately dangerous situation, e.g. exposed or accessible bare conductors.

C1 or C2 codes will give rise to unsatisfactory report and remedial work will be required before the installation can be certified as "Satisfactory". It is worth noting that the electrician's role when carrying out an EICR is purely to inspect and test - he is not required to carry out remedial work as he goes along although immediately dangerous items should be made as safe as possible - this might mean disabling or isolating the affected aspect.

### Common Problems

1) A LANDLORD STATES THEY ALREADY HAVE AN ELECTRICAL CERTIFICATE:

Unless the certificate is an EICR then it will probably not give the landlord full assurance that the whole installation has been inspected and tested. The exception might be for a new dwelling or a complete rewire in which case the Electrical

Installation Certification would probably suffice. Often, the landlord has an Electrical Installation Certificate (not an EICR) - this is a different type of certificate! It is used to certify new work; e.g. adding a smoke detector circuit or changing a Consumer Unit. On the this type of certificate the Electrician is required to declare the “extent of the installation covered by this certificate” - so anything not declared has not been inspected and tested!

2) A LANDLORD STATES THAT THEIR CONSUMER UNIT IS NEW OR RECENTLY REPLACED: Similar to point 1, this means that the electrician will only certify the new work; that said, a new consumer unit should be installed on correct earthing and bonding cables and a prudent electrician would probably do some form of preliminary testing prior to installing RCDs to ensure there are no inherent faults on the circuit. However, a new consumer unit per se is not a test and inspection of the whole installation.

3) LACK OF RCD PROTECTION: RCD stands for Residual Current Device - it is an important safety device and detects a leakage of current to earth - in this event it will switch off the electricity supply. They are especially important for sockets used to supply equipment outdoors, eg lawnmowers etc. A landlord is required to ensure the electrical installation is safe to use - so in this context, lack of RCD protection will probably attract a C2 code. A consumer unit incorporating no RCD protection will almost certainly need replacing for a Satisfactory EICR to be produced.

4) SUPPLY CABLES AND EARTHING INCORRECTLY SIZED: Modern lifestyles mean that we are using more and more electricity; electric showers, electric ovens, multiple appliances, outside lighting, garages and workshops etc. all put more load and demand on the installation. As a consequence, supply cables and earthing cables often need upgrading to ensure they are correctly sized for demand also matched to the main supply fuse (normally 100amp).

5) OUTSIDE ELECTRICAL ASPECTS: These can often get overlooked by owners - also, it is part of the installation that is often retrofitted; DIY-ers like to set up a “man-cave” in the garage or a hobby room in a shed etc. and there is a tendency for the work to be undertaken to non-standard configurations. Armoured cable is usually required and, where it has been used, it is often not glanded and earthed correctly. RCD protection is a must. The irony is that outside locations are much more hazardous in an electrical context due to the presence of water and damp.

6) INCORRECT TEST RESULTS: Test readings cannot be predicted - on the day of test unseen faults may be revealed such as ring mains that have a break in their continuity - ie, there is not a continuous loop of cable from and returning to the consumer unit. Or a breakdown of the integrity of the cable might be detected. Results of testing and the minimum thresholds are laid down in BS7671 - and it is a straightforward pass or fail process.

7) GENERAL WEAR AND TEAR: Older properties are especially affected by this, e.g. cracked sockets, broken lampholders, cracked or broken covers on consumer units, missing labelling on consumer unit, exposed cores (the white or grey outer sheath is revealing the inner blue/brown or red/black conductors). All these aspects are usually quite easy to fix, but they can mount up!

8) DIY WORK: Domestic Electrical Work only came under the Building Regulations in 2005 (although it has always been covered by BS7676 or predecessor documents). As a result, DIY electrical work used to be very common and it is not uncommon (albeit illegal in many cases) today. It is quite easy to make a circuit to work - however, it is not so easy to be sure that the circuit is working safely. Can a DIY-er check RCD times? Do they know the max Ze for the type of MCB they're using? Do they know the difference between a B and a C type breaker? Have they factored in the operating temperature of the circuit? And do they know the derating factor to be applied when a cable is covered in insulation? Do they know why their circuit breaker trips before deciding to replace it with a larger capacity one (don't do this!)? These are rhetorical questions to make the point that often these aspects are only checked when an Electrician does an EICR for rental purposes!

## Summary

We see these problems occur quite often; remember that as an agent we have to advise safety and the best solution. Likewise, an electrician has to advise correctly and would be negligent if he or she failed to highlight shortfalls. But we also recognise that there is a trust issue - EICR reports are not easy to interpret and it can seem like work and invoices are being generated for seemingly meaningless work; it is a bit like taking your car to a garage; you want to trust completely your mechanic - not only for the safety of your vehicle but also to ensure that you are receiving honest advice and value for money. We aim to offer just that - we only use experienced and pragmatic tradesman who fully understand what they are advising and will help our clients to meet their obligations and legal requirements as a landlord.

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