

IMPROPER ACCESS FLOOR CLEANING DANGERS

SOAPS, WAXES, HARD WATER AND ACCIDENTAL RESIDUES

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Data Center Facility Managers all over the world are unknowingly causing downtime or dramatically increasing risk to sensitive equipment in data centers every day with improper cleaning protocols and staffing. Read on and limit your risk.

It is an unfortunate fact that typical janitorial cleaning utensils, protocol and chemicals **promote static events, corrosion, magnetized particulate, microscopic charged dust and hundreds of other problems that create downtime.** In this document we will focus on one of the most common issues – **residue contamination** such as waxes and soaps.

Access floors are used in high technology environments for ease of access to a subfloor plenum. The subfloor plenum provides clean airspace ability, cable passage and grounding systems to control static. Access floors are designed to spread out static working with the grounding system for dissipation. Some managers don't realize that these floors are **not meant to be waxed** and are also **significantly compromised when standard cleaning products are employed.**

Some of the most common characteristics of access floor tiles:

- Conductive and Static Dissipative Top Layer

- Contains no Ferrous Materials to Disrupt Magnetic Fields
- Panel to Pedestal Contact Ensures Continuous Conductivity
- Excellent Rolling Load Performance without wires in the way
- Lightweight for Ease of Handling and Access to the Subfloor

Static charges are one of the most destructive elements in a data center or high tech environment. Sensitive instruments can experience downtime with **as little as 250 volts** – the same type of energy a person may feel on a winter day when they are shocked by a door handle after walking across a carpeted area. A data center is built with flooring materials meant for dissipating static on the floor surface with either ESD (Electro-Static Dissipative) vinyl tile or static dissipative access floor tiles.

Although wax may look nice, shiny and clean - it will destroy the access floors intended purpose by handicapping the static safety for your computers. Wax disables your access floors inherent static-dissipative properties by creating an insulating barrier more conducive to static buildup. Static meter tests provide ample evidence of this danger. Additionally, standard waxes lead to critical environment dusting/powdering contamination. This occurs in microscopic quantities and the dust particles have been found inside servers, tape drive readers and Power Distribution Units (PDUs). The wax dusting can cause two poles to bridge, causing downtime. Typically small static downtime events created by improper chemicals is very hard to confirm – and typically gets logged as an **unknown error**.

Even data centers that avoid waxes and standard cleaners entirely are not free from risk. Some data centers carelessly employ janitorial staff to damp mop their critical environments on a regular basis. Unfortunately, most janitorial workers use the same mop from other parts of commercial buildings in the data center. But even if they rinse it out with hot water before using it there are still residues from wax and other cleaners that stay trapped in mop fibers. The access floor then attracts the wax and chemicals right off the mop again which **over time creates a residual layer of contamination**. The same thing can happen even with hard water which may present a mineral cross-linking residue risk.

The issues previously mentioned are important considerations along with the quality and training of personnel, proper equipment and protocol, as well as insurance requirements and accountability. All of these are factors that should be carefully considered in your preventative maintenance program.

Here are a few **best practices** to help you ensure the best long-term success of your critical environment:

1. Do not clean the data center with the building's janitorial staff. Utilize a professional Data Center Cleaning Company that has risk plan assessments and understands the data center environment and their affect on it – they should be using laser particle counters and static meters.
2. Confirm that no waxes or improper chemicals are being used in the data center. If your floor requires a coating, then ask a data center cleaning company to provide options for ESD coatings designed specifically for the data center (non-conductive, non dusting).
3. Confirm contractors are not using their own cleaners after construction or installation. A properly trained data center cleaner should be allocated to maintain the environment during installations and construction.