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ESD Measurement protocol

On November 30th resistance measurements tests for: av floor, shoes & shoes in system and WalkAround were conducted on Concrete Floors ground according to the Stat Grind method.

Equipment Charleswater Europe modell 99106, serienr 0312005,
3M Charge Analyzer modell 711 serienr 05820
AD converter ADC 40

Temperature Inside 20 °C and 18,5. Outside - 9 °C at both locations

Air Humidity 16 % and 18%

Results Measured data for resistance to ground (R_G) meets international norm IEC as well as SS-EN 61340-5-1 ($< 1 \times 10^9 = < 1 \text{ Gohm}$).

Measured data for system resistance (resistance person / shoe via the floor to Ground, R_s) for the first floor meets the requirement of $3,5 \times 10^7 = < 35 \text{ Mohm}$.

The other floor meets the requirement of $1,0 \times 10^9$ and static generation of $< 100 \text{ V}$.

Stockholm 2010-12-01
Armeka AB



Kenth Jämttjärn

Purpose

The purpose of these measurements was to test if the floors had continuous dissipative properties even with low air humidity. The outdoor temperatures for the 6 days leading up to the measuring date was very low, the lowest temperature -12 degrees Celsius. The first floor was on the ground and the second was 7 floors up in a building constructed in 1948. The aim was to determine if floors under such conditions matched the ESD standard SS-EN 61340-5-1?

Method

1. A probe was used to measure several different points on the floor.
2. 1 pair of ESD shoes were used with good dissipative performance. The shoes were function tested against a steel plate connected to a resistance meter.
3. A measurement was performed between a person, shoes and the floor in a so called, "system-to-ground measurement", where the floor replaced the steel plate.
4. The "WalkAround test" measured the static generation from a person when walking across the floor.

Conclusion

Despite the different circumstances both floors were within the norm for ICE and SS-EN standard regarding the probe measuring (R_G).

The system-to-ground measurement and the WalkAround test gave low values despite the low humidity levels.

