

Part 2

**PLEASE
STOP
DEATHS
SHOCKS
& FIRES**

Written by Clem Capdevila

Top 15 - Education on electricity - The Silent Killer

Education of electricity – The Unexpected Silent Killer.

- 1. Electricity is a silent killer.**
- 2. Electricity has no smell, no sound, no color when it is silently ready to harm you.**
- 3. Electricity can become present on metal fittings and water within our properties.**



Top 15 - The education on electricity - The Silent Killer continued

4. Contact with electricity can vary from a strong tingle to death.

5. Electricity must be taken very seriously.

6. Electricity over time destroys everything – appliances, cabling and fittings.



Top 15 - The education on electricity - The Silent Killer continued

**7. Electricity destroys everything.
As electricity passes through all
installations it produces heat.**

**This heat over time will break down
the surrounding materials that keep
the silent killer from breaking out.**

**The saying 'nothing
lasts forever' also
applies to
electrical
components and
installations.**



Top 15 - The education on electricity - The Silent Killer continued

8. All electrical works must be installed and repaired by licenced electricians.

9. Electricity can be contained, and measures of safety can be applied to significantly minimise the risk.

10. Whilst the electricity is-turned-on, the killer can never be 100% eliminated.

11. There are ways however, to control the risk from causing harm.



Top 15 - What types of risks can be exposed

12. Electrical risk can be exposed by many areas within your property causing electric death, shocks & fire.

The main dangers include:

- 1. Voltages on metal surfaces**
- 2. Voltages from cracked or damaged light switches and power points**
- 3. Unprotected consumer mains cable**
- 4. Arc flashing on loose connection points**
- 5. Lightning strikes and network surges**



Top 15 - What happens when a risk is exposed

13. When a risk is exposed when the installation has failed, electricity is now exposed to the atmosphere, metal surface or a body of water.

When electricity leaves the protective barrier that contained the electric current, the only outcome is death, shocks and property fire.



Top 15 - What is the likelihood of a risk occurring

14. Taken from webinars from the Queensland Electrical Safety Office.

The likelihood of a risk occurring is high.



Top 15 - How can the risk be controlled

15. Once a risk is exposed there are four products available in the industry worldwide.

- 1. A circuit breaker**
- 2. A safety switch or RCD**
- 3. An arc fault protection device**
- 4. Lightning strike and surge protection**



This is what a protective switchboard looks like

Top 15 - What are circuit breakers

A circuit breaker is a switch located in the switchboard that cuts the power when:

- 1. The power drawn is too high**
- 2. Two cables have made contact with each other**

A circuit breaker protects the cable from causing two out of fifteen types of property fire.



Top 15 - What are safety switches

A safety switch or RCD is a switch located in the switchboard that cuts the power when:

- 1. The electricity enters your body**
- 2. The leakage (loss) of electricity permissible is too high**

A safety switch or RCD is the only device that can save a life or serious electric shock

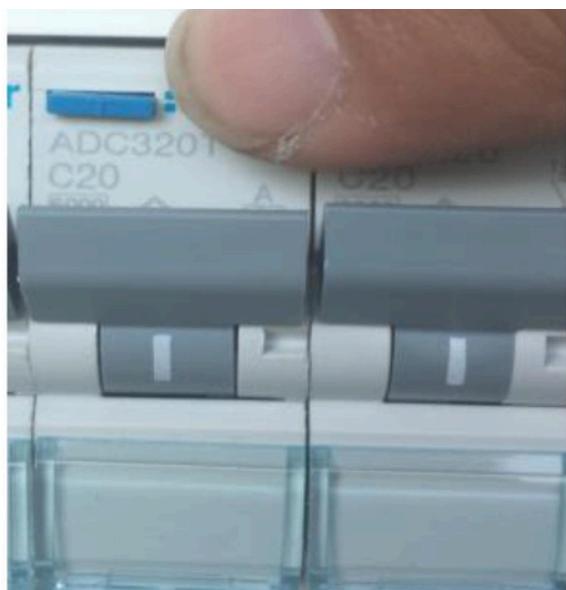
Safety switches on all circuits are a must



Top 15 - Safety switches explained

Safety switches (RCD's) have a TEST button. they must be tested as per the manufacturer's instructions. They vary from monthly, three monthly to six monthly.

