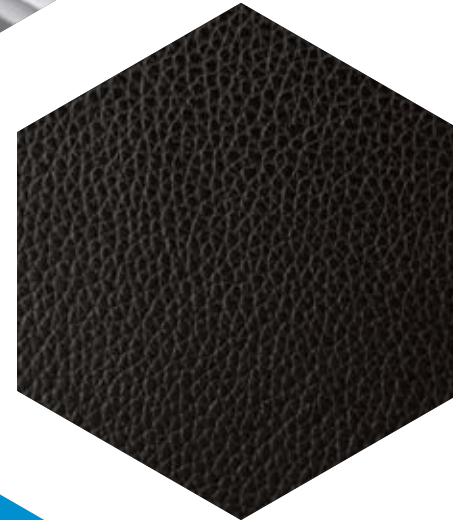
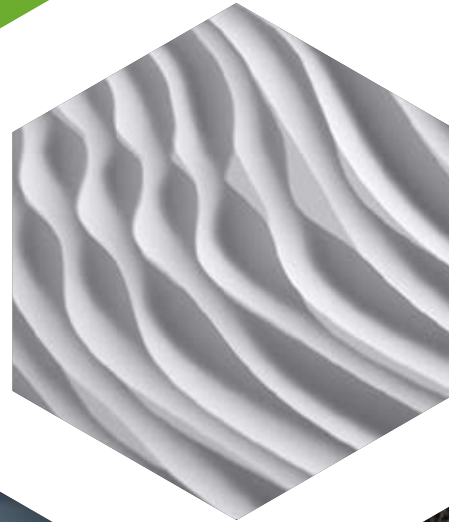
