

Electrical Hazards



Session Objectives

- Identify general hazards and protect against them
- understand OSHA regulations & frequent violations
- Use proper PPE and safety procedures
- Correctly inspect SCS electrical equipment



General Hazards



Shock

An electric current that goes through your body when a wire isn't properly enclosed or has defective insulation once direct contact is made.

- Electrocution
- Pain
- Loss of muscle control and coordination
- Internal Bleeding
- Cardiac Arrest
- Falls



Burns

Touching overheated equipment, or if a current flows through your body, can result in serious burns on the skin and/or internal tissues.



Over Heating

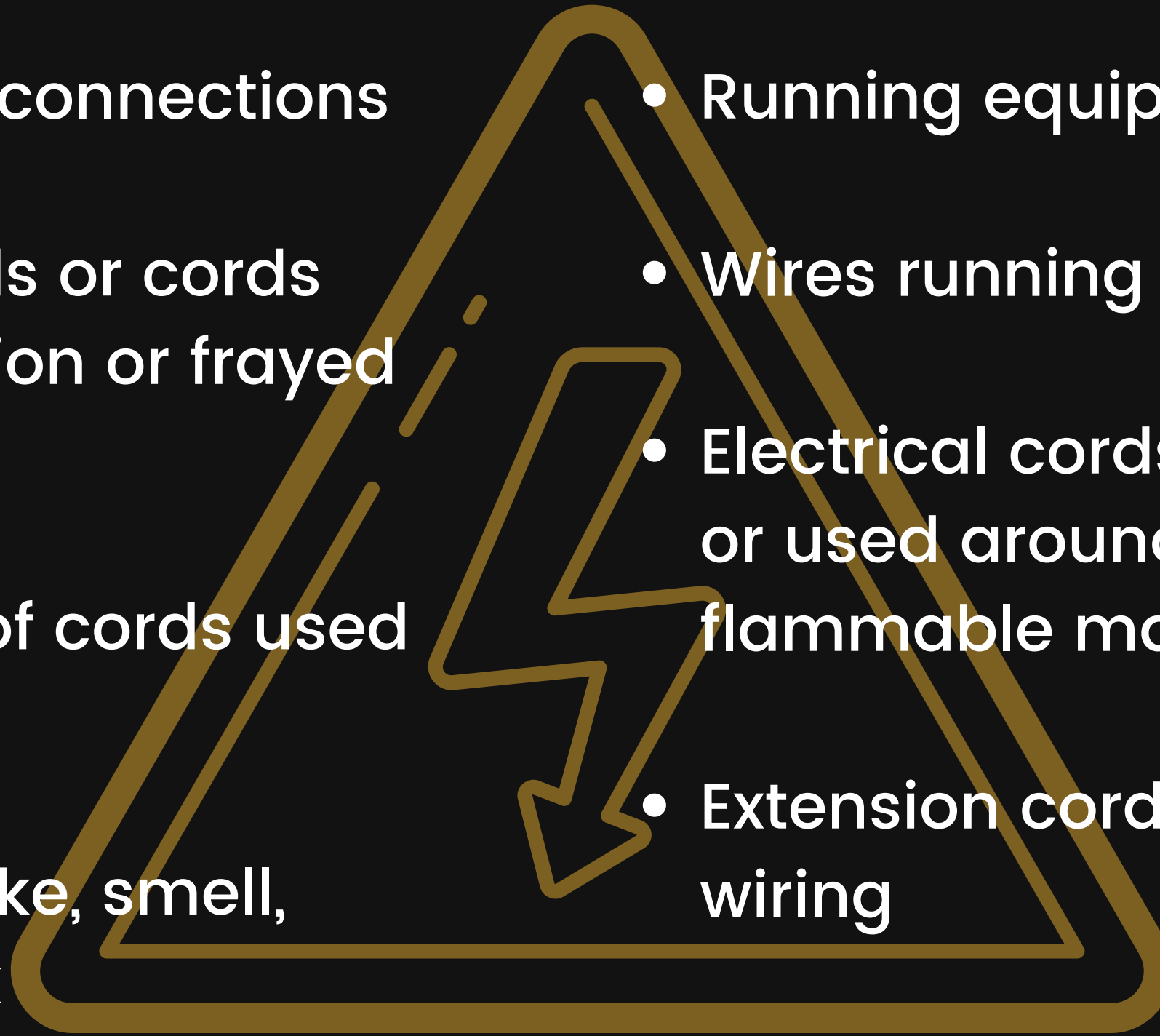
Overloading circuits or equipment

- Fire
- Explosion



Identifying Hazards

- Loose electrical connections
- Running equipment over capacity
- Damaged cords or cords with no insulation or frayed insulation
- Wires running across the floor
- Non-waterproof cords used outdoors
- Electrical cords left near heat or water or used around hazardous or flammable material
- Tools that smoke, smell, spark, or shock
- Extension cords instead of permanent wiring



