

December 2020

WARNING

Fractal burning

This safety alert highlights the serious health and safety risks involved with the practice of fractal or 'Lichtenberg' burning which involves the use of high-voltage electricity to create patterns in wood.

What happened?

Since August 2020 WorkSafe has been notified of two fatal incidents involving the use of high-voltage electricity to create patterns in wood. In both incidents, the person doing the fractal burning was electrocuted. WorkSafe is currently investigating both incidents.

What we know

Fractal burning is a relatively new technique which creates patterns in wood that resemble branching or fractal patterns by applying electrical current from a high-voltage source across wood items that may have been soaked with a chemical solution.

This involves using a high-voltage transformer, which is often repurposed from a neon sign or an appliance. These devices are extremely dangerous as they typically contain live accessible wiring and components which makes them unsafe for any use or handling.

WorkSafe's advice

The risks associated with high-voltage electricity are far greater than those associated with low-voltage electricity within installations to power appliances.

Fractal or Lichtenberg burning is a dangerous practice which exposes the user to high-voltage electricity. The manufacture or assembly equipment for fractal burning - referred to as Lichtenberg machines - is also potentially dangerous.

There is no way to make the equipment or its use safe without a specifically designed enclosed apparatus.

WorkSafe warns people not to manufacture, assemble, or supply, equipment such as Lichtenberg machines that use high-voltage energy sources.

WorkSafe warns people not to use Lichtenberg machines or similar high-voltage devices.

Where can you find information?

For more information on electrical safety in general, head to WorkSafe's website:

[Electrical safety compliance](#)

[Electrical safety at home](#)