

A FOCUS ON PARTICLES



TECHNICAL CLEANLINESS

FOR INDUSTRY, MEDICAL TECHNOLOGY AND AUTOMOTIVE





CleanControlling GmbH is a leading international company in the field of technical cleanliness for industry and the automotive sector.

The extensive experience gained from over 55,000 cleanliness tests and the profound knowledge accumulated from over 10 years of laboratory analysis, consulting and training on the topic of technical cleanliness makes us the leading specialist in the field of technical cleanliness.

We are committed to practice-oriented technical cleanliness with active participation in the committees for creation and further development of standards, guidelines and directives, like VDA 19, ISO 16232 and in the AdhSa industrial association on the topic of adhesive cleanliness or film contamination.

With this expertise we also continually develop our consulting services and training contents further and utilize the experience gained from over 250 consulting projects with international customers in the process. The consultations focus on the optimization of the process chain to lastingly ensure the required cleanliness of your products with the best possible cost/benefit ratio.

References are renowned, successful customers from the sectors:

- ◆ Automotive and supplier industry
- ◆ Hydraulic components
- ◆ Cleaning technology
- ◆ Precision engineering
- ◆ Aerospace technology
- ◆ Medical technology

VOLKER BURGER founded CleanControlling GmbH due to his particular fascination for the topic of "Technical Cleanliness". During his time as manager of the Process and Product Development department at an automotive supplier, he was repeatedly confronted with the topics and challenges of technical cleanliness. Based on the collective experience from the field of process and product development and technical cleanliness, Volker Burger developed the areas of consulting and training on the topic of assembly cleanliness at his company and today supports OEMs, automotive suppliers and many companies from other fields with his team.

YOUR CLAIM

Your gain control over your interests in technical cleanliness!

OUR CONTRIBUTION

We create reliable, expressive cleanliness tests, offer comprehensive and neutral consulting services, educate and train you and your employees and help you choose the products and processes suitable for you. Put your trust in excellently trained specialists and use our experience and expertise.



In the analysis field, we evaluate the particulate and film component cleanliness of your products and support you in identifying the particle source through particle material determination.

PARTICULATE CONTAMINATION

Cleanliness test in compliance with VDA 19.1 / ISO 16232 and client-specific standards

- Standard cleanliness test
- CCPlus cleanliness test with increased blank value requirements and fibers
- Cleanliness test for large components
- Cleanliness test with air throughflow extraction in compliance with VDA 19.1, Chapter 6.5.2 of air-conducting components
- Microscopic oil test in compliance with ISO 4406 / ISO 4407
- Cleanliness quick test using particle stamps (e.g. on component packaging)
- Microscopic evaluation of particle traps/stamps
- Construction and production of test equipment and adapters

MATERIAL DETERMINATION

Analyses for determining the particle source

- REM/EDX analysis of anorganic particles *
- REM/EDX scan with element analysis, counting and measurement of particles *
- FT-IR infrared spectroscopy of individual organic particles

FILM CONTAMINATION

Analyses for determining the film contamination

- Limit determination *
- Cleaning validation *
- Process chain analysis *
- Gravimetric determination of residual oils or greases *
- Determination of apolar surface contamination using GC-MS *
- Determination of surface tension using contact angle measurement or test ink *

PRODUCTS

Our know-how on the topic of technical cleanliness in assembly is the basis for the development of a specialized product range that supports you in meeting your technical cleanliness requirements.



MOBILE PARTICLE SUCTION SYSTEM CPS2

The unique complete system for the suction of dry adhering particles of large-area component surfaces for analysis.

PARTICLE MONITORING

Monitoring accessories for assessing particle appearance in the production environment, including using particle traps or stamps.

ASSEMBLY CLEANLINESS

Cleanliness areas as room concepts are supported through special products and systems.

LABORATORY EQUIPMENT

The right laboratory equipment and accessories are decisive for the results of the cleanliness test. CleanControlling offers laboratory technology matched to the needs of a cleanliness laboratory.

We advise you on all areas of technical cleanliness throughout the product creation process and offer staff training all the way up to specialized training workshops and expert conferences.



CONSULTING

TRAINING COURSE

A comprehensive range of training, conferences and congresses on technical cleanliness supports you in qualifying your employees and raising awareness amongst them.

