9 ARC FLASH MYTHS BUSTED

ProGARM®
PROTECTING LIVES

TRUST THE ARC FLASH SPECIALISTS

WHAT IS ARC FLASH

An electric arc, also known as an arc discharge, occurs when an electrical discharge or short circuit moves through the air. Voltage spikes, worn connections, cable strikes or gaps in insulation are just some of the reasons that an Arc Flash occurs. A flash of intense energy is the result, and is capable of causing serious harm to anyone caught by it.

The energy expelled by an Arc Flash can be deadly, with temperatures reaching up to more than 19,000°C. It goes without saying, this can burn clothing and human skin within fractions of a second, injuring anyone within a five to six metre radius.

At the same time, an Arc Flash can result in an explosive pressure wave that can throw workers across the room and a sound blast that can rupture eardrums. It is also accompanied by a bright flash which can cause temporary or even permanent blindness.

MYTHS BUSTED

AN ARC FLASH INCIDENT SHOULD BE RECOGNISED AS A REAL DANGER TO YOUR TEAM.

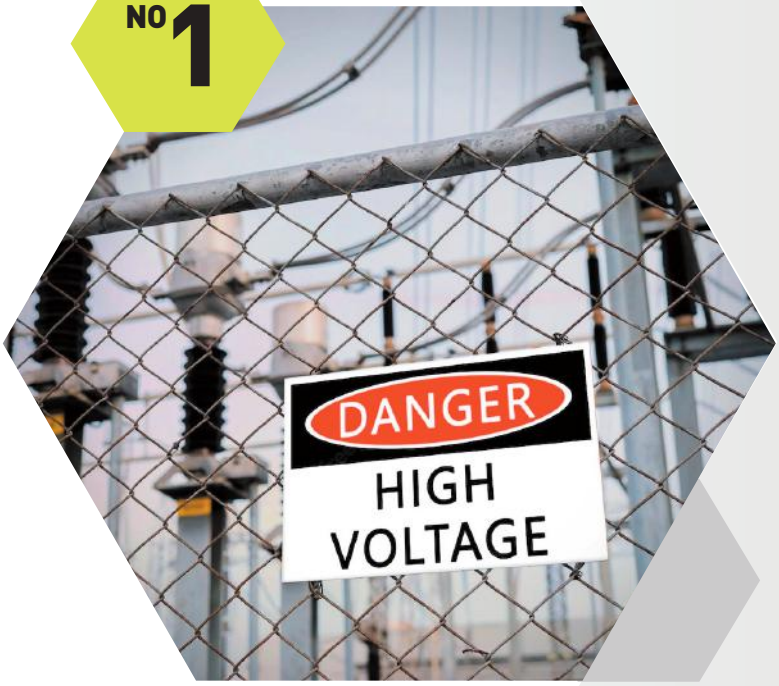
While it's difficult to eliminate the risk of an Arc Flash entirely, knowing the truth versus fiction when it comes to these incidents can be the difference between surviving relatively unscathed and serious, long term injury or even death.

There are a whole host of Arc Flash myths which are bandied about as truths.

Anyone who has worked in environments with an Arc Flash risk knows that these flashes of intense energy are no joke. Presenting a real risk to health and even to life, it's essential that electricians, electrical engineers and anyone else responsible for or working on electrical switchgear is able to separate fact from fiction.

So, what's the truth?

NO 1



ARC FLASH MYTH 1
ARC FLASH ONLY HAPPENS ON HIGH VOLTAGE SYSTEMS

BUSTED – it's easy to see why this Arc Flash myth has sprung up, and there is some truth in it. Generally, Arc Flashes occur in systems that are 120 volts or higher, but that is not a hard rule. If the conductors are very close together, even a lower voltage level can create an arc flash.

A LV Voltage Arc Flash, upwards from 120V+ can be just as devastating and dangerous as HV. Voltages below 120V can still be a risk. In fact, it can be argued they're a higher risk, because people are less likely to take the appropriate precautions to protect themselves for "just a spark", operating without life saving protection.

