



This guide is intended to inform and assist Members in formulating a suitable code when undertaking an EICR

Key information

- EICR codes can vary depending on the situation
- The inspector is key
- The decision is based on risk

1. Introduction

ECA Technical Department receive a number of phone calls regarding which code should be applied to specific faults on electrical installations where Members are conducting an inspection of an existing electrical installation with a view to producing an Electrical Installation Condition Report, EICR.

It is almost impossible to offer concise guidance on what code would be applicable as there are numerous factors that impact the decision making. Electrical Safety First Best Practice Guide 4 (ESF BPG 4) offers some excellent guidance on what may constitute a C1, C2 or a C3 on typical dwellings.

This guide, however, cannot cover every potential defect and every potential installation and it is therefore limited.

ECA felt it prudent to offer some guidance on how to come to a reasoned decision on what ECIR codes to apply to any defect.

2. Codes

There are 3 main codes which are to be considered within this guide:

- C1, recommend urgent action
- C2, although there is no immediate risk, recommend action is taken as a matter of urgency to remedy the defect
- C3, consider upgrading the installation

There are additional options available to the inspector, such as Further Investigation, but these are not covered within this guide.

3. Who recommends the code?

The inspector is the only person who can make an informed decision about what code is suitable in what situation as they are on site, can see the defect and can ascertain the impact that it would have on the level of safety of the building and the occupants. Wherever a need is seen to raise a coded item, the inspector should, where necessary, be in a position to quote the relevant regulation from BS 7671 to justify the matter. It is important to note that any item raised should be against the requirements of BS 7671, not against the inspector's personal judgement.

4. It is a risk assessment

When considering what code is relevant to any given situation, the inspector needs to consider the environment and the potential risk. A typical example would be an accessible exposed live part in a building occupied by non-skilled persons i.e. a dwelling. This would almost always default to a C1, as there is an immediate danger to persons in the environment.

But if you were to take the same exposed part and place it in an industrial environment with skilled persons, out of reach then the risk is naturally reduced and therefore a C2 may be more relevant. Indeed, in some such installations, exposed live parts that are either placed out of reach or behind obstacles could meet the requirements of BS 7671 – so in these instances an EICR should not see the issue as contravening BS 7671, hence no coding would be relevant.

So simply saying that scenario x results in outcome y, is not always suitable. Therefore a decision making process is required. To do this, we must first look at what the codes mean.

C1 – in this scenario there is an immediate danger of shock or fire to persons, property or livestock. In other words, there only needs to be a single event in order for something to go wrong.

C2 – in this scenario there is still something potentially dangerous, but there needs to be another fault or foreseeable action to occur in order for danger to arise. In other words, there needs to be a series of events in order for something to go wrong.

C3 – in this scenario there is a defect against BS 7671 but it does not present immediate or potential danger to persons, property or livestock. In other words, the defect does not comply with the current edition of BS 7671 but there is no or little potential of danger.

The decision tree listed in figure 1 expands on this.