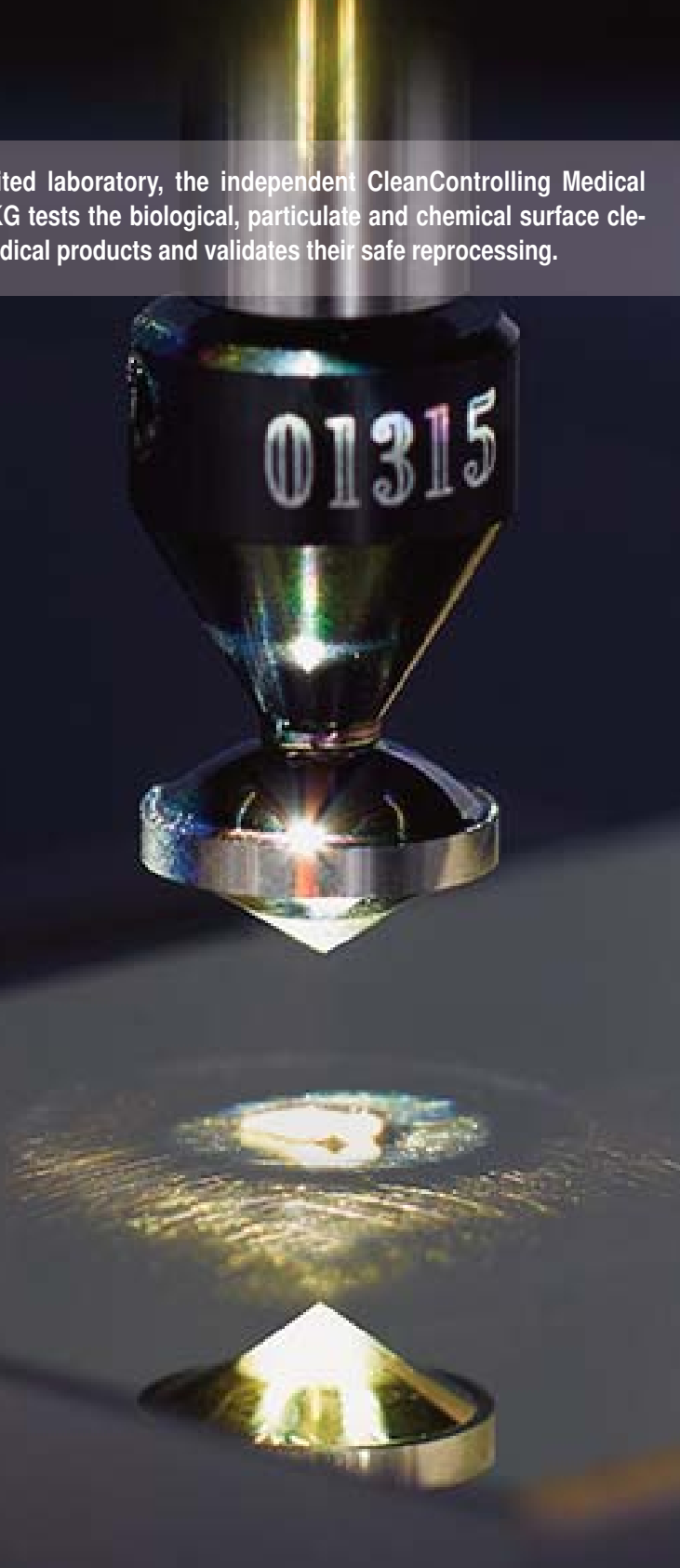
CONSULTATION

We accompany you all the way from the early concept phase, advising you through the entire product creation process and helping you to fulfill your cleanliness requirements in a targeted, optimized manner.

VOCATIONAL TRAINING

We qualify your employees to become skilled personnel, specialists or technical cleanliness auditors.

As an accredited laboratory, the independent CleanControlling Medical GmbH & Co. KG tests the biological, particulate and chemical surface cleanliness of medical products and validates their safe reprocessing.



Suppliers, manufacturers and distributors of medical products are responsible for the quality of their products. The hygienic, microbiological and chemical cleanliness, biological compatibility including surface quality and increasingly particulate cleanliness of medical products are of crucial importance to ensure patient safety.

BIOLOGISCHE PRÜFUNGEN

- Determination of bioburdens including validation in compliance with DIN EN ISO 11737-1
- In-vitro cytotoxicity test in compliance with DIN EN ISO 10993-5
- Endotoxin test (LAL test) in compliance with USP 85/ Ph. Eur. 2.6.14
- Sterility test in compliance with DIN EN ISO 11737-2
- Evaluation of contact plates for microbiological environment monitoring

PARTICULATE CONTAMINATION

Particulate contamination testing based on optical particle counter (OPC) in accordance with USP 788 or microscopic evaluation.

ADDITIONAL TESTS

Analyses in collaboration with accredited partner laboratories:

- Chemical analyses, e.g. GC-MS, LC-MS, TOC *
- In vitro Pyrogen Test (IPT) *
- Testing of the product surface, e.g. REM/EDX, XPS *
- Water test in compliance with EN 285 *

VALIDATION

- Validation of manual or automated reprocessing of medical products
- Validation of steam sterilization of medical products
- Simulation of reprocessing cycles *

PRODUCTS

Selected products for microbiological environment monitoring and clean sample handling and packaging.



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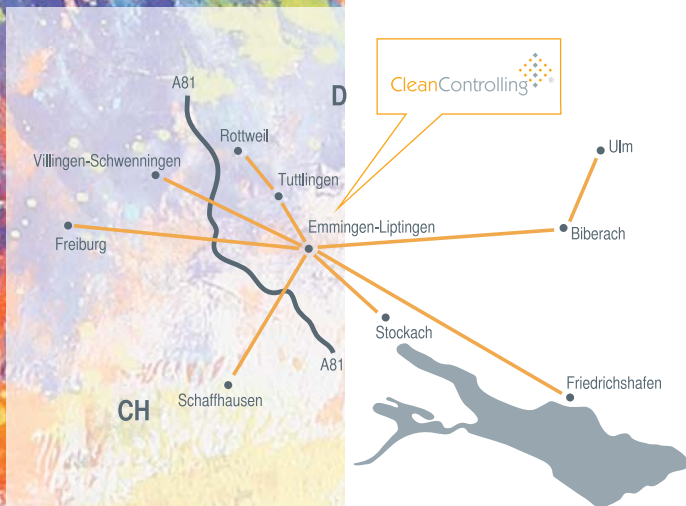
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