

## **ASSURED GROUNDING PROGRAM**

Audited June 2024

Each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed to damage, shall be visually inspected before each day's use for external defects, such as deformed or missing pins or insulation damage, and for indications of possible internal damage. Equipment found damaged or defective shall not be used until repaired. Company issued tools and equipment shall also be inspected.

The following tests shall be performed on all cord set, receptacles which are not a part of the permanent wiring of the building or structure, and cord-and plug-connected equipment required to be grounded.

All equipment grounding conductors shall be tested for continuity and shall be electrically continuous.

Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment grounding conductor. The equipment grounding conductor shall be connected to its proper terminal.

All required tests shall be performed:

- Before first use.
- Before equipment is returned to service following any repairs.
- Before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over).
- At intervals not to exceed 3 months, except that cord sets and receptacles which are fixed and not exposed to damage shall be tested at intervals not exceeding 6 months.
- One of the methods listed by OSHA as part of acceptable record keeping is to establish a color code for marking cord sets and cord- and plug-connected equipment. The table below lists a color code that is in wide use by electricians and contractors. Colored plastic or vinyl electrical tape is placed on one or both ends of cords and cord- and plug-connected equipment to denote the month that the tests were performed.

Assured Equipment Grounding Conductor Program Color Code		
Month #	Month Tested	Color of tape(s) to apply to cord
1	January	White
2	February	White + Yellow
3	March	White + Blue
4	April	Green
5	May	Green + Yellow
6	June	Green + Blue
7	July	Red
8	August	Red + Yellow
9	September	Red + Blue
10	October	Orange
11	November	Orange + Yellow
12	December	Orange + Blue

As an easy reminder of the color of the tape to place on the newly tested cord, remember the color for the start of each calendar quarter by the season:

- White in January for Winter.
- Green in April for Spring.
- Red in July for Summer, or the 4th of July.
- Orange in October for Fall, or pumpkins. Then add:
  - Yellow for the second month in each quarter.
  - Blue for the third month of each quarter.

## ASSURED GROUNDING TEST PROCEDURES

Notify personnel working in the area that you are testing the temporary power systems, and they may experience power loss and for how long this may last. Be sure to not leave workers in the dark. Always have them leave the area until you have completed your test.

We need to ensure that all conductors on the cord set are still intact and continuous. There are two methods that can be used to determine this.

Bring both ends of the cord set together and test the ungrounded, grounding, and grounded conductors with a continuity meter to ensure there is no breaks in the wire and also to ensure there is not continuity between the ungrounded, grounded and equipment grounding conductors.

Unplug the cord and test the cord with a Cat. III voltage tester. Test the voltage between ungrounded conductors, the ungrounded conductors and the grounded conductor and the ungrounded conductors and the equipment grounding conductor. Ensure there is no voltage between the grounded conductor and the equipment grounding conductor. Record the readings. Plug the cord back in and proceed to the next point on the system Unplug the equipment and proceed to make the same tests. If the voltage readings are close to the same readings at the other end of the cord, this demonstrates continuity. There will be slight variances due to voltage drop. Wear insulated rubber gloves while performing this test.

Inspect the entire length of the cord and ensure there are no nicks cuts or frays.

1. Ensure all power distribution panels are labeled with cautions signs, are locked and that the area around them is clear of debris.
2. Ensure all power distribution equipment is connected to an approved grounding electrode. (Water main, building steel or ground bar.)
3. Ensure temp power cords are supported correctly and are being protected.
4. Ensure all temp. power is being correctly protected from environment and weather conditions.
5. Ensure that all plug ends are in good repair and the pins and slots are not damaged and intact.
6. Push the test and reset button on all GFCI receptacles and breakers and ensure that they are operating correctly.
7. Check all power equipment and ensure that the guards are in place, they are in good repair and the cords are not damaged.
8. Mark cords with the appropriate color code if they pass all tests.
9. Place a piece of duct tape on all turtles and power distribution units and mark the date of the test, mark as passed if it did and initial.
10. Record the tests on iAuditor Monthly: Assured Grounding Checklist and submit to the E Light corporate offices and the general contractor. A copy of the completed form shall be emailed to the Project Engineer and the Prefab Supervisor.
11. Make repairs on equipment if it can be done safely and in a de-energized state and take all equipment that does not pass the test and cannot be repaired out of service.
12. Do not work on exposed energized parts.

## **MONTHLY EQUIPMENT TEST AND RECORD**

The monthly equipment check should be performed in the same manner with the exception of steps 1 and 2. The record of the testing monthly will be made on the iAuditor template Monthly: Assured Grounding Checklist and no color coding will be done for the monthly test. A piece of duct tape will be placed on the equipment and the date tested will be marked on the tape with the initials of the person doing the test. All tools issued by the company shall be inspected and tested. Cases and attachments for the tools shall be inspected and recorded if they are missing. Damaged tools will be returned to the office for repair or replacement.

Energized work may only be performed by authorized personnel and only after a plan has been developed and approved for the specific test. The testing of a cord cap with a voltage meter is not classified energized work because all safeguards are in place and may be performed by an electrical apprentice who has been trained in this procedure and who is wearing insulated rubber gloves while performing voltage tests.