

## Safety rules for IEA laboratories

This document applies to all sorts of work in the laboratories. Experimental setups involve voltages and currents that may be lethal if incorrectly handled. Failing to follow these instructions therefore put yourself and others at risk. Also equipment may be damaged by incorrect handling.

The basic rule is: <b>TAKE NO RISKS!</b>
--

### General instructions

- Do not work alone in the lab.
- Be aware of that the experimental setups have live parts and rotating parts that are not covered. Avoid contact with energized electrical circuits. If you are uncertain – consider the circuit energized.
- If possible, work with only one hand, keeping the other hand at your side or in your pocket, away from all conductive material.
- Respect all warning signs!
- Inform the instructor or Getachew if you find something unsafe or if equipment does not behave correctly. This applies also if you break something – safety is more important than blame.

### Connecting a setup

- Before you connect instruments and equipment check that they are appropriate with respect to AC/DC, voltage, current etc.
- Instruments should first be set at the highest metering range.
- Be systematic when connecting equipment:
  - Setups are built from the load towards the source.
  - Always start with what all series-connected devices in the path of the current. Then connect shunt-connected devices like voltmeters.
- Use colored cables:
  - Protective earth: Yellow/green.
  - For three-phase circuits: Red, yellow, black for the three phases and blue for the neutral.
  - For DC: Red for plus, black for minus.

## Energizing and using a setup

- Identify the closest emergency stop buttons – on the table or on the wall.
- The instructor must check the setup before it is energized.
- Before energizing the setup inform yourself about possible misoperation of the setup and associated actions.
- If possible, reduce the voltage before interrupting the current in an inductive circuit. This is to avoid arcs and overvoltages.
- De-energize the setup (turn off power sources) before changing connections.

## Emergencies

- Push the closest emergency stop button to de-energize the entire lab.
- Be aware that electrical shock can cause muscular contraction like cramp.
- Follow usual First aid procedure.
- Call 112 if appropriate.
- Report all accidents.

## Contact persons

Health and safety officer at IEA is Bengt Simonsson, call 0705-58 84 92.

Deputy head of department at IEA is Ulf Jeppsson, call 046-222 92 87.

Lab technician at IEA is Getachew Darge, call 0705-70 39 63.