

Although the Electrical Certificate has been a legal requirement for a long time, we still find that “misunderstandings” occur on a regular basis owing to the complexity of the Electrical Installation Regulation. The SANS10142-1 electrical installation regulations comprise of an entire book of complicated regulations and then we also have the Occupational Health and Safety Regulations to consider from time to time.

### **Why do I need an Electrical Compliance Certificate?**

A valid electrical certificate is a legal requirement. The owner of an “electrical installation” should be in possession of a valid electrical certificate at all times.

Electricity is potentially dangerous and a faulty or non-compliant installation has the ability to cause damage to property or harm to people through fire or electrocution. Sadly, in South Africa we see the results of “shoddy” electrical installations all too often.

The laws are there to protect you and your family.

### **How long is the Electrical Certificate Valid for?**

For a long time, the regulations on validity were quite vague, it seemed that an electrical certificate was valid forever as long as the electrical installation was not amended or worked on in any way.

Two shortcomings in this ruling are immediately evident:

- 1: Wear and Tear. Everything eventually breaks or wears out, including electrical equipment. There is simply no way an Electrical Certificate can be valid forever.
- 2: The new owner was simply expected to take the sellers word for it that he had not amended or worked on the electrical installation in any way in all the years he had lived in the premises. It's quite conceivable that he may just have forgotten that during that period he installed a swimming pool, automated the garage doors and front gate, installed 3 aircon units, replaced 90% of the light fittings and 3 socket outlets and added a few ceiling fans here and there.

The property industry realised that the purchaser, and all other parties involved, required better protection and reacted by making it a contractual requirement that a new certificate be issued each time a property is sold. It's important to bear in mind that it's not a piece of paper that's being transferred, it's an electrical installation that's being transferred and you need to be sure that the electrical installation that is being provided to the new property owner is safe.

The authorities eventually came to the party and passed a regulation stating that the electrical certificate can only be valid for an absolute maximum of two years, subject to no alterations or work being done during that period, sometimes an affidavit needs to be signed to this effect.

### **What is and what is NOT covered by the Electrical Certificate?**

#### **(a) What is covered by the Electrical Compliance Certificate?**

Unfortunately, we do not have the space here to discuss every little detail regarding what is checked during an electrical inspection as that would result in a rather lengthy book, but essentially the electrical certificate covers the permanent electrical installation which includes all the cables from the mains incoming point to the main distribution board.

Everything in the main distribution board and any sub boards, circuit breakers, earth leakage etc.

All the cabling from the distribution boards to switches and plugs, including the wall plugs and light switches, through to the connection at the lights.

It further includes all circuits and wiring to any fixed appliances, even if they are plugged into a wall socket, but it does not include the actual appliance itself.

The earthing system and connectivity throughout the installation.

The electrical certificate also includes the positioning of electrical equipment, e.g. light switches and plugs may not be within a certain distance of taps, shower, baths etc., the mains switch must be accessible and a within a certain height from the floor in case of emergencies.

All electrical equipment in the installation must be approved, SABS or other relevant approvals, and be of the correct type and rating for the application.

All electrical equipment must be installed in an approved manner, must be securely attached in place and suitably protected from little fingers gaining access.

All parts of the permanent electrical installation must be in good working order, including safety features.

The electrician will also take various readings to ensure that voltages, insulation, earthing and other values are within requirements.

The distribution board contains the heart of the electrical installation.

From here the mains incoming supply is split to the various plug, light and other circuits.

The circuit breakers protect against overload and short circuit faults, which could cause fires.

The circuit breakers and wire size need to be correctly rated according to the maximum amount of electricity that the connected circuit may be expected to carry.

The earth leakage protects against potential electrocution situations.

At least the main switch must be easily accessible in case of emergencies, preferably the entire board should be accessible.

**(b) What is NOT covered by the Electrical Compliance Certificate?**

As with all Certificates, we are obliged to follow the regulations. We do what is required and only what is required, we cannot compel the seller to do something that is not required.