Protection Against Hazards

13

Built-In Protections

- Grounding individual wires and large equipment, fuses, or circuit breakers, and ground-fault circuit interrupters
- Labels indentifying voltage and capacity
- Special use cords
 - Outdoors, areas with flammable or combustible substances are also labeled
- Protective equipment
 - Protective shields, barriers, insulating materials, etc.



OSHA Regulations and Frequent Violations

- OSHA electrical safety regulations (29 CFR, Subpart S, 1910.301 to 1910.399)
 - Design of electrical installations
 - Reducing electrically caused accidents and injuries
 - Limiting certain tasks to qualified employees—those who have had specific training
- Top four electrical violations
 - Conductors
 - Grounding Path
 - Guarding of live parts
 - Covers and canopies



Safety Procedures

17

- **Inspect electrical equipment and wires before use**
- **Don't de-energize live parts unless you've been trained as a qualified person**
- **Use protective equipment such as rubber gloves or boots when you work with electrical equipment**
- **Read-and follow- the manufacturer's instructions for your equipment**
- **Avoid using extention cords whenever possible**



Safety Procedures (Cont.)

- Do not fasten cords with staples
- Make sure your hands are dry before you handle anything electric
- Do not use any piece of electrical equipment that sparks, smokes, smells, or shocks. Mark "Out of Order," and report it to your site superintendent immediately
- Be especially cautious around flammable liquids, vapors, and dust. Ventilate the area.



