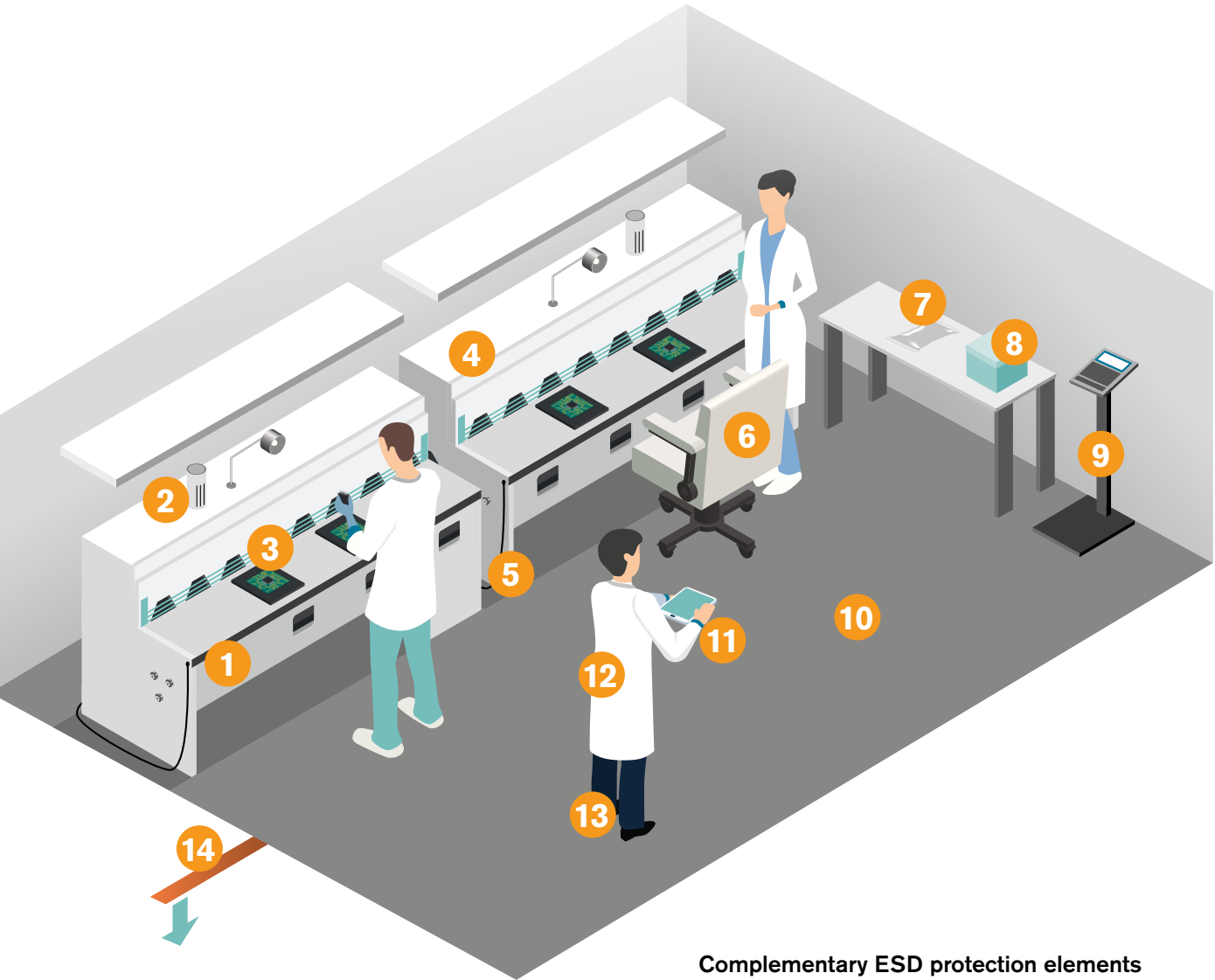


# How the right equipment improves your ESD protection



## What is ESD and how can you avoid it?

The term “ESD” is the English abbreviation for “electrostatic discharge” and describes the moment of potential equalisation between two differently electrostatically charged bodies, often due to tribocharging. If these discharges take place between unprotected people and electronic circuits, they can result in expensive failures.<sup>1</sup> Protecting against ESD is therefore essential in many areas of today's industries to guard against severe economic damages.