An electrical certificate is very similar to the roadworthy test on a car, we are not servicing or upgrading the electrical installation but ensuring that what does exist complies with regulations and is deemed safe.

We do not simply replace things just because we do not like the way it looks or we suspect that it might break two months from now, if it's compliant and operational at the time of the inspection it passes.

We do not upgrade the electrical installation, older homes often have fewer socket outlets and light fittings simply because there was no demand for more at that time, they simply did not have the number of appliances we take for granted today.

The regulations state that each room only requires at least one operational light.

There are no regulations stating that a home must have a certain minimum number of socket outlets per room or a number of plug circuits, we have seen many older homes with no plugs in some rooms and only one circuit for the whole house.

In some cases, even the old fuse boards are still perfectly legal.

Many homes get sold with fixed appliances in place, we DO NOT check the actual appliances, but we do check that they are connected to the installation via approved means. This includes items such as ovens, stoves, hobs, aircon units, swimming pool pumps, bore hole pumps, pool lights, garage and gate motors, pond pumps, HVAC system, alarms, wall heaters and any other fixed appliance you can think of.

Temporary installations are not included, defined as something that can simply be unplugged and removed by hand that was clearly intended for temporary use only. E.g. you have run an extension lead from a plug in your bedroom through the window to a camping light you stick in the ground while braaiing outside, when you're finished you just unplug it roll up the lead and put it away, however if you have performed the installation in such a manner as to indicate that it is intended for permanent usage then it will need to be done according to regulation.

**Appliances are NOT included in the Electrical Certificate.**

**Why do we sometimes experience “tripping problems” after an Electrical Certificate has been issued?**

Part of the electrician's responsibility is to ensure that all the safety features and functions of the electrical installation are functioning correctly.

What should be earthed is earthed and that the earth leakage relay is operational and trips accordingly.

Remember when your safety features are operational and “tripping” it’s not actually a problem, it’s your electrical installation doing exactly what it is designed to and supposed to do to protect you from a potentially dangerous situation.

It could be a faulty appliance or circuit.

Very often what happens over the years is that safety features go faulty, are deliberately disabled or bypassed to “fix” a tripping problem instead of the actual fault being traced and rectified properly.

As part of our process of issuing a certificate, we replace faulty safety equipment and re-enable all the safety features and then suddenly that existing faulty circuit or appliance starts causing the earth leakage relay to trip when next used and the natural assumption is that we have somehow created a fault.

What also happens is the new owner moves in and they bring a “faulty appliance” with them which now causes the earth leakage to trip in the new home, or they move to an older home with fewer circuits that simply cannot meet the demands of all their modern appliances and they over load the circuits. Overloading is not a certificate issue; the new owner may need to upgrade the installation.

9 times out of 10 the tripping is caused by a faulty appliance that is being plugged in which can make it a very difficult “fault” to find as the fault condition is only evident when that particular appliance is being used, normal culprits can include, steam irons, kettles, geyser elements, pool pumps and many other appliances that involve heating, water or moisture, even extension leads.

So, if your earth leakage or circuit breakers are tripping it’s actually a good sign, it means your electrical installation is doing what it should be doing.

### **What is the procedure to obtain an Electrical Certificate & what is involved in the Electrical Inspection?**

Anyone can make the request for an Electrical Certificate: the seller, estate agent or transferring attorney, even if you’re not selling yet, but just want to have your electrical installation checked.

The Electrical Inspectors will require access to every part of the electrical installation, the main distribution board, every plug, light switch, light fitting etc. on the premises, not just inside the main dwelling, but garage, outside buildings and even roof spaces, etc.

It is necessary that all socket outlets and plugs be tested, so all appliances will be unplugged during the inspection. Readings will be taken once all appliances have been unplugged. Power will be switched off for a short period or two during the inspection.

Should the electrical installation be 100% compliant, an electrical compliance certificate is issued. In the event that rectifications are required in order to make the electrical installation compliant, a quotation is supplied for the repairs, which will have to be accepted before the repairs can be affected.