

TECHNICAL UPDATE: ANTI-STATIC PROPERTIES OF TEXTILES

Undesirable electrostatic discharge on garments can be a nuisance and in some cases may be hazardous. Consumers are well aware of clinging garments and the mini electrostatic discharge caused by the rubbing action between fabric layers, especially in low humidity conditions.



IMPROVEMENT OF ANTI-STATIC BEHAVIOR IN CLOTHING

Anti-static behavior can be improved by increasing the conductivity of the fabric by:

- applying anti-static finishes
- using conductive fibers in the fabric

EVALUATION OF ANTI-STATIC PERFORMANCE OF FABRIC FOR GENERAL FASHION APPAREL

For general fashion apparel (not protective clothing), the two common methods for evaluating the antistatic function of fabric are cling time measurement and electrical resistance measurement.

CLING TEST – ELECTROSTATIC CLINGING OF FABRICS (AATCC 115)

This method is primarily used to determine the cling properties of lightweight apparel fabrics, such as linings. It is based on a simulation to measure the relative clinging time of a charged fabric to an inclined metal plate. This metal exhibits a similar instantaneous charge induction as in the human body, resulting in the garment clinging to our body when they are in contact.

DIRECT MEASUREMENT OF SURFACE RESISTANCE OR RESISTIVITY OF FABRICS (AATCC 76, BS 6524, EN 1149-1, DIN 54345-1)

This method is designed to measure the surface electrical resistance or resistivity. Surface resistance and surface resistivity differ in magnitude by a factor depending on the geometry of the test electrode. The tendency of a fabric to accumulate electrical charges depends upon its electrical resistance properties. The higher the surface resistance or resistivity, the more charge will be accumulated on the fabric surface. EN 1149-1 and DIN 54345-1 require the tests to be conducted at specified low relative humidity conditions.

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