

## ACCREDITED LABORATORY MEDICAL PRODUCT TESTING

As an accredited and recognised test laboratory for medical products, we support manufacturers, doctors and expert assessors in the field of certification testing, failure and damage analysis as well as research and development for medical products.

# RANGE OF MEDICAL PRODUCT TESTING

## THE FULL-SERVICE TEST AND DEVELOPMENT CENTER



## ALWAYS ONE STEP AHEAD

Mobility means quality of life as an essential, integral part of our everyday life, whether professional, family or leisure – medicine products serve as auxiliary aids in order to restore an effective quality of life following accidents or illnesses or at least improve it. The medical products industry is innovative and also fascinating at the same time.



Our main focus is, among others, in strength, resistance and wear tests of joint endoprosthesis, osteosynthesis products, trauma products, surgical instruments and tissue adhesive and patch products in accordance with the standard or special test procedures. Since 1995 we have successfully performed medical device test services on implant products.



### RANGE OF SERVICES

- Artificial ageing
- Particulate measurement
- Strength testing
- Wear testing
- Fatigue testing
- Microstructural investigations
- Fracture analysis
- Testing of materials and materials combination
- Materialography
- Damage analysis
- Torsion testing
- Corrosion investigation
- Contact Area/Stress Test
- Specimen manufacturing
- Simulation and strength calculations
- Ion concentration measurement
- Investigations on PE (Oxidation index, Crystallinity, Cross-link density, Charpy impact strength etc.)

We are testing according to national and international guidelines.

## ACCREDITED AND RECOGNISED TEST LABORATORY

The accreditation from DAkkS (German Accreditation Body) and recognition from ZLG (Central Body of the States for Health Protection) enables us to test materials and components according to different standards, as well as developing new testing procedures. A comprehensive overview of the scope of our accreditation can be found on our IMA website: [ima-dresden.de](http://ima-dresden.de)

Furthermore, we will be pleased to advise you on the required test series for your product on the way to approval. And one thing is for sure, should there not be a standardised test standard yet, then we will support you with the development of test requirements and specifications, based on scientific studies and databases.

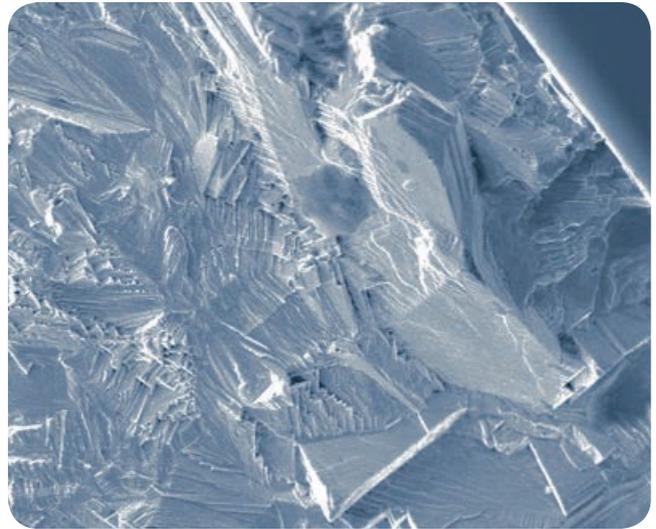
# MATERIALOGRAPHY AND DAMAGE ANALYSIS

Countless new products are based on new materials and innovative manufacturing processes, whose success would not have been possible without materialography, i.e. the visual representation and evaluation of inner microstructures, the associated improvement of material properties, optimisation of processes and quality assurance in production. Whether the objective is quality assurance, damage analysis or research and development, in our accredited materialography laboratories we examine

both metallic and non-metallic materials of different compositions using the appropriate qualitative and quantitative characterisation procedures. This includes the test preparation process and the use of all microscopic methods from light to electron microscopy for the analysis, evaluation and documentation of microscopic research results. The investigations can be supported and supplemented by further materials analysis, technological and physical procedures on request.

## TEST SPECTRUM

- Light and scanning electron microscopy
- Evaluation of the microstructure
- Evaluation of the welded, soldered and brazed seam quality
- Determination of grain size
- Determination of inclusion content
- Measurement of layer thickness
- Surface layer characteristics (decarburisation, alpha case, corrosion, oxidation)
- Determination of cell sizes (PUR), homogeneity (PE) and carbon black dispersion (PE)



# MATERIALS TESTING

In addition to the design, the utilisation of the suitable material and/or the suitable material combination is the basis for the long-term success after implantation. Material selection tests and analysis on material samples as well as finished implants ensure increased reliability for the patient application.

As a manufacturer or processor of materials, we will provide you with comprehensive engineering expertise regarding resistance, strength and reliability studies on standardised samples up to, and including, complex components.

