

safety matters

Construction
Toolbox Talks

From your safety partners at **Crendon Insurance Brokers Ltd**

Arc Blasts Can Be Instant Fire Starters

Dealing with high voltage while performing electrical work can be very dangerous and, when things go wrong, the results can be catastrophic. Of such events, arc blasts are near to the top of the list when it comes to the most hazardous. Arc blasts send a luminous, high voltage current through the air which can reach temperatures well over 15,000 degrees Celsius. At such high temperatures, an arc blast cannot only cause severe injury or death but can also present a serious fire hazard. That is why it is extra important to recognise such risks and prepare for them in a way that ensures your safety and the safety of those around you.

Hazards of Arc Blasts

There are three primary hazards associated with an arc-blast:

1. Arcing gives off thermal radiation (heat) and intense light, which can cause severe burns. Several factors affect the degree of injury, including the area of skin exposed and the type of clothing worn.
2. A high-voltage arc can produce a considerable pressure wave blast. A person 0.6 metre away from a 25,000-amp arc feels a force of about 215 kilograms on the front of the body. The pressure wave can throw the victim away from the arc-blast and can cause serious ear damage and memory loss due to concussion.
3. A high-voltage arc can cause the copper and aluminium components in electrical equipment to melt. These droplets of molten metal can be thrown great distances by the pressure wave. Although these droplets harden rapidly, they can still be hot enough to cause serious burns or cause clothing and nearby materials to catch fire, even at distances of 3 metres or more.

Protect Against Arc Blasts

By using the appropriate control methods the risk of arc blast can be greatly reduced.

- De-energise any equipment that needs to be worked on. Never use convenience or time constraint as an excuse for not turning the power off.
- Use isolation/lock-off practises to prevent accidental start-up while you are performing work.
- Test the voltage before starting work to ensure that equipment has been de-energised.
- Use the proper personal protective equipment such as voltage-regulated gloves, fire resistant clothing and a face shield. Always use PPE in addition to other safety controls.
- If you must work with live power make sure that the immediate area is clear of any flammable materials or explosive vapours or gases that could ignite in the event of an arc.

Not only do arc blasts have the potential to cause severe injury or death, but they pose a serious fire hazard.

Use the proper safety controls to reduce the risk of arc blasts in your day-to-day operations.



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Extinguishing Electrical Fires

If a fire does break out as a result of an arc blast or other electrical malfunction it is important to respond with the proper fire control method.

- Only use fire extinguishers that are rated for electrical fires. Extinguishers meant for other materials may make electrical fires worse.
- Never use water to stop an electrical fire.
- If the fire is beyond your ability to control, call 9-9-9 immediately.