



## WORKPLACE SAFETY AND HEALTH NOTICE (WSHN)

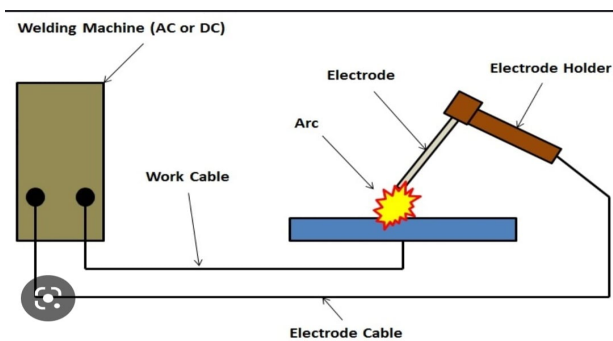
TOPIC <b>WORKER FATALLY ELECTROCUTED FROM ARC WELDING ACTIVITY AND FELL FROM HEIGHT</b>				Reference Number <b>2023/WSHN/05</b>
Approved by: Acting Director of Compliance and International Affairs Division	Endorsed by: Acting Interim CEO	Issue date: 2 <sup>nd</sup> November 2023	Expiry date: None	Revision No: 1

The Safety, Health and Environment National Authority (SHENA) would like to remind all principals, employers, occupiers, self-employed persons and persons at work to be aware of the risks associated with the use of portable electric arc welding machines and to take the necessary safety precautions to avoid undesirable incidents in the workplace.

In December 2022, a fatality occurred while using an unsafe portable electric arc welding machine. The deceased person was performing welding work on a scaffolding platform when he was electrocuted and fell on a hard surface. The incident was classified as a workplace fatality accident.

### What is arc welding?

Arc welding is a welding process that uses electricity to generate heat to melt and join metals. A power supply is needed to create an electric arc between a consumable or non-consumable electrode and the base material, using either direct (DC) or alternating (AC) currents.



Arc Welding Illustration Source: Google –  
[www.processpiping.com](http://www.processpiping.com)

### What are the Potential Hazards and Risks associated with Arc Welding?

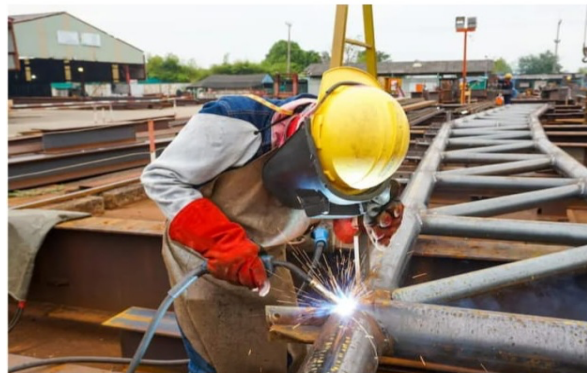
Electrical and fire hazards, which may cause potential risks of electrocution leading to burns and severe injury or even fatality.

### What are the Potential Causes of Electrocution and Burns?

- Direct contact with the electrode or other live welding parts or other devices such as unearthed cable or tool.
- Risks may increase in conditions of high humidity, moisture, confined spaces and conductive area, for example, scaffoldings and metal gratings.

## What are the necessary safety precautions to avoid welding hazards?

- To conduct risk assessment associated with arc welding activity and establish appropriate safety measures, safe working procedures and emergency response procedures. (Note that the risk assessment shall also reflect the conditions where the arc welding activity is conducted, especially at high-risk workplaces. For example, arc welding activity conducted at height, welding in confined spaces, etc.)
- Workers must be competent and well-trained in the safe operation of arc welding activities. This includes understanding the potential hazards involved and placing appropriate controls as mitigation before carrying out the task.
- Wear appropriate Personal Protective Equipment (PPE) such as insulated gloves, safety helmet, safety boots, safety goggles, welding mask, ear protection and protective clothing, for arc welding works.



*Arc Welding Activity with appropriate PPE. Source: Google-Flux-Cored Arc Welding*

- Perform regular checks on the integrity of welding equipment by a competent person.
- Ensure the electricity supply to the equipment is equipped with Residual Current Devices and recently tested by a Qualified Person.
- Refer to the manufacturer's instruction manual and follow the recommended use of the welding machine. Avoid using modified welding machines.
- Ensure the arc welding machine is equipped with suitable accessories e.g., cables, plug, electrode holder, etc. designed for the machine and visually inspect the integrity of the accessories from damage.
- Avoid arc welding activity in wet or damp conditions.
- For outdoor use, ensure the arc welding machine is rated to the suitable Ingress Protection rating (IP).
- Keep the arc welding machine, work area and gloves dry during an arc welding operation to avoid electric shock.
- Avoid direct contact with the live parts of the arc welding machine such as the electrode and the workpiece.
- Switch off the arc welding machine when it is not in use.
- Practice good housekeeping, for example, clear away any wood, fabric, cardboard, or other flammable material before the start of work and ensure the work area is maintained clean and tidy.
- Install Voltage Reduction Devices for the arc welding machine to reduce the risk of electrocution when performing arc welding work.

All principals, employers, occupiers, self-employed persons, and persons at work are hereby reminded to always comply with the Workplace Safety and Health Order, 2009 and its regulations made thereunder. The law ensures that those who create the risks reduce those risks to persons (employees and public), assets and the environment, to As Low As is Reasonably Practicable (ALARP).

Should there be any questions concerning this Workplace Safety and Health Notice, please do not hesitate to contact SHENA at +673 238 2000 or query at the “General Enquiries” button on the SHENA website [www.shena.gov.bn](http://www.shena.gov.bn). SHENA would like to thank all stakeholders for their cooperation in ensuring Brunei Darussalam is a safe place to work and live.

**END**