

# Electrostatic behavior of floorings

## Electrostatic charging of persons by walking

- Under unfavourable conditions, a person can charge itself when walking on floor coverings.
- This is caused by contact and separation processes between the shoe sole material and the flooring material during walking.
- As a result of these processes, opposite electric charges are accumulated on the person and the floor covering.
- Thus a person can be electrostatically charged with the body voltage UP.
- This happens if the shoe sole and the floor covering are electrically insulating materials which avoid charge equalisation.
- Sudden charge equalisation may then cause significant and painful discharges to ground potential.
- These discharges can initiate further disturbances (defective electronics).

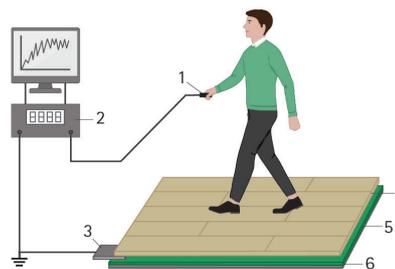


## Prevention by use of

Antistatic floorings	UP ≤ 2 kV (Classification according to EN 14041)
Electrostatically dissipative floorings	RD < 109 Ω (Classification according to EN 14041)
Electrically conductive floorings	RD ≤ 106 Ω (Classification according to EN 14041)

## Standard tests for classification of floor coverings

- Walking test for the examination of body voltage according to EN 1815/ISO 6356/EN 61340-4-5
  - 7 days conditioning at 23 °C/25 % relative humidity (EN 1815, ISO 6356) or 23 °C/12 % relative humidity (EN 61340-4-5)
  - test surface 2 m x 1 m on a walk-in sublayer
  - walking test with test shoes (shoe sole: rubber)
- Measurement of electrical resistance of floor coverings according to EN 1081/EN 61340-4-1
  - Determination of surface resistance between two measuring points, of volume resistance only (lab test) and of leakage resistance
  - Conditioning at 23 °C/12 % oder 25 % oder 50 % relative humidity



## Testing of floorings accompanying production or product development

- Mechanical walking test
  - Monitoring of the electrostatic properties by operational production control
  - Development-related applications, for example in the testing of anti-static modifications
  - Testing of care products



Simulated walking test: Manufacturer Fetronic GmbH Langenfeld

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