

Products on the highest  
quality level



## Cleanroom garments for ESD-protected areas

Professional  
Cleanroom Expertise

**dastex**  
REINRAUMZUBEHÖR



## Reusable and washable cleanroom garments & cleanroom undergarments

### Disposable cleanroom garments

## Cleanroom gloves

- ▶ Disposable gloves
- ▶ Textile washable gloves

## Cleanroom shoes & socks

## Cleanroom furniture

# Delivery programme – general

## Reusable and washable

- ▶ Cleanroom garments
  - ▶ Cleanroom undergarments
- standard or customised**

## Disposable cleanroom garments

- ▶ Head, foot and body area

## Face masks

- ▶ Disposable face masks for various applications

## Cleanroom gloves & finger cots

- ▶ Disposable gloves
- ▶ Textile gloves
- ▶ Protective gloves

## Cleanroom shoes & socks

- ▶ Occupational footwear & Safety footwear
  - clogs, slippers and sandals
- ▶ Shoes with textile upper
- ▶ Cleanroom socks (reusable/disposable)

## Cleanroom tacky mats

- ▶ Removable dust binding foil mats
- ▶ Permanently adhesive and washable tacky mats

## Disinfectants & Detergents

## Cleanroom wipes

- ▶ different materials: polyester, cellulose, polyamide, polypropylene etc.
- ▶ different levels of cleanliness
- ▶ different sizes
- ▶ with conductive fibres

## Cleaning & disposal articles

- ▶ Mop systems and handles
- ▶ Cleaning trolleys and accessories
- ▶ Cleaning sticks / swabs (also ESD-suitable)
- ▶ Cleanroom vacuum cleaners
- ▶ Paxxo® disposal systems

## Cleanroom furniture

- ▶ Chairs, stools, work tables, desks
- ▶ Shelving systems, wardrobes and carts

## Cleanroom paper & pens

## Cleanroom adhesive tapes & labels

## Cleanroom dispenser systems & disposable overshoe dispensers

## Particle visualisation lamps

# Services

## Supply concepts

- ▶ Consignment warehouse
- ▶ Full supply systems
- ▶ E-Commerce solutions (incl. online shops)

## Staff training

## Research & Development

## Consultancy

# Since 1979



Since 1979, **Dastex** has been your competent partner for all questions concerning cleanrooms.

One of our company's maxims is that an optimal range of cleanroom products can only be created and continuously developed if we maintain close contact with operators of cleanrooms.

Our many years of know-how guarantee that an extensive and above all practice-oriented product range is available at all times, which meets all the requirements of our customers and at the same time represents the latest state of cleanroom technology.

Consistently high product quality, combined with competent advice and intensive customer care, are essential components of the Dastex quality principles.

We have a broad international base, speak twelve languages and attach great importance to the training and development of our employees in order to meet the growing demands of our customers in the future.

As a responsible company, **Dastex** has been operating a quality management system in accordance with **DIN EN ISO 9001** for many years.

In order to express the idea of sustainability, **Dastex** has also had its environmental management system certified according to **DIN EN ISO 14001**.





# Cleanroom garments for ESD protected areas

High wearing comfort combined with filtration efficiency



In addition to the classic cleanroom requirements, the process requirements often also include specifications for the reduction of electrostatic charging and discharging.

An essential component in the overall system of ESD protection zones (Electrostatic Protected Area – EPA) is the garment that protects the product and the production process.

## Electrostatic Protected Area



**Due to cleanroom requirements, cleanroom garments consist almost exclusively of synthetic fibres, which in turn can cause electrostatic charges through friction, among other things**

It is therefore of utmost importance to wear suitably electrically conductive garments in order to minimise the effects of this charge build-up and spontaneous – unwanted – discharge (Electrostatic Discharge / ESD) when touching a grounded object. For this purpose **Dastex** offers a wide range of different approaches to solutions. Many of our reusable textiles fulfil the classic basic requirements for ESD protection with regard to the surface resistance of cleanroom fabrics (DIN EN 61340-4-9).

At the Saxon Textile Research Institute – STFI, two optimised overalls and lab coats, each with ESD protective equipment made of the cleanroom fabrics **ION-NOSTAT VI.2**, **DASTAT-EC** and **ION-NOSTAT Plus**, were successfully tested in accordance with DIN EN 61340-4-9: i. e. the electrical resistance of clothing containing surface-conductive or dissipative components or materials used in the electronics industry for controlled electrostatic discharge. Including system resistance testing for clothing that provides a grounding path for employees.

It should be emphasised at this point that ageing effects were included in the studies in order to determine values that are as realistic as possible, which can be expected in everyday use after X decontamination cycles.

The test series not only included measurements of the surface resistance in the respective fabric (EN 1149-1), but also targeted measurements across several seams. In accordance with DIN EN 61340-4-9, the discharge velocities were also determined.

# Textiles and their properties

The requirement profile of cleanroom-compatible ESD protective garments is versatile. In most cases, the application process of the cleanroom operator requires the following textile properties:

- ▶ **suitability ESD protection**
- ▶ **Filtration efficiency, adapted to the respective cleanliness requirements**  
of air cleanliness classes 4 – 9 (ISO 14644) or requirements from the areas of technical cleanliness
- ▶ **as high as possible wearing comfort**  
to ensure the necessary employee acceptance
- ▶ **sufficient abrasion resistance**  
with the longest possible service life



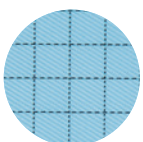
From the user's point of view, it makes sense to not only obtain values for the listed textile properties in new condition, but also information that takes into account the typical material ageing phenomena. Some antistatic fibres gradually lose their conductivity after only a few washing cycles.