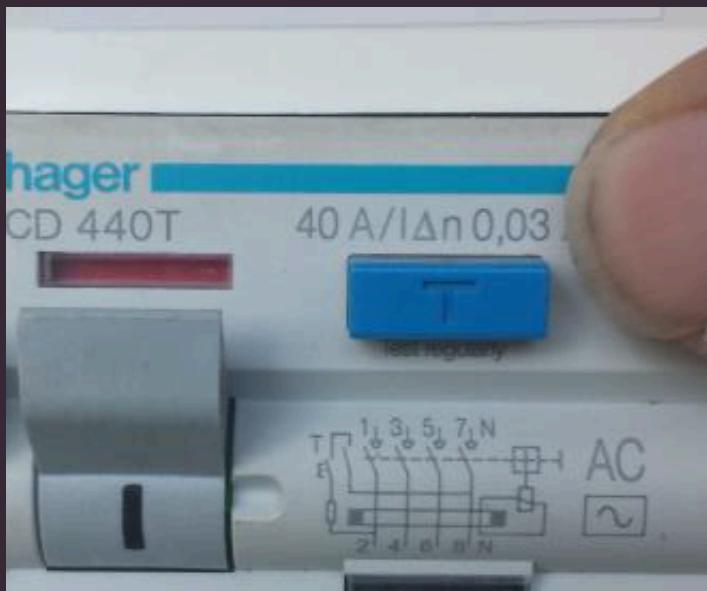
It is best to know sooner than later if your safety switch has failed testing and is placing you at risk of the electric silent killer.



Top 15 - Safety switches continued

All new safety switches have a sticker on how-to-test the safety switch and how often.

In all cases even when the sticker is placed near the switchboard, it is hard to read them. The process is:



- 1. Press the TEST button**
- 2. The lever will drop**
- 3. Lift the lever back up**

From a new switch, this will maintain the correct functionality of the safety switch for a period of up to 10 years.

Top 15 - What are arc fault devices

An arc fault device is a switch located in the switchboard. An arc fault device has three built in protection devices:

- 1. A circuit breaker**
- 2. A safety switch (RCD)**
- 3. An arc fault detection computer**

An arc fault detection computer cuts the power to 13 possible arc faults causing property fire.



Top 15 - Arc fault devices explained

An arc fault device has an internal motherboard that monitors electricity like no other device.

Unlike conventional circuit breaker and safety switches (RCD's) that gather dust clogging internal moving parts. Recommending replacement every 10 years.

An arc fault device has all moving parts encapsulated in a dust proof barrier.

Therefore, incredibly lasting 100 years.



Top 15 - How does an Arc fault device work

An arc fault device has two levers.



A black lever & a white lever



**When the black lever drops
A fire is stopped**



**When the white lever drops
A life is saved**

Top 15 - Arc fault devices continued

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Top 15 - What is lightning & surge protection

A lightning and surge protection when referred to your switchboard is different to the home devices you might have.

The lightning and surge protection system is connected to your switchboard.

Providing full property protection from damaging lightning strike and network surges.



Top 15 - Lightning & surge protection explained

What does a lightning and surge protection system connected to your switchboard protect?

