

Protocol for Testing Electrical Equipment

Safety-related work practices shall be used to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, when work is performed near or on equipment or circuits which are or may be energized. The specific safety- related work practices shall be consistent with the nature and extent of the associated electrical hazards.

1. **Extension cord use** – Employees using extension cords to power tools and /or equipment for the performance of maintenance use must use GFCI protection.
2. **Handling** - Portable equipment shall be handled in a manner, which will not cause damage. Flexible cords may not be fastened with staples or otherwise hung in such a fashion as could damage the outer jacket or insulation.
3. **Visual Inspection** - Portable cord-and-plug connected equipment and flexible cord sets (extension cords) shall be visually inspected for external defects and for evidence of possible internal damage. Defective or damaged items shall be removed from service until repaired.
4. **Grounding type equipment** - A flexible cord used with grounding-type equipment shall contain an equipment-grounding conductor.
 - a. Attachment plugs and receptacles may not be connected or altered in a manner which would prevent proper continuity of the equipment grounding conductor at the point where plugs are attached to receptacles. Additionally, these devices may not be altered to allow the grounding pole of a plug to be inserted into slots intended for connection to the current-carrying conductors.
 - b. Adapters (i.e., “cheaters”) that interrupt the continuity of the equipment grounding connection may not be used.

Test Instruments and Equipment

1. Only qualified persons may perform work on electric circuits or equipment.
2. Test instruments and equipment and all associated test leads, cables, power cords, probes, and connectors shall be visually inspected for external defects and damage before the equipment is used. If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and no employee may use it until necessary repairs and tests to render the equipment safe have been made.
3. Test instruments and equipment and their accessories shall be rated for the circuits and equipment to which they will be connected and shall be designed for the environment in which they will be used.
4. Electrical Hazard preventive devices such as **GFCIs** (Ground Fault Circuit Interrupters) are used in wet or humid environments, high-risk areas and places where people could come into contact with ground or ground equipment. Typically in home use, GFCIs can be found in kitchens and bathrooms. Other applications include outdoor outlets, garage areas, trucks and asphalt kettles that plug up to receptacles.

5. The supervisor shall insure that inspecting and testing of is performed on sites covering all cord sets, receptacles that are part of the building or structure and equipment connected by cord and plug which are available for use or used by employees. The following guidelines shall be followed for all electrical equipment:

Frequency of tests for all electrical equipment:

- Before first use
- After repair and before placing back in service
- Before use after suspected damage
- Twice yearly, once in the **Spring** and once in the **Fall** (to be documented on Facility audit inspection form).

Conduct tests for all receptacles using the E-Z Check plus Circuit Tester or a comparable product that meets the same criteria.

This device checks for the following:

- GFI receptacles for proper operation
- Correct wiring
- Open Ground
- Reverse polarity
- Hot on neutral and hot open
- Hot and ground reversed

*Please check with central inventory to obtain the E-Z Check-Plus Circuit Tester or a comparable product.

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