



Picture Sources: Pexels.com, Wikipedia, h/p/cosmos

## **Electrostatic charge and discharge / ESD (electro-static discharge)**

By moving the user, for example on a treadmill or when walking across the floor, the user's body can charge electrostatically with up to 30,000 volts. If the user then touches a metal part, keyboard or display, there may be electrostatic discharges from the user to the device or, for. B. to another person, to the door handle or to the faucet. Electrostatic discharges from humans to devices are usually unpleasant for healthy people, but harmless.

Most electrical appliances are also immune to ESD discharges of up to approx. 15,000 volts and tested in the EMC laboratory. In the case of higher ESD discharges, however, these can possibly cause a malfunction on the device up to the crash of a software programme or the shutdown or malfunction of a device. In the case of sensitive electronic components, this can even lead to the destruction of electrical components. Therefore, especially during production and/or repairs to devices, people must not touch electronic circuit boards or chips, etc. without ESD grounding tape, but only touch them and only in compliance with ESD regulations.

Most of the causes of electrostatic charging lie mainly in the choice of clothing, shoe soles and movement. Also very dry air, dry skin and e.g. many lighting fixtures and/or radiators count as possible causes.

h/p/cosmos treadmills are made of very high-quality materials and the treadmills themselves do not cause a static charge of the person on the treadmill.

### **Possible remedies can be:**

- Other clothing (no synthetic fibers but e.g. natural fibres and cotton) and/or other footwear (e.g. with leather soles).
- Dry air in the room to just over 60% humidifies e.g. by commercially available humidifiers and/or indoor plants.
- For very dry skin, use a suitable skin cream so that the charge is distributed more evenly.
- Other location with different soil
- Scrape off all unnecessary luminaires and/or other unnecessary electrical/electronic equipment
- In some areas, additional ionization of the air is also used to reduce electrostatics.
- Use ESD wrist band to ground the body, so that the electrostatic charge is already dissipated against earth in the beginning.

		<p>Other commercially available ESD tapes are available in specialist shops.</p>
<p>cos14878: ESD Anti-Static Wrist Band with Spiral Cable for MCU4 Devices</p>	<p>cos13749 ESD Anti-Static Wrist Band with Spiral Cable for MCU2 Devices</p>	

Information on the causes of possible static charge and discharge can also be found in the h/p/cosmos operating instructions: <https://www.hpcosmos.com/en/contact-support/media-downloads/manuals>

Further information and information can also be found: [https://de.wikipedia.org/wiki/Elektrostatische\\_Entladung](https://de.wikipedia.org/wiki/Elektrostatische_Entladung)

Video and Tips: [https://www.chip.de/news/Phaenomen-erklart-Darum-bekommen-Sie-im-Winter-haeufiger-einen-gewischt\\_183220377.html](https://www.chip.de/news/Phaenomen-erklart-Darum-bekommen-Sie-im-Winter-haeufiger-einen-gewischt_183220377.html)

<https://www.haz.de/Nachrichten/Wissen/Uebersicht/Aufgeladen-Darum-bekommen-wir-im-Winter-oefter-eine-gewischt>