

Chemistry Department

Standard Operating Procedure

Title: Laboratory Electrical Protection

Application

This SOP applies to equipment and appliances used in a laboratory. It does not address computers or other office equipment used in non-laboratory settings.

Extension Cords

Use extension cords for temporary (less than three months) use. Situations that require extension cords for greater than three months are considered permanent installations and must be addressed through upgrades to building wiring systems. Extension cords should be no less than 16 gauge.

Do not place extension cords in foot traffic areas or under equipment. Length shall be the minimum required for the specific application but shall not exceed 15 feet. Ground wires are required for all extension cords (The cord must have three prongs).

Single Conductor Wires

Single conductors shall not conduct greater than 24 volts. Code single conductors red or black and keep them as short as possible. Single conductors shall be a single continuous length of wire unless spliced or joined in a grounded electrical box that provides appropriate strain-relief. Wire nut or other connections that are not housed in a grounded electrical box are not permitted.

Terminal Connections

All electrical connections at the supply end (bus bars) for 24 volt or greater services shall have strain relief and be enclosed. Label the enclosure with the voltage.

Plug style connections are permitted if the conductor is fully insulated and the conducting wire is not exposed when disconnected.

When possible enclose electrical connections in a protective housing. Insulate high temperature (>180°C) connections, such as furnaces, with 3M 69 Class "H" glass cloth tape.