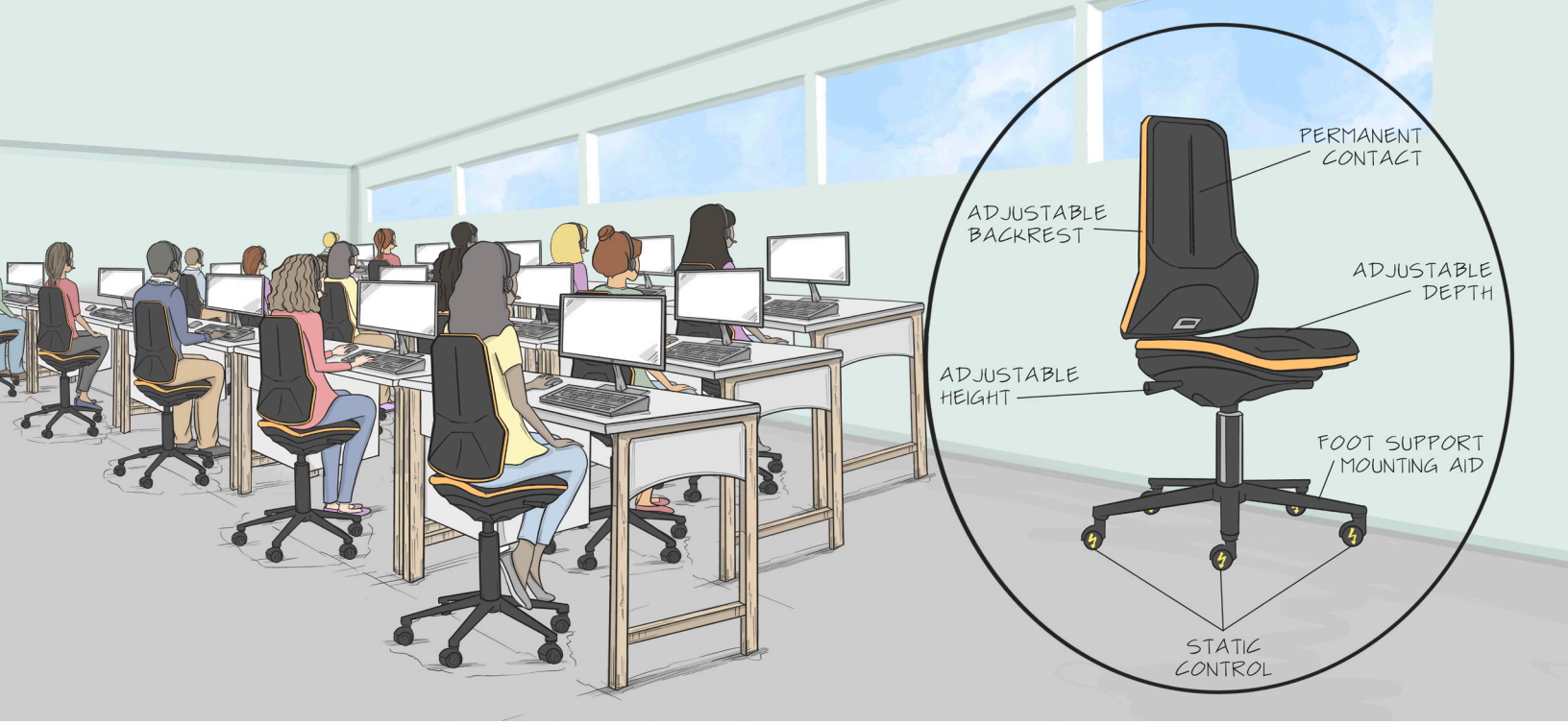
staticWorx®
GroundSafe® ESD Flooring

StaticWorx

# ESD BOLT CHAIRS

*Part of the ESD flooring system*



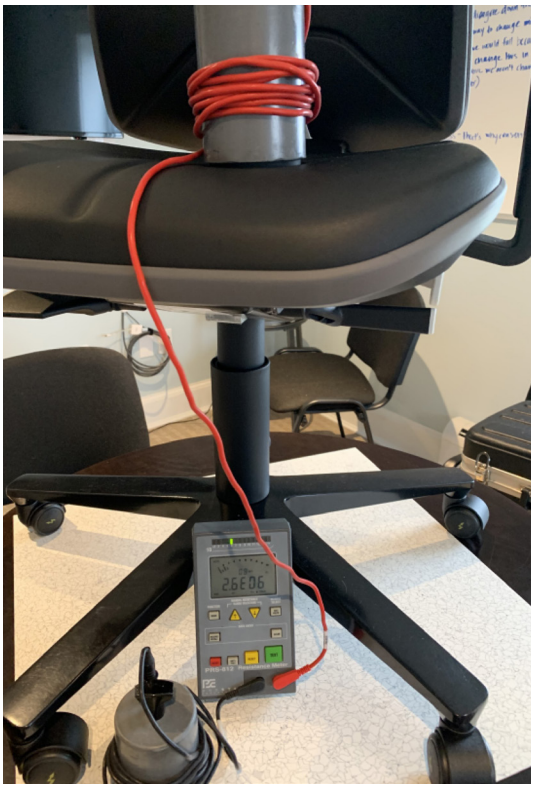

*USING BOLT WITH A STATIC-CONTROL FLOOR*
*The castors discharge static to the ESD floor and the floor transports charges to ground.*

If you manufacture, handle, or work with or around electronics, static electricity poses a threat to your components and, in some cases, your company's core mission. Because walking generates static, ESD flooring is the cornerstone of a complete static-protective system. ESD flooring inhibits and dissipates static charges as we walk.

When we sit in a regular (non-ESD) chair – even if the chair sits on an ESD floor – we are no longer grounded. Shifting, removing a sweater or standing from the chair actually generates more static than walking.

That's why it's crucial for the chair to be grounded to the floor.

Made with static-dissipative materials, StaticWorx ESD Bolt chairs ground you when you're seated and prevent charges from building on your body. Static charges move safely and effectively through the body of the chair, from the castors to the ESD floor to ground.



*Placed on a StaticWorx ESD floor, our ESD chair meets ESD STM 12.1.*

# ESD CHAIRS PREVENT CHARGE GENERATION

If you've thought of ESD seating only as a luxury, think again. ESD floors only control charges on people when they are standing on the floor. When you sit in your chair, movement in your seat and other sources of friction build static charges.

The illustration below is from an ASHRAE-sponsored paper based on series of tests showing 1000s of volts of static generation on a person seated in a standard upholstered chair and standing on a regular non-ESD floor.

