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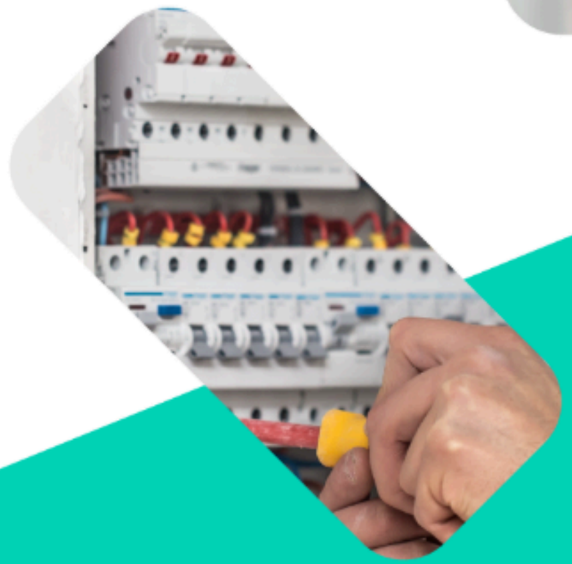
Electrical safety



Training objectives

- To remember the basic principles of electrical safety
- To remember and recognize electrical hazards
- To remember how to safely handle electrical equipment
- To reduce the risk of electrical accidents in the workplace
- To remember what actions to take in the event of an electrical accident

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Direct and indirect types of electrical injuries

Direct Types

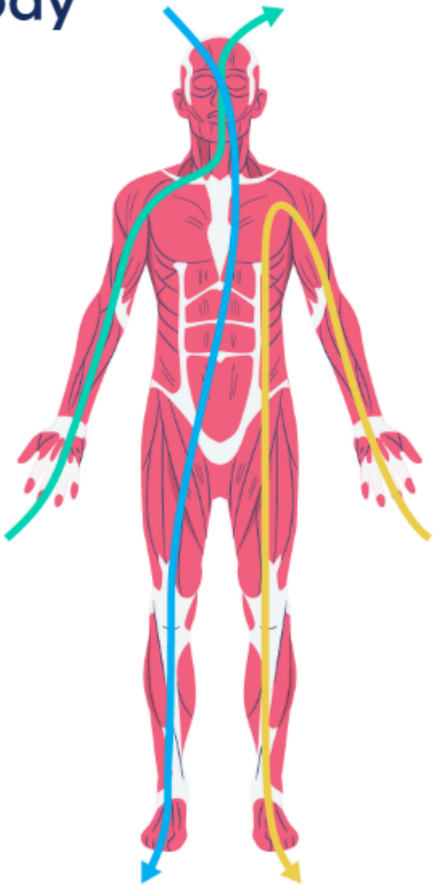
- Electric shock or death due to electric shock (electrocution)
- Electric shock
- Burns
- Hearing loss due to electrical arc flash/explosion

Indirect Types

- Falls
- Fire
- Explosion

The anatomy of electricity flowing through the body

Alternating Current (AC) Current (mA)	Effects on the human body
1000	100-watt light bulb is lit
900	Severe burns. Death is almost certain. If they survive, they have severely burned organs and will likely need amputations
300	Stopping breathing
100	Usually fatal – ventricular fibrillation, the heart stops beating
25-74	Respiratory muscles are paralyzed and suffocation, pain, and visible burns are possible
10-24	16 mA is the maximum current that even the average man can handle and "run." Later, the muscles contract, so you freeze and can no longer tear yourself away from the electric current
2-9	Low-intensity shock. Automatically bounces off electrical appliance, current
1	Slight tingling sensation, barely noticeable



Did you know?

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The anatomy of electricity flowing through the body

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The severity of electric shock depends on:

- The path of the current through the body
- The amount of current flowing through the body (in amperes)
- The duration of the current flowing through the body

LOW VOLTAGE DOES NOT MEAN LOW DANGER!!!

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First Aid in Case of an Accident

In case of electrical injuries, it's important to act quickly and cautiously.

1. Disconnect from the electrical current:

- If possible, turn off the power at the switch.
- If you cannot turn off the current, move the victim away from the current source with a non-conductive object, such as a dry stick, rope, or board.

2. Ask for help:

- Call an ambulance as soon as possible by dialing 112.

3. Assess the victim's condition and provide first aid:

- Check if the victim is conscious and breathing.
- If the victim is unconscious and not breathing, begin resuscitation: perform chest compressions (30 compressions) and artificial respiration (2 breaths).
- Repeat these actions until emergency medical services arrive.
- If there are burns, cool the affected areas with cold water. Cover the wounds with a sterile bandage.

IMPORTANT: DO NOT FORGET YOUR OWN SAFETY AND DO NOT TOUCH THE VICTIM UNTIL YOU ARE SURE THERE IS NO ELECTRICAL HAZARD!

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Dangers

Learn about the dangers by opening the danger source buttons

Improper use of electrical devices or damaged electrical wiring can pose a risk of electric shock.

Electric shock

It can cause serious injuries, heart dysfunction, or even death.

Voltage fluctuations, overloads, or improper maintenance can damage electrical devices.

Fire

Neglecting electrical devices (damaged, exposed parts), failing to clean dust from electrical devices, especially from ventilation openings (excessive dust can cause devices to overheat).

Voltage fluctuations, overloads, or improper maintenance can damage electrical devices.

Device malfunctions

Excessive moisture can cause corrosion and malfunctions in electrical devices.

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Safety requirements

Open the tabs to learn about safety requirements in different cases.

Water | Inspection of wires | Overloading electrical outlets | Professional assistance and maintenance | Device maintenance

Safety requirements related to water:

Never touch electrical devices with wet hands or while standing on a wet surface.


Do not use electrical devices near water.



Do not keep drinks on top of a computer or any other electrical device.


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Safety requirements

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Safety requirements for the inspection of wires:

Regularly inspect wires for damage, cracks, or wear.

Immediately replace damaged wires (cracked or exposed).

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Safety requirements

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Safety requirements related to overloading of electrical outlets:

Do not use extension cords for permanent electrical supply.

Never connect one extension cord to another.

Do not overload extension cords; avoid connecting too many devices at once.

All electrical junction boxes and fittings must have covers.

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Safety requirements

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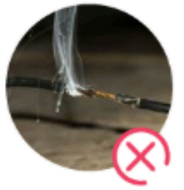
Safety requirements for maintenance with specialist assistance:

Do not attempt to repair faulty electrical devices yourself.

If you have any doubts about the safety of electrical wiring or devices, consult a qualified electrician.

If you notice an electrical fault (sparking, smoke, or a burning smell), immediately turn off the power supply and contact an electrician.



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Safety requirements

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Safety requirements for the maintenance of devices:

Regularly clean dust from electrical devices, especially from ventilation openings.

Always disconnect electrical devices from the power source before cleaning them.

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Safety

Do not approach areas marked with electrical hazard signs.

Do not store items near electrical panels.

Do not leave electrical plug caps in areas where people walk.

Be especially cautious if you see broken or exposed electrical wires.

If you need to temporarily lay an extension cord across a walkway, secure it with special safety tape.

Always fully insert plugs into electrical outlets.

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Always be cautious with electricity, or it could be your last hour!