## RANGE OF TESTING

- Metals
- Plastics
- Coatings
- Ceramics
- Tissue adhesive



## TISSUE ADHESIVE TESTING

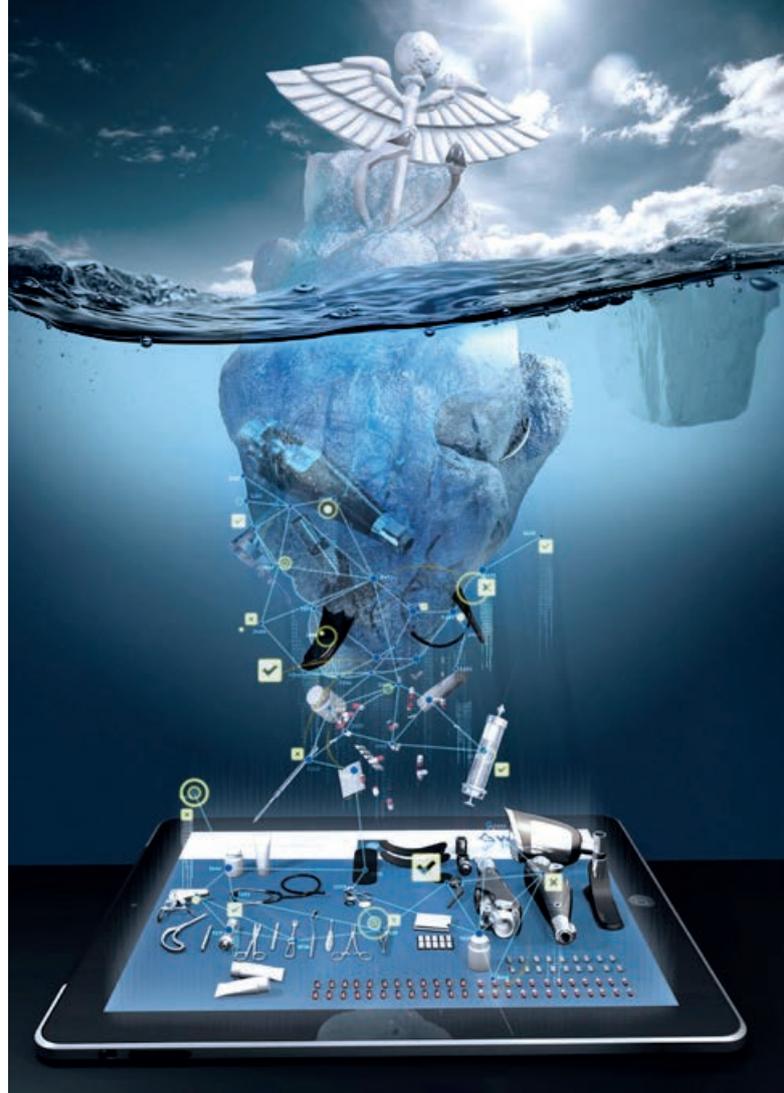
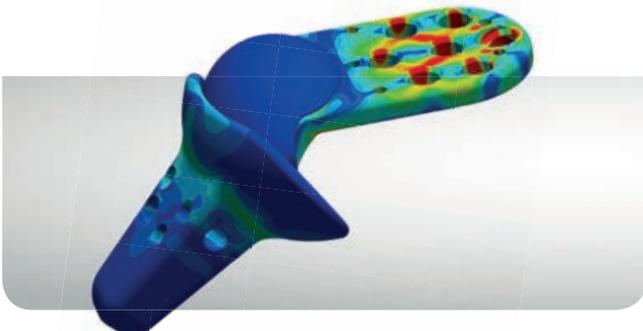


Wound or tissue adhesives provide a painless alternative to wound closure using surgical sutures. The mechanical properties of the materials, and in particular the adhesive properties, are important parameters in evaluating their fitness for use. Prior to clinical use, these adhesive properties must be determined and the wound closure strength must be demonstrated. For the required tests we are accredited as laboratory according to guideline 93/42/EWG and DIN EN ISO/IEC 17025.

## SIMULATION AND STRENGTH CALCULATION

Our engineering services support you taking the economic requirements for shorter production development times and innovative and high-quality design with better material efficiency and weight-optimised structures into account for optimal flow of forces.

We use computational and experimental findings relating to the operational and permanent strength to determine how much dynamic stress a construction has to bear, which dimensions achieve the best strength values, and how the natural vibration and resonance behaviour affects the structural strength. We also calculate and assess the lifespan. Our results have helped you to optimise your



## FIND INFORMATION, MANAGE DATA, NETWORKING KNOWLEDGE: WIAM® ICE

The structuring, processing and management of information helps to ensure expert technological know-how in the long term, streamline processes and thus increase quality and efficiency. The standard WIAM® ICE product promotes the flow of knowledge, simplifies areas of complexity and ensures added value and innovative strength. Having originated in the field of Material Sciences, the generic WIAM data model can now manage all kinds of knowledge and information. With WIAM® ICE, you can record, research, link, visualise, compare and evaluate diverse data easily and clearly

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## THE FULL SERVICE TEST CENTER

IMA Materialforschung und Anwendungstechnik GmbH, in short IMA Dresden, is the development and test centre which can speed up the process for your new developments and ensure that they are suitable for the market. As a partner of industry, economy and research, IMA Dresden has contributed for the last 25 years to ensure that the products of the future are reliable, efficient and safe.

Whenever it comes down to strength, resistance, validation or material characteristic data, then IMA Dresden can combine the efforts with regard to test standards, approval and certification tests as well as experimental investigations. We have over 10,000m<sup>2</sup> of test area in certified and accredited testing laboratories where we can test innovative products and technologies from aerospace, rail vehicle, automotive and medical technologies, shipbuilding, plastic, metal and electrical industries and other industrial branches. You can rely on us: the testing tasks at IMA Dresden will be processed according to the current state of the art technology and enjoy worldwide acceptance and trust.



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## BENEFIT FROM THE COMPETENCE OF IMA DRESDEN FOR TESTING OF YOUR MEDICAL PRODUCTS

As an independent test provider we guarantee reliable results and strict confidentiality. Our credo of thinking and acting like our customers was not carelessly formulated. It contains an earnest pursuit of engineering perfection, which merges intelligent solutions with sustainable usable result at fair prices. This, of course, also includes the flexibility to respond to all kinds of request and, in doing so, to provide peak performances which are not possible elsewhere. Each of our employees bears a portion of this responsibility.

Please do not hesitate to contact us for any questions or inquiries at [sales@ima-dresden.de](mailto:sales@ima-dresden.de)

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## CONTACT

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[www.ima-dresden.de](http://www.ima-dresden.de)

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