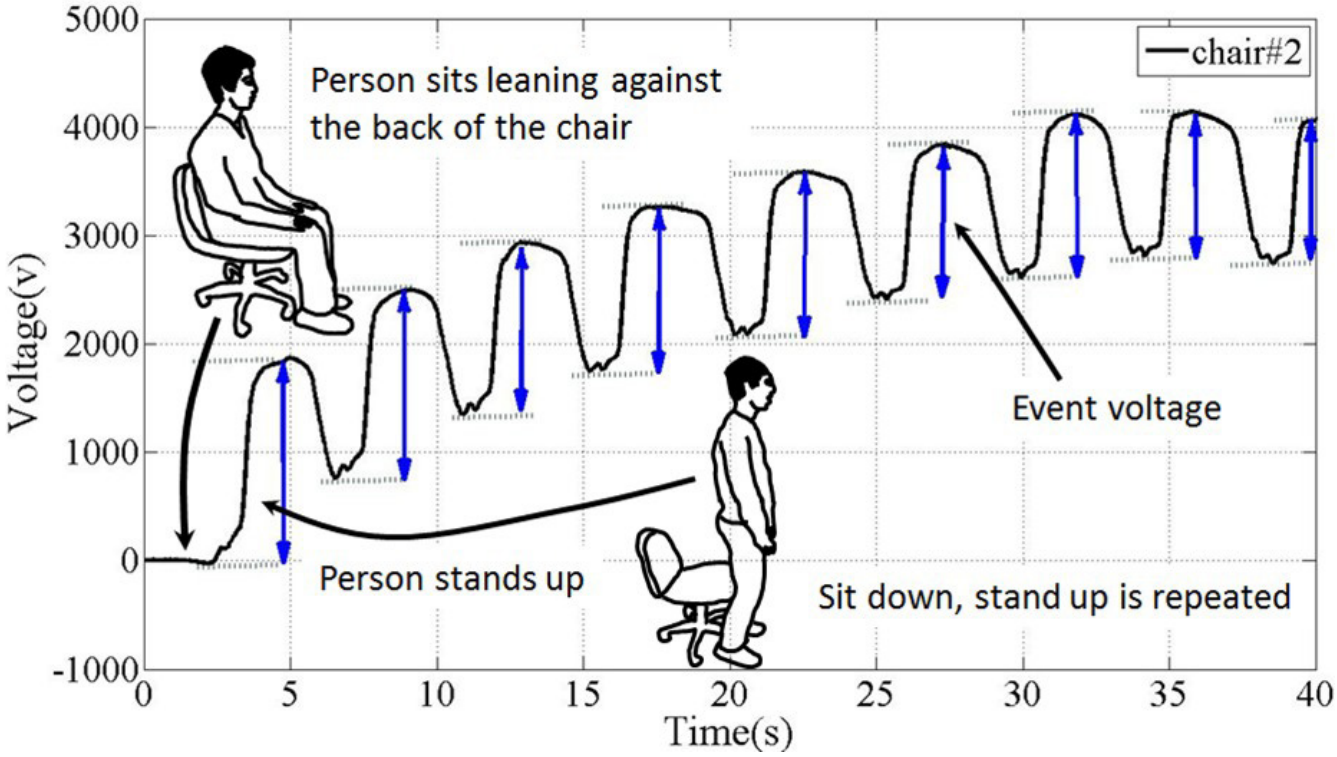



*Illustration of the voltage waveform from standing up from chair.*

*From "Electrostatic charging caused by standing up from a chair and by garment removal," Talebzadeh, Moradian, Han, Swenson, and Pommerenke*

In a 2019 joint study by engineers from Intel, Infineon and Warmbier*, grounded ESD chairs were found to provide protection against static to levels below .1kV. To put this in perspective, we can generate over 4000 volts on standard, non-ESD chairs.

** Presented at the 2019 ESD Symposium*

ISO-14001-compliant vertical production and a rigorous environmental management system allow complete oversight of Bolt ESD Chairs from design to shipment, ensuring quality and sustainability.

# WHY CHOOSE BOLT ESD CHAIRS?

## EXCELLENT ESD PROTECTION

StaticWorx Bolt ESD chairs prevent static charges from building on people when they sit. Rather than building on the person, charges are transported downward through the body of the chair. Conductive castors discharge static to the ESD floor, which transports charges to ground.

StaticWorx ESD Bolt chairs measure < 1 x10E9 ohms and meet all requirements of ANSI/ESD S20.20. Our chairs are also antistatic: that is, the materials in the chair prevent static generation.

- Comfortable ESD-safe upholstery
- Volume conductive plastics
- Steel components with conductive coating
- Conductive castor/glides
- Fixed and defined electrical resistance
- Rgp = 10E5 – 10E7 ohm

## COMFORTABLE & ERGONOMIC

Our ESD Bolt chair offers the best possible support for the body, along with outstanding seating and superior comfort. While Bolt may have a slim appearance, it has generous seating and back upholstery.

## ADAPTS TO DIFFERENT USERS

Adapting the back and seat for different users is easy and intuitive. This is important when different people use the same chair, as is frequently the case in control rooms, production areas or any multi-shift workspace.

## ACCOMMODATES VARIOUS ACTIVITIES AND PEOPLE

Repetitive movements can make it hard to find a comfortable sitting position. The Bolt accommodates people working intently at a desk or in front of a computer as well as people who are constantly moving.

Because it adjusts in every possible way, the chair also caters to different body sizes and shapes.