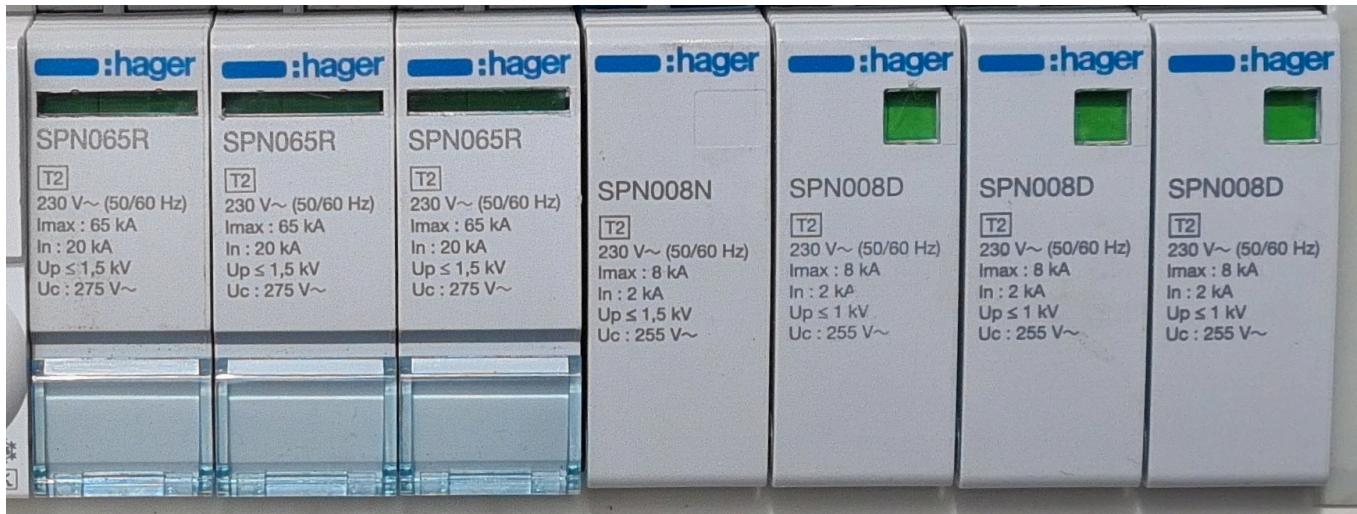
In the event of a lightning strike or network surge:

- 1. The switches on your switchboard**
- 2. The property cabling**
- 3. The appliances plugged into power points**
- 4. The fittings and fixtures hard wired to property cabling**



Top 15 - Surge protection continued

What does a 3-phase switchboard surge protection system look like?



- 1. Check every 3 months the color of the window**
- 2. If the color is black - contact your electrician**

How to Stop the Electric Silent Killer

11. There are 10 main requirements to significantly reduce the risk of electrical harm to the community.

No.1 Install arc fault protection devices on all circuits with switchboard lightning & surge protection.

No.2 Electrical cables need to be tested – replaced if they are over 50 years old

No.3 Replace all cracked switches and power points.



How to Stop the Electric Silent Killer

**No.4 Protect all electrical
installation cables exposed, that
you can reach with your hands or
lean objects against.**

**No.5 Appliances must be periodically
tested.**

**No.6 A property
periodic testing
schedule must be
implemented.**



How to Stop the Electric Silent Killer

No.7 Ensure all rats, possums and termites are removed from electrical cabling areas. Protection must be installed if removal is not possible.

No.8 Always use a licenced electrician to perform electrical works.

No.9 Test taps for signs of the Silent Killer.

No.10 Test your safety switches monthly.



How to Stop the Electric Silent Killer

**12. Damaged extension lead must
placed immediately in the rubbish.**

**Damaged extension leads have
caused harm and death to the
community.**

Just get a new one.



