Cleanrooms

The primary concern in most cleanrooms is airborne particulates. Size of particulates is measured in microns (one micron equals 1/1000 millimeter). Airborne particulates of 5 microns or larger are typically used for measurement of air purity in cleanrooms. In cleanrooms, particulates are produced by anything from abrasion of the flooring surface, to humans, clothing products, or furniture.

Alpha Cleanroom Seating

Sitmatic Alpha cleanroom chairs are upholstered in Durahyde® vinyl. The seat and backrest cushions are upholstered and sealed with flowable silicon sealant for an air-tight seam. HEPA (High Efficiency Particulate Air) filters are installed over the ventilation exit areas, scrubbing the air that is forced out of the cushions. These filters are 99.97% efficient at 0.3 microns. With this filtration, Sitmatic Alpha chairs and stools meet and exceed the standards for Class 1 Cleanrooms.

Model 164ST AN CR AB 1A /8

Electrostatic Control Specifications:
10^8 Ohms/cm^2 Resistivity.
Particulate Specifications: HEPA Filtration Efficiency 99.97% @ 0.30 Microns.

These are the four basic classifications of cleanrooms: Class 10,000, Class 100, Class 10 & Class 1	
Class 10,000 Cleanroom	These cleanrooms have products and furniture which produce 10,000 or less, 5 microns or larger airborne particulates through a particular test cycle.
Class 100 Cleanroom	Produce 100 or less, 5 microns or larger airborne particulates using the same testing procedures.
Class 10 Cleanroom	Produce 10 or less, 5 microns or larger airborne particulates using the same testing procedures.
Class 1 Cleanroom	Produce 1 or less, 5 microns or larger airborne particulates using the same testing procedures.

Static Control

In many cleanrooms and production environments, the elimination of static electricity is a critical issue. Production yields and equipment integrity are at risk if static electricity is present. Under certain circumstances, the human body can store up to 35,000 volts of low amperage static electricity. If an individual with this static load were to touch a microchip or sensitive piece of testing equipment, the item would be destroyed by the electrostatic discharge. The microcircuitry industry is dedicated to static electrical control in production and testing environments.

Alpha ESD (Electrostatic Dissipative) Seating

Sitmatic Alpha ESD chairs are upholstered in special fabric or vinyl that is infused with conductive materials. Copper tape is installed in the backrest and seat to transmit electrical current from the cushions to the steel components. Current then passes through the pneumatic piston, into the legs of the five-star base, through the conductive casters, and out onto the floor.

These are the three ranges of resistivity used in describing ESD control:	
Anti-Static	Electrical resistance of 10^9 to 10^{14} ohms (10,000,000,000 to 1,000,000,000,000,000) (Computer and Electronic Installations)
Static Dissipative	Electrical resistance of 10^5 to 10^9 ohms (Cleanrooms, Hospitals, Microcircuitry Production, Electronics)
Conductive	Electrical resistance of less than 10^5 ohms (Cleanrooms, Hospitals, Microcircuitry Production, Electronics)

Model 163SX AN CR AB 1A /8