## ACTIVE BACK SUPPORT

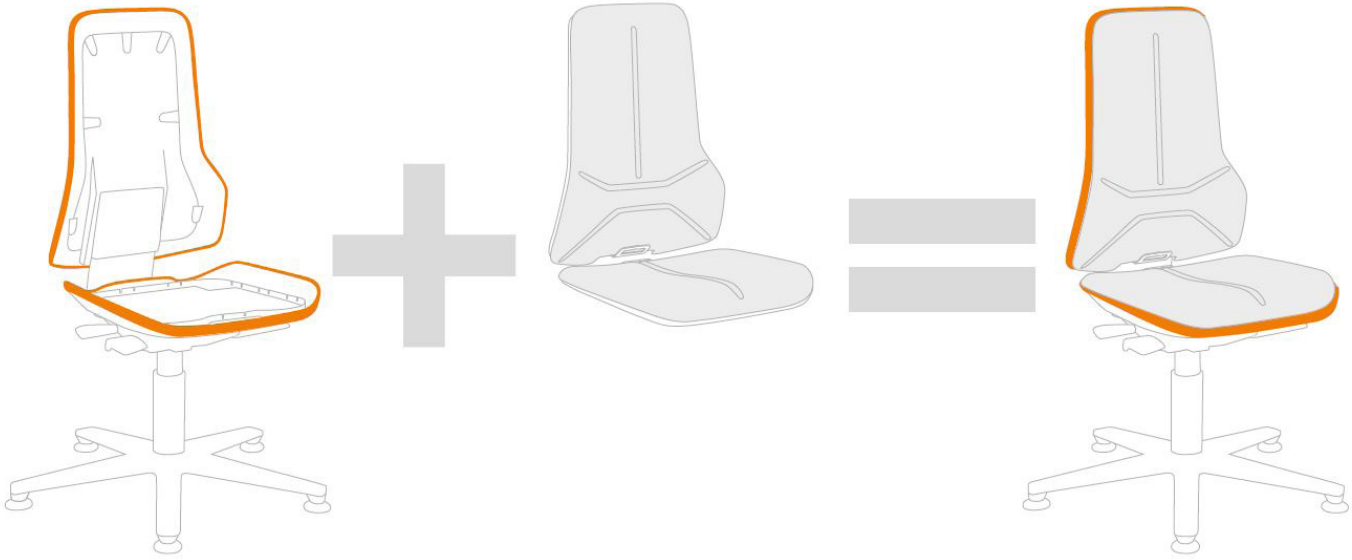
The Bolt's permanent-contact backrest follows the user's movements, so the back always remains fulling supported. The seat and backrest move with the body, and the chair's weight regulation ensures steady balance and resistance.

## EASILY SWITCHED HYGIENIC CUSHION

Seat cushion is easily removed and replaced between shifts, so each employee can have his or her own cushion. Changing upholstery is easy: simply place the upholstery elements on the chair and fix in place with a click. Each upholstery element has a little grip, making the upholstery equally easy to lift and replace.

## SUSTAINABLE

The Bolt design makes almost complete material recovery possible. The StaticWorx Bolt ESD chair is designed to last. That's why every Bolt chair comes with a ten-year limited warranty.



# KEY BENEFITS

- **Modular design**

  If something should go wrong with Bolt, all components can be replaced simply and quickly, without replacing the entire chair.

- **Green Manufacturing**

  ISO-14001-compliant vertical production and a rigorous environmental management system allow complete oversight from design to shipment, ensuring quality and sustainability.

- **Sustainability**

  When you need new upholstery, you do not need to dispose of the whole chair.

- **Adjustable/flexible**

Large – up to 11.02 inches – height adjustment

Inclined seat provides a seat angle of at least 90° while providing constant contact with the backrest.

Depth adjustment matches depth of the seat to the body, for best back support and contact surface for the thighs.

- **Supports good posture**

Backrest height adjustment ensures support in the lumbar region – no matter how tall the person.

By adjusting the pressure of the backrest, both light and heavy people sit with the correct posture.

- **4D armrests**

To reduce the strain on the upper body and arms, the height, breadth and depth of Bolt's 4D armrests can be adjusted, and chair can also swivel.

- **Foot support and mounting aid**

The mounting aid rotates with the seat height adjustment, so is always exactly in the right position. The large step provides good grip; its height is adjustable, and it can be folded upwards by 90°.

- **Pop-out Cushions**

Because the upholstery is quick and easy to remove and replace, it can be changed each shift. So each person can essentially have their own chair.

# WHO SHOULD USE BOLT CHAIRS?

Any workplace that manufactures, handles, uses or relies on high-speed electronic equipment should consider grounding seated people with ESD chairs.

- Data centers
- Manufacturing & SMT
- Laboratories
- Cleanrooms
- Research and development
- Flight towers
- Critical call centers/telecom
- Control rooms
- Healthcare
- 9-1-1 dispatch
- Government (e.g. Homeland Security, Social Security, NASA)
- ESD-protected areas
- Production areas

**BOLT 1**
with glides

**BOLT 2**
with castor

**BOLT 3**
high with mounting aid and glides

### Production

In the manufacturing field, the highest demands are placed on the resilience and robustness of the chair and the materials.

### Laboratory

In the laboratory, materials must be washable and resistant to disinfecting agents. Surfaces with as few joins and seams as possible make cleaning easier.