But if a low voltage Arc Flash comes into contact with a highly flammable material (dust, sawdust, cotton, etc) it can cause a devastating fire.

Systems operating at a higher voltage are going to have greater Arc Flash potential. In very high voltage systems, an Arc Flash can span several feet and trigger explosions.

NO 2

ARC FLASH MYTH 2
YOU DON'T NEED ARC FLASH PPE, FLAME RESISTANT KIT WILL DO THE JOB

BUSTED – It would be reasonable to assume that flame retardant (FR) PPE will keep you safe in an incident, but this Arc Flash myth could prove deadly. While FR-rated clothing will work to protect you from flames, it doesn't protect you from the high-voltage burst of thermal energy that could hit you if you're unlucky enough to get caught up in an Arc Flash. That blast can throw you across a room and cause a noise that can pierce eardrums and create a light that can blind you.

Arc Flash clothing has separate safety standards that go further than those for fire resistance, and quite rightly. Even if you're standing six or seven metres away, the extreme heat and energy from an Arc Flash can burn skin and flesh, even without setting clothing on fire.

We also know that the whole garment has to protect you from the effects of an Arc Flash, so our research and development has focused not just on the fabric but on the buttons, zips, Velcro and reflective strips to make sure that they still do their job and will work if the worst happens and you need to take your clothing off to be treated.

View this video to see the difference in protection for yourself

ARC FLASH MYTH 3

ONCE A PIECE OF EQUIPMENT HAS BEEN ASSESSED FOR ARC FLASH HAZARD, THERE'S NO NEED TO RE-DO THE STUDY

BUSTED – This one is really dangerous. As we all know, things change over time. Equipment ages, new regulations, information and equipment change the way we do our jobs.

Anyone working in an Arc Flash risk environment needs to keep their knowledge and training up to date, assess risk dynamically, deploy equipment safety and make good decisions for themselves and the people around them.

Employers need to make sure training and signage is up to date so all employees have the best, most relevant information available. As part of a comprehensive health and safety strategy, regular assessment and testing should highlight any new or additional risks.

ARC FLASH MYTH 4

ONLY THE PERSON WORKING ON THE EQUIPMENT NEEDS TO WEAR ARC FLASH PPE

BUSTED – Everyone working in a shock hazard area needs to be protected. Your Arc Flash assessment will calculate the size of the risk and help you determine where your "safe" boundary is, but everyone working within the risk area needs to wear PPE.

People have been the victims of severe burns from five or six meters away from the source of the flash and Arc Flashes aren't discerning. They won't only hit the people wearing the right kit.

In addition to the burn risk, pressure waves caused by an Arc Flash can throw people across a room, a sound blast can rupture eardrums and the bright flash can cause temporary or even permanent blindness

ARC FLASH MYTH 5

AS LONG AS YOU WERE ARC FLASH CLOTHING AS YOUR TOP LAYER YOU'LL BE PROTECTED

BUSTED – All too often, we find people have been misled into believing that wearing standard clothing under an Arc-rated top later of PPE will provide sufficient protection in the event of an Arc Flash. But it's not enough to rely on an outer layer of protective clothing. During an Arc Flash incident, temperatures can reach 19,000°C. This is hot enough to melt standard clothing, potentially causing significant injuries.

Watch this Video to see the difference for your self

That's why we recommend those working in high-risk environments wear Arc-rated clothing for every layer.

Not all Arc Flash protective garments are manufactured equal. Whilst many garments meet minimum standards you need to ensure that the level of protection and quality of garment are sufficient to provide the protection the wearer needs. Quality Arc Flash protective garments from ProGARM won't simply allow you to survive an incident, they will significantly reduce the level of injury that is sustained.

ARC FLASH MYTH 6

ARC FLASH IS ONLY A RISK IN WELDING, NOT OTHER TASKS

BUSTED – Arc Flash incidents are common across industries such as power generation, utilities, industrial electrical and the rail industry.