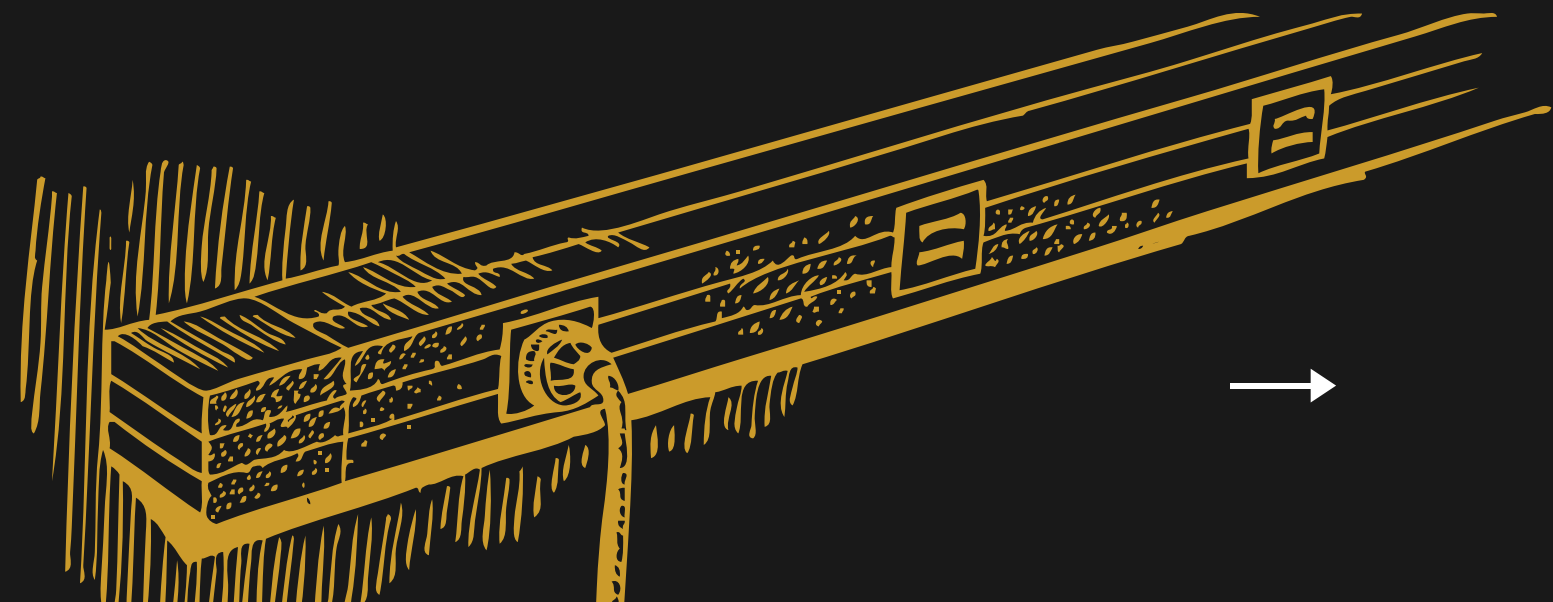
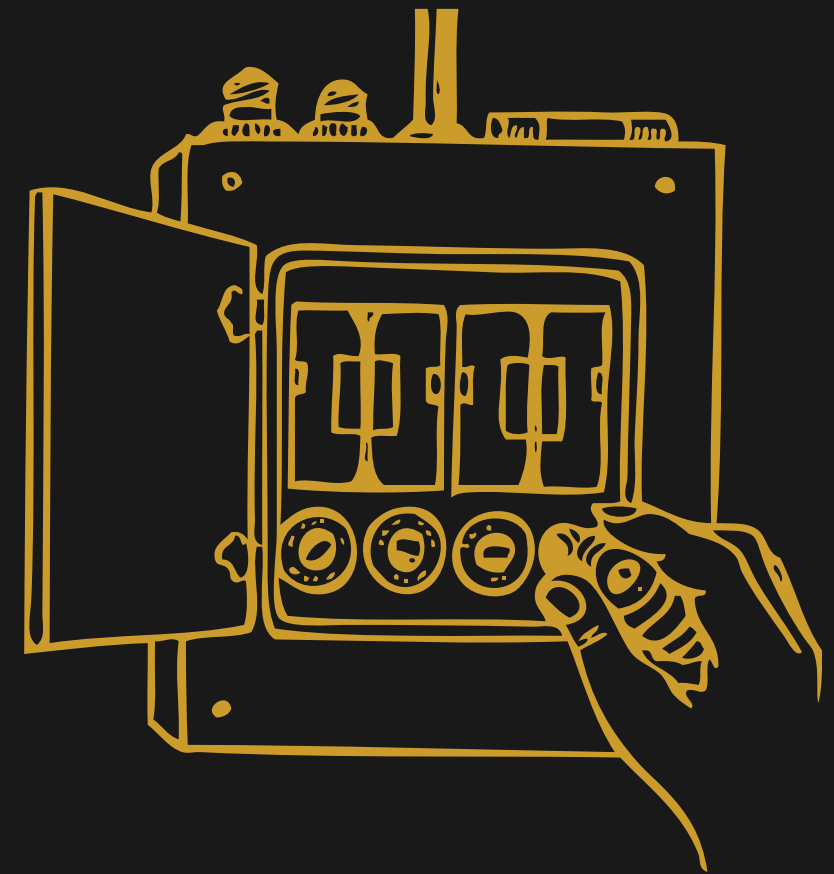
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Safety Procedures (Cont.)

17

- When using long conductive objects like ducts or pipes around exposed live parts, use insulation, guarding, etc.
- Never use a metal ladder around live electricity
- Always obey barriers, signs, and other warnings



SCS Internal Verification- Electrical Cord Inspection

- All electrical tools, cord sets, or pieces of electrical equipment need to be inspected quarterly and taped with a piece of color-coded tape corresponding to SCS internal verification mechanism

Color Coded Scheme (Quarterly)

 White	 Green	 Red	 Orange	 Brown
January 1 through March 31	April 1 through June 30	July 1 through September 30	October 1 through December 31	Repairs

- It shall be the responsibility of each subcontractor to ensure that their electrical tools and electrical equipment are tested and documented



Key Points to Remember



Understand
Electrical Hazards
in the workplace



Use proper PPE
and safety
procedures



All SCS electrical
equipment is
inspected
quarterly and
color coded using
the SCS internal
verification system

TAKE THE QUIZ

<https://forms.office.com/Pages/ResponsePage.aspx?id=RZJ-M6ZIREqmNwvW9nbIKxyzzaSUgJJFgf5zZdrqY-IURFVLS09aNzhIN1MzSEIEMzBXME5VMUdSTS4u>

