

## Technical Bulletin #38-C Key ESD Testing Conductive Properties of New Installations

Key Resin ESD (Electrostatic Dissipative) flooring systems provide a surface that exhibit electrical resistivity readings between 1,000,000 and 1,000,000,000 ohms when tested in accordance with ANSI/ESD STM7.1-2013 (available for purchase from the ESD Association at [www.esda.org](http://www.esda.org)). The testing of the floor surface is accomplished through the use of a megohmmeter and weighted floor electrodes.



### Point-to-Point Resistance Testing Procedure:

- Allow the Key Resin ESD Flooring System to cure for a minimum of 72 hours (at 75°F) before testing. It must not have any sealers or wax finish on the surface. During the test procedure, temperature and air relative humidity should be ambient conditions.
- The flooring surface must be clean. If necessary, clean floor thoroughly with damp mop using neutral detergent, rinsing with clean water. Refer to Key Resin Technical Bulletin #3 “General Care and Maintenance Instructions of Key Resin Flooring Systems”. Allow to dry completely.
- Clean electrodes with a minimum 70% isopropanol-water solution using a clean, low-linting cloth. Allow electrode to air dry.
- Place the floor electrodes 3 feet apart and apply the test voltage in accordance with the particular meter’s instructions. A meter with auto capabilities will select the correct output voltage and duration of test. If the meter has only a manual mode, set voltage to 10 volts and hold for 15 seconds, then record value.

# KEY RESIN COMPANY TECHNICAL BULLETIN



- Key Resin ESD Flooring Systems should test between  $1.0 \times 10^6$  ohms and  $1.0 \times 10^9$  ohms. Consult with Key Resin Technical Service if readings fall outside of this range. If any readings exceed  $1.0 \times 10^9$  ohms, set meter to 100 volts and retest.
- Perform a minimum of 5 tests (in different locations) per contiguous floor surface material or a minimum of 5 tests per 5000 ft<sup>2</sup>, whichever is greater.
- Report all values in ohms for resistance point-to-point. Report test voltage, test date, temperature and relative humidity at time of testing, actual duration of environmental conditioning, and test equipment used. Summarize test data by reporting the minimum, maximum, mean, and median values obtained. Include a diagram showing approximate electrode positions used.

## **Point-to-Ground Resistance Testing Procedure:**

- If the Key Resin ESD Flooring System has been connected to a building ground point, place one electrode on the floor, and use the other cord with alligator clip accessory and attach it to a building ground point near where the floor has been grounded. The building owner's electrician/engineer should confirm the location of ground points. Run test as outlined above and record values.

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