## An ESD flooring simplifies effective protection against damage to electronics

One of the largest risk factors for ESD is the floor. With a seamless electrostatic dissipative flooring, protection at sensitive workplaces becomes much easier. ESD wrist straps increase protection in times when the feet are not permanently in contact with the floor (e.g. on a swivel chair).

## Complementary ESD protection elements are important to ensure success<sup>2</sup>

- |   |                        |    |                            |
|---|------------------------|----|----------------------------|
| 1 | Ground cords           | 8  | Packaging boxes            |
| 2 | Desk ionizers          | 9  | Personnel grounding tester |
| 3 | Working mats           | 10 | ESD flooring               |
| 4 | ESD workstation        | 11 | Wrist straps               |
| 5 | Grounding point        | 12 | ESD garment                |
| 6 | Chair with ESD castors | 13 | ESD shoes                  |
| 7 | Antistatic bags        | 14 | Copper grounding           |

<sup>1</sup> [www.stat-x.biz/kompetenzzentrum/was-ist-esd/](http://www.stat-x.biz/kompetenzzentrum/was-ist-esd/)

<sup>2</sup> [www.riverdi.com/how-to-protect-the-display-from-esd-damage/](http://www.riverdi.com/how-to-protect-the-display-from-esd-damage/)

<https://shop.electronic-metals.ch/unternehmen/blog/esd-schutzmassnahmen-schaeden-durch-elektrostatische-entladung-effektiv-verhindern>

[www.warmbier.com/esd-protection/?lang=en](http://www.warmbier.com/esd-protection/?lang=en)

<sup>3</sup> [www.jh-profishop.de/profi-guide/esd-schutz/](http://www.jh-profishop.de/profi-guide/esd-schutz/)

<sup>4</sup> [www.esd-berater.de/esd-infos/was-ist-esd](http://www.esd-berater.de/esd-infos/was-ist-esd)

<sup>5</sup> [www.descoindustries.com/pdf/CostofESDDamage.pdf](http://www.descoindustries.com/pdf/CostofESDDamage.pdf)

# 33%

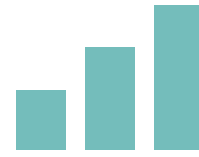
## Product losses

Industry experts estimate that up to 33% of electronic products are damaged/destroyed by electrostatic discharges during production.<sup>5</sup>

# 26%

## ESD damages

In over a quarter of cases where products are delivered defective, the damage originates from an ESD incident.<sup>4</sup>



## Increasing demand

More and more semiconductors are required due to Industry 4.0. There is no digital world without semiconductors. Technologies such as 5G, e-mobility, "Internet of Things" and artificial intelligence rely on an ever increasing number of powerful chips.

### These industries are most in need of ESD protection

- Semiconductors
- Telecommunications
- Machinery and vehicle production
- Computer technology
- Consumer electronics
- Medical institutes
- Research and analytical labs
- Pharma industry
- Warehouses
- Pyrotechnics

### People can build up electrostatic charges without noticing it<sup>3</sup>



Walking on a synthetic floor



Picking up a plastic bag from floor

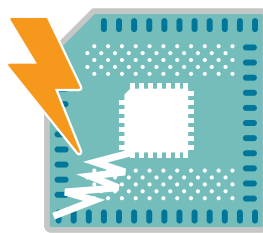


Sitting on a chair with foam cushion

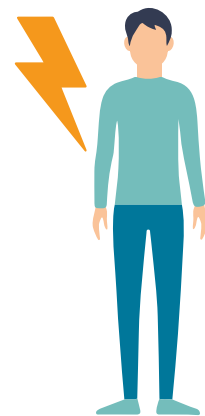
<b>Humidity &gt; 65%</b>	250V	1,200V	1,500V
<b>Humidity 10–20%</b>	12,000V	20,000V	18,000V



Electrostatic charging strongly depends on the conditions, including humidity. The **lower** the **humidity**, the higher the **electrostatic charge**.



Even a voltage of just **100V** can severely damage electronic devices.



Humans can only sense **discharges above 3,500 V**.<sup>3</sup>

nora by Interface, as the brand of Interface, Inc., is the global market leader for rubber floor coverings. With their expertise in industrial flooring, the German-based manufacturer produces flooring solutions for wear resistance under tough conditions with special properties, such as ESD protection. These floorings help everyone to benefit from a safe and healthy environment.

nora premium rubber offers system solutions for all requirements that last for decades.

[www.nora.com](http://www.nora.com)

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