**Dastex** also attaches particular importance to wearing comfort in cleanroom-suitable ESD protective garments. The highest possible breathability to regulate body temperature is just as important as the pleasant feel of the textile (= touch as soft and pleasant as possible).

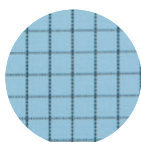
In addition to the high-performance fabrics **ION-NOSTAT VI.2**, **ION-NOSTAT Plus** as well as **DASTAT-EC** – for which a test report of completely manufactured models is available – other fabrics with carbon fibres from our standard range are suitable for the production of cleanroom-compatible ESD protective garments. These include the fabrics **ION-NOSTAT Comfort I.2**, **DASTAT-V.2**, **DASTAT-MF** and, to a limited extent, **ION-NOSTAT LS Light 125.2**.

Our **Light-Tech AS** and **HT4** textiles offer all the basic technical requirements for cleanroom-compatible ESD undergarments.

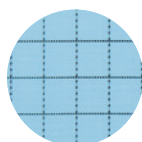
## Woven fabrics cleanroom garments



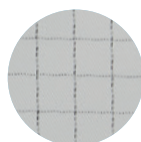
ION-NOSTAT  
VI.2



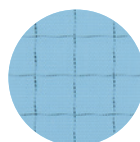
ION-NOSTAT  
Plus



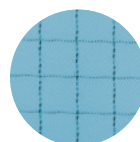
DASTAT-  
EC



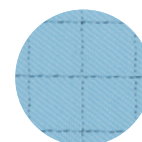
ION-NOSTAT  
Comfort I.2



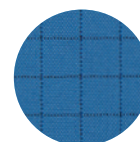
DASTAT-  
V.2



DASTAT-  
MF



ION-NOSTAT  
LS Light 125.2



Light-Tech  
AS



HT4

## Woven/knitted fabrics cleanroom undergarments



# Tested lab coat and overall models



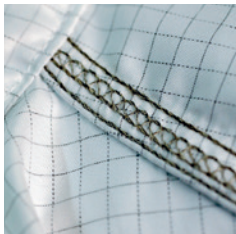
**Overall 01ESD1 with elastic band (40 mm) on the sleeves**



**Lab coat 02ESD2 with knitted cuffs on the sleeves, antistatic T3**



**Lab coat ESD customer model**



**Conductive seam**



**Special equipment: Press studs for fastening an earth cable**

## Tested ESD overall basic models

- ▶ felled seam
- ▶ plastic zip in the front with covered strip in front and back
- ▶ back sleeve part and back in one piece
- ▶ sleeve and side seams with conductive tape
- ▶ front raglan seams with conductive tape and antistatic thread
- ▶ hanging loop in the middle of the back of the collar
- ▶ elastic waistband (8 mm) on the legs
- ▶ EPA woven label in left side seam

### 01ESD1

- ▶ elastic band (40 mm) on the sleeves

### 01ESD2

- ▶ antistatic knitted cuffs on the sleeves

## Tested ESD lab coat basic models

- ▶ felled seam
- ▶ back sleeve part and back in one piece
- ▶ sleeve and side seams with conductive tape
- ▶ front raglan seams with conductive tape and antistatic thread
- ▶ hanging loop in the middle of the collar
- ▶ woven EPA label in left side seam

### 02ESD1

- ▶ elastic band (40 mm) on the sleeves

### 02ESD2

- ▶ antistatic knitted cuffs on the sleeves

# Complementary articles

## Individual garment concepts



ESD shoe with textile upper on request!

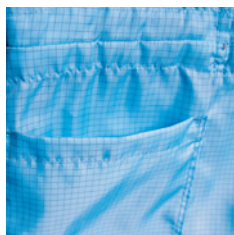


Besides the tested lab coat and overall models for ESD protected areas, Dastex offers a wide range of complementary articles:

- ▶ Hoods
- ▶ Overshoes (low version) with conductive soles or with conductive tape (especially for external visitors)
- ▶ Overboots with conductive soles
- ▶ Undergarments suitable for cleanrooms and ESD protection: tops, trousers, T-shirts, polo shirts

### Additional equipment

- ▶ Pockets: open, closed, inside, outside, different positions and sizes
- ▶ Straps: for pens, ID cards, mobile phones etc.
- ▶ Different sleeve and trouser leg ends: conductive knitted cuffs, light and wide elastic bands (especially suitable for ESD protection)
- ▶ Imprint with company logo, name markings and much more



Of course, we can also realise customer-specific, tailor-made special models, adapted to the respective wishes and requirements.



# Professional Cleanroom Expertise



**Dastex Reinraumzubehör  
GmbH & Co. KG**

Draisstr. 23  
76461 Muggensturm  
GERMANY

Telephone +49 7222 969660  
Telefax +49 7222 969688  
E-Mail [info@dastex.com](mailto:info@dastex.com)

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