How to Stop the Electric Silent Killer

**13. Power boards can slow down
safety switch trip times.**

**They can also cause faults that
prevent safety switches from
tripping.**

**Talk to your electrician about
installing
4 and 5 point
power points.**

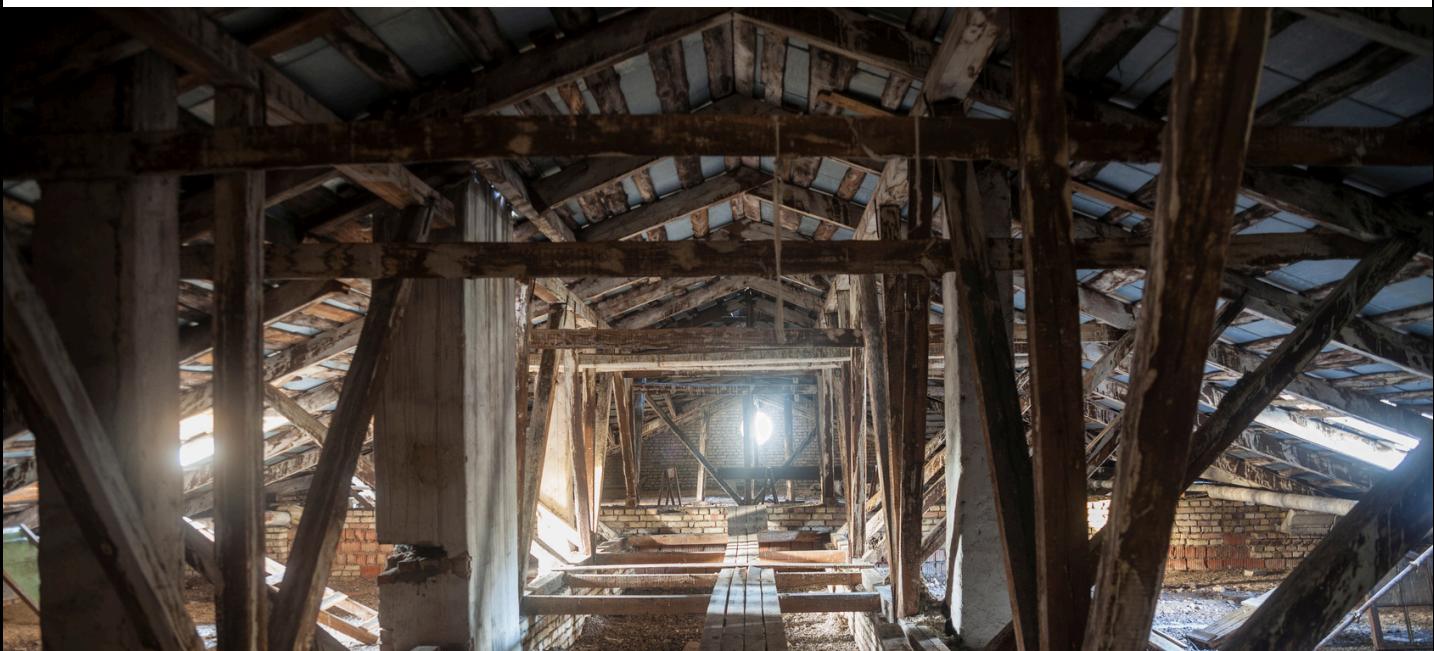


How to Stop the Electric Silent Killer

**14. Before entering your roof space
always turn off all the power.**

**Many dangers can exist in a roof
space that have caused harm and
death to the community.**

**Always turn off all switches on the
switch board before going up.**



How to Stop the Electric Silent Killer

15. Periodic testing can be performed with a combination of the electrician and DIY checking procedures. The author has made this possible via a selection of additional e-books and Community Check Kits.

For a feeling of real peace of mind, knowing the unexpected Electric Silent Killer, is no longer unexpected and preventable.



Quality parts do matter

In electrical, cheap parts means a faster path to the killer.

Quality parts will contain the killer for a longer lifespan with increased insulation around cables and superior protective barriers and materials.



What is the life of electrical appliance, fittings and fixtures

Lifespan can vary from product to product. Listed is a general lifespan of the most common items found in a property.

1. Electrical cables that power properties for lights, power points, ovens, cooktops, hot water systems, solar systems, spas, sheds, air conditioners, pools and electric smoke alarms.

30-50 years

Note that some cables after 5 years have exposed the Silent Killer.



What is the life of electrical appliance, fittings and fixtures continued

2. Power points and light switches	.	2-10 years
3. Appliances		2-10 years
4. Safety switches		
- if tested correctly		10 years
- If not tested correctly		1- 4 years
5. Arc fault protection devices		
- if tested correctly		100 years
- If not tested correctly		unknown
5. Lightning & surge protection devices		
- as per lightning or surge destruction		
- Replaceable cartridges are available		

Rewiring properties

**An electrical cable has a lifespan of
between 30-50 years.**

**After this time, deterioration in the
electrical cables can cause
malfunctions that can prevent
safety switches from saving your
life and
exposing the
Electric
Silent Killer.**



Rewiring properties continued

An example is- the power points are working and a safety switch is installed at the switchboard.

However, in the event of a fault occurring, the safety switch is unable to function correctly when the Silent killer presents itself.

Due to the old cables deterioration preventing the safety switch working correctly.



Rewiring properties continued

When purchasing a property – Keep in mind.

- 1. How old is the electrical wiring – have it checked, never believe the seller.**
- 2. Calculate how long before you must rewire the property – create a budget.**



Stopping the killer

1. Educate the community.

2. Upskill electricians via upskilled training organisations.





click here to view

PART 3

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