Those working with power supplies, whether high or low voltage, in distribution centres and industrial and commercial maintenance teams are all at risk of Arc Flash incidents. Teams working in the power generation sector are constantly at risk of being exposed to an Arc Flash. Cable strikes when breaking ground are also a significant threat. working within the risk area needs to wear PPE.

NO 7

ARC FLASH MYTH 7

COTTON UNDERWEAR AND SOCKS ARE FINE, IT'S SYNTHETIC FIBRES I NEED TO AVOID IN ORDER TO STAY SAFEAS LONG AS YOU WERE ARC FLASH CLOTHING AS YOUR TOP LAYER YOU'LL BE PROTECTED

BUSTED – To survive the intensity of an Arc Flash, it's essential that all your base layer clothing – including underwear – is safety approved and appropriately Arc Flash-resistant.

Lab tests have proven this to be substantially more effective at reducing burns. Non-melting clothing (such as cotton, wool, silk and leather) offers no protection against ignition and could cause serious burns in a fire or arc flash incident.

Arc Flash base layers, including leggings and long-sleeve tops as well as underwear are designed to contribute to Arc Flash protection and can be comfortably worn under all our other Arc Flash protective clothing.

NO 8

ARC FLASH MYTH 8

SAFETY GLASSES/SUNGLASSES WILL BE ENOUGH TO PROTECT MY EYES IN AN ARC FLASH ARC FLASH IS ONLY A RISK IN WELDING, NOT OTHER TASKS

BUSTED – Safety glasses or sunglasses offer protection only to your eyes, leaving the rest of your face exposed.

A full-face visor is recommended to provide the protection you need in an Arc flash incident. In addition, safety or sunglasses are generally made of plastic, which will melt in the 19,000°C temperatures generated by an Arc Flash. Our visors will protect your face from burns, your eyes from bright light and are tough enough to withstand the impact of any masonry or other projectiles caused by an explosion.

NO 9

ARC FLASH MYTH 9

I'VE NEVER SEEN AN ARC FLASH SO IT CAN'T POSSIBLY HAPPEN TO ME

BUSTED – An Arc Flash event may not be a daily occurrence in your business, but they are happening multiple times every working day in the UK. Alarmingly, our own research revealed that a staggering 57% of electrical workers had first-hand experience of an Arc Flash incident having either experienced or seen someone else suffer a strike during their career.

This suggests the frequency of Arc Flash incidents is far higher than officially reported electrical incident statistics might suggest. The HSE states that around 1,000 workplace electrical incidents are reported to them each year, with around 25 people a year dying from their injuries. Read more about the frequency of Arc Flash incidents here.

Risk assessment and precautions through safe working practices will limit the possibility of an Arc Flash incident but won't eliminate the risk. Wearing the correct Arc Flash protective garments for a specific risk level will further increase safety.

Our Arc Flash personal protective clothing provides more protection than other standard flame-resistant clothing thanks to our exclusive VXS+ fabric. Because it's made from fibres that have inherent flame-retardant properties, the protection can't be washed out or fade with wear.

RISK ASSESSMENT AND PRECAUTIONS THROUGH SAFE WORKING PRACTICES WILL LIMIT THE POSSIBILITY OF AN ARC FLASH INCIDENT BUT WON'T ELIMINATE THE RISK.

Wearing the correct Arc Flash protective garments for a specific risk level will further increase safety. Keeping your team safe is the number one objective. No business supplies more Arc Flash and Flame Resistant protective garments in the UK than ProGARM, and that's because we're specialists in this innovative type of clothing.

That's why we have developed a range of protective clothing that puts safety first. Whether you work in Power Generation, petrochemicals or on the railways; if your team members are exposed to Arc Flash risks and hazards in an industrial electrical environment or when they are breaking ground for a utility business then we are the Arc Flash protection expert who understands your sector.

Our Arc Flash personal protective clothing provides more protection than other standard flame-resistant clothing thanks to our exclusive VXS+ fabric. Because it's made from fibres that have inherent flame-retardant properties, the protection can't be washed out or fade with wear.

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