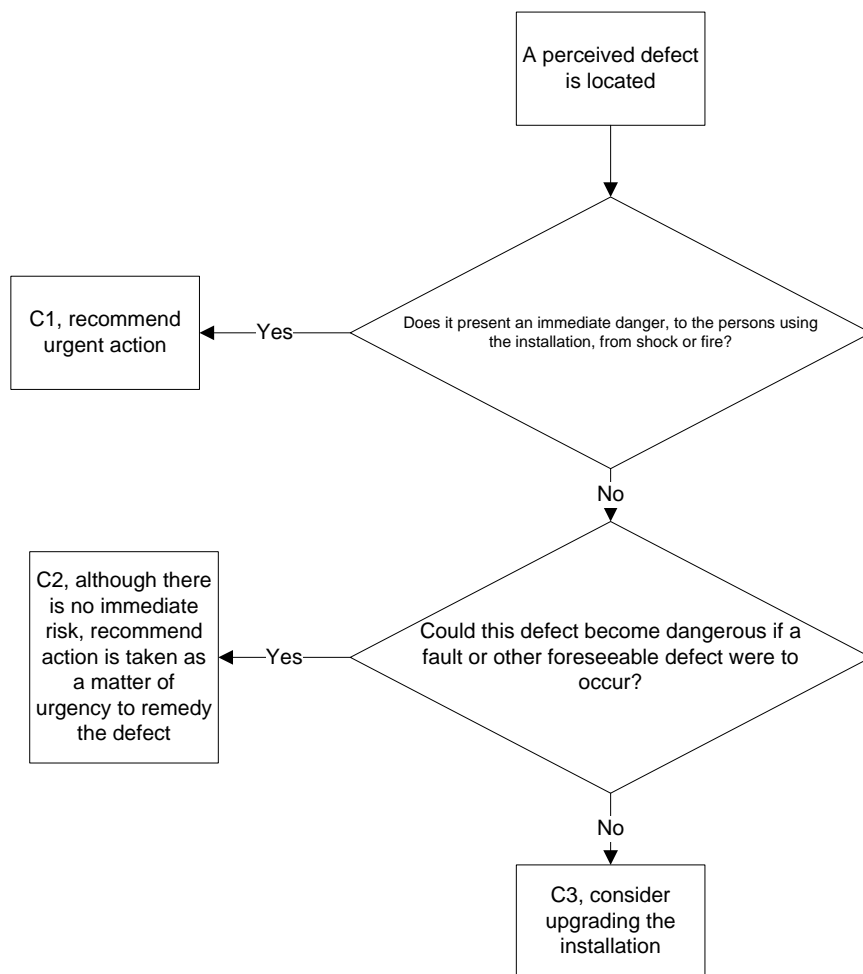


Figure 1 Decision tree for selecting an appropriate code during an EICR

5. Consequences of a code

It is also important to understand the consequences of any code raised during an EICR. Both a C1 and C2 result in an unsatisfactory outcome, therefore overzealous use of these codes can potentially cause disruption to the client, their building and possibly their business as well as possibly causing them to spend money unnecessarily.

Take the example of lack of RCD protection for socket outlets. The ESF BPG 4 rightly guides readers to offer a C3 for sockets for internal use without an RCD. Should a contractor decide that they are raising a C2 for lack of RCD protection for internal sockets, then were this installation to be in a hotel, office or the like, then the client could be looking at a significant cost to fix a situation that really should not arise. Of course, BS 7671 does not reference cost and neither should electrical safety. But the implications of getting a code wrong, whichever way it may be, can be enormous.

Alternatively, the inspector should not reduce a code from a more serious to a lesser code just because it is the whim of the client. The inspector has been employed as an expert in electrical safety and should not let their decisions become compromised by any external influence.

Therefore it is essential that the inspector be well versed in the requirements of BS 7671 and offer appropriate codes for each defect. They are the person on site and the only person who can make an informed decision about each defect and the severity of the impact on the safety of the building.

If need be, before raising a coded item, the inspector should always be in a position to 'pin a BS 7671 regulation number' on the issue if challenged. This is a good test of whether something is really relevant for inclusion on an EICR and correctly being flagged up.

6. Only defects against BS 7671 should be recorded

The EICR is specifically aimed at defects against the requirements of BS 7671. The inspector should not raise a code against defects noticed against other British Standards, however they are at liberty to raise comments or notes about these defects and inform the client.

Take the example of some defective emergency light fittings. If they are not offering any electrical hazard to the user, then they are effectively safe and therefore should not appear as a code on an EICR. However, this scenario may be a departure from BS 5266, and therefore it would be useful to inform the client of this situation on a separate document.

7. The inspection

In many cases issues related to electrical safety can be found with a thorough inspection. Therefore the level of inspection undertaken should be appropriate to the installation. This will, with adequate dismantling of equipment, undoubtedly highlight the majority of the electrical defects.

8. The ultimate decision

All the guidance cannot take the place of the skill, knowledge and experience of the inspector, therefore the ultimate decision is down to the inspector. The recognised industry guidance is there, as a guide, but can certainly be deviated from should the inspector be able to suitably argue the reasons for any deviation.