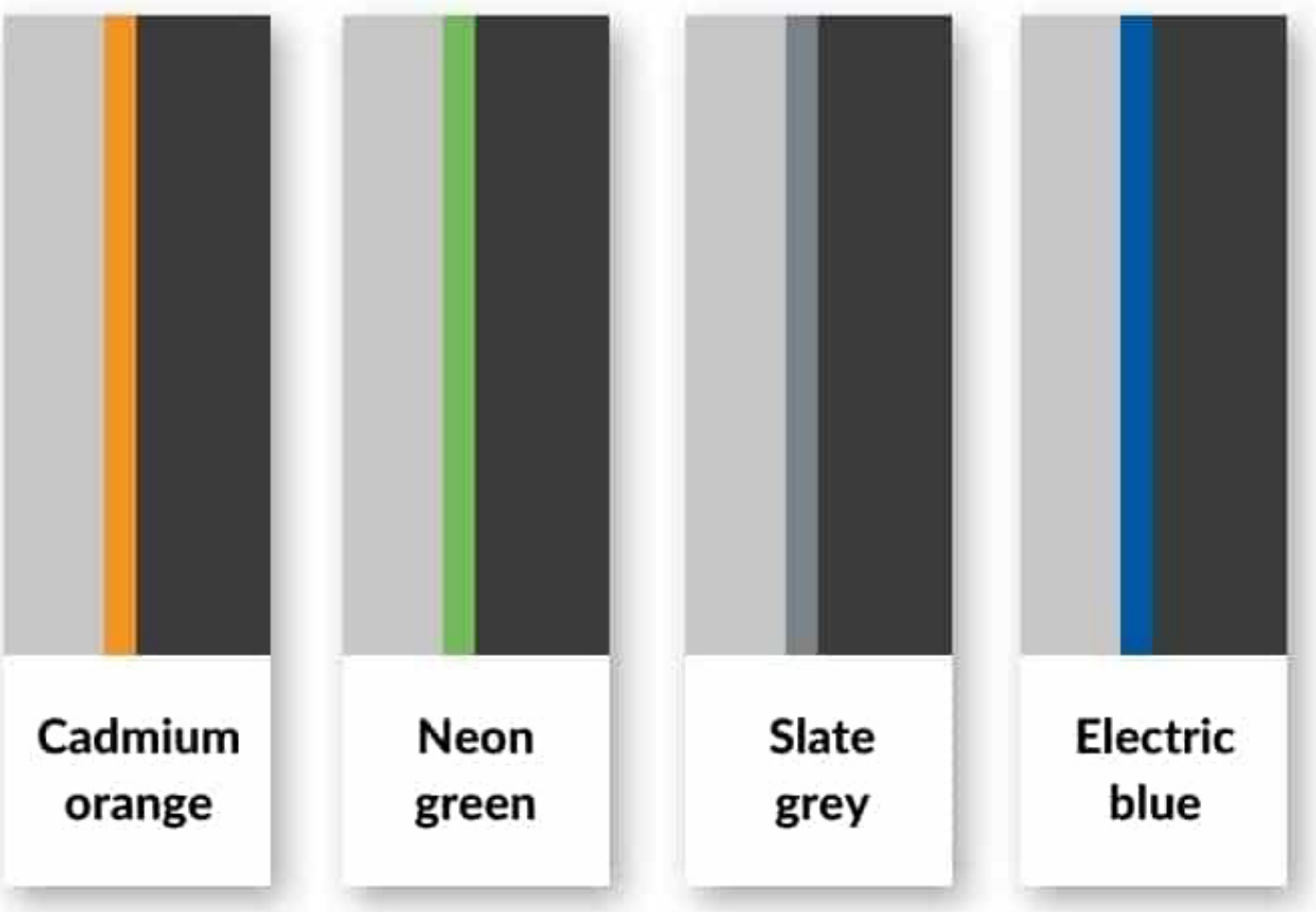
### ESD

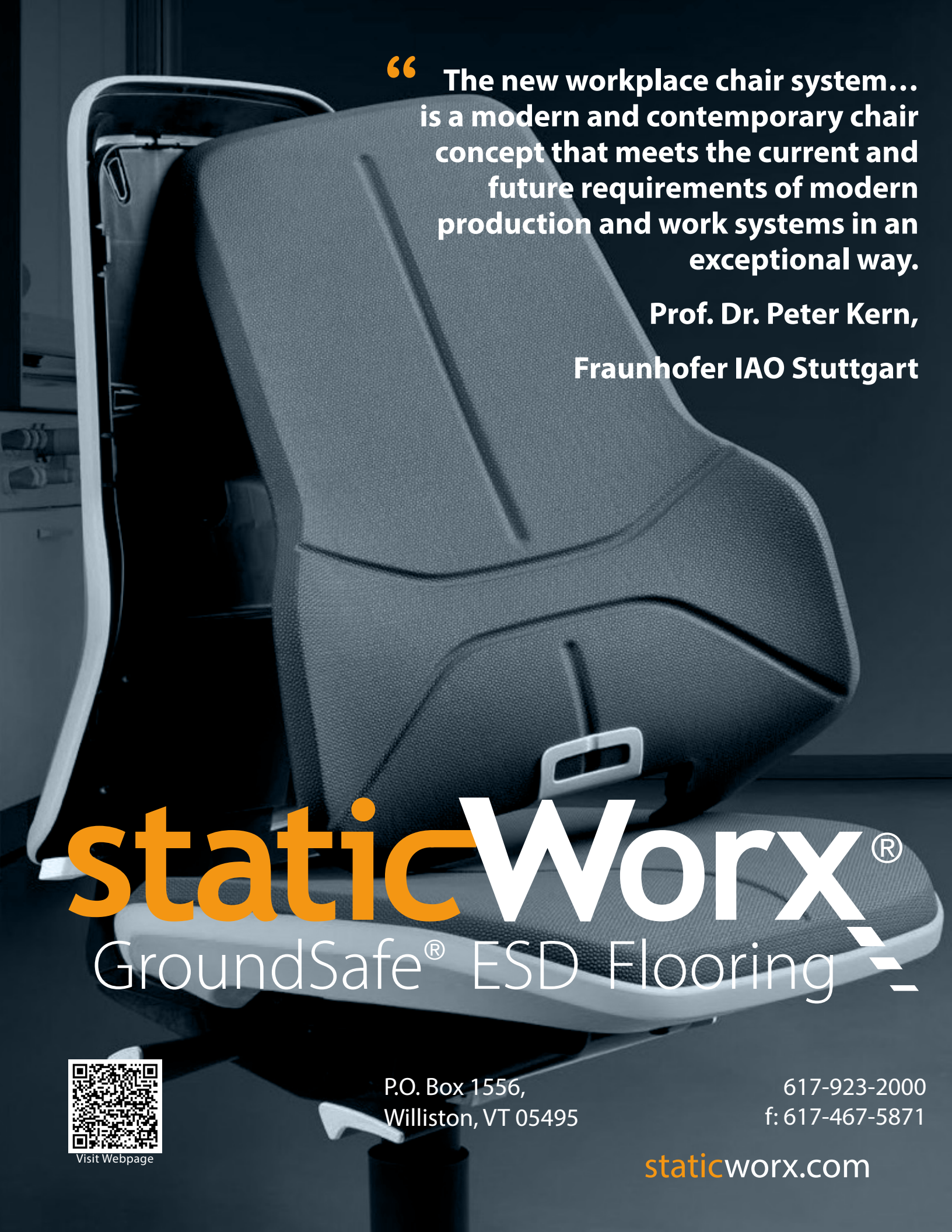
Bolt ESD chairs fulfill the requirements of ANSI/ESD S20.20 STM 12.1 for use in ESD protected areas (EPAs) and ensure that electrostatic charges are safely eliminated. Typical discharge resistance is $10^6$ Ω.

# SPECIFICATIONS AND COLORS

- Permanent contact backrest
- Seat height 17.71 – 24.4 inches
- Changeable upholstery
- Ergonomic package: weight adjustment, seat-depth adjustment, adjustable seat inclination, adjustable backrest
- Aluminum base
- Meets ANSI/ESD S20.20, STM 12.1
- Resistance to groundable point (Rgp) = 10E5 – 10E7 ohms

*Bolt ESD Chairs, Belkin, consumer electronics, Los Angeles, CA.*




“ The new workplace chair system… is a modern and contemporary chair concept that meets the current and future requirements of modern production and work systems in an exceptional way.
Prof. Dr. Peter Kern,
Fraunhofer IAO Stuttgart
staticWorx®
GroundSafe® ESD Flooring
Visit Webpage
P.O. Box 1556,
Williston, VT 05495
617-923-2000
f: 617-467-5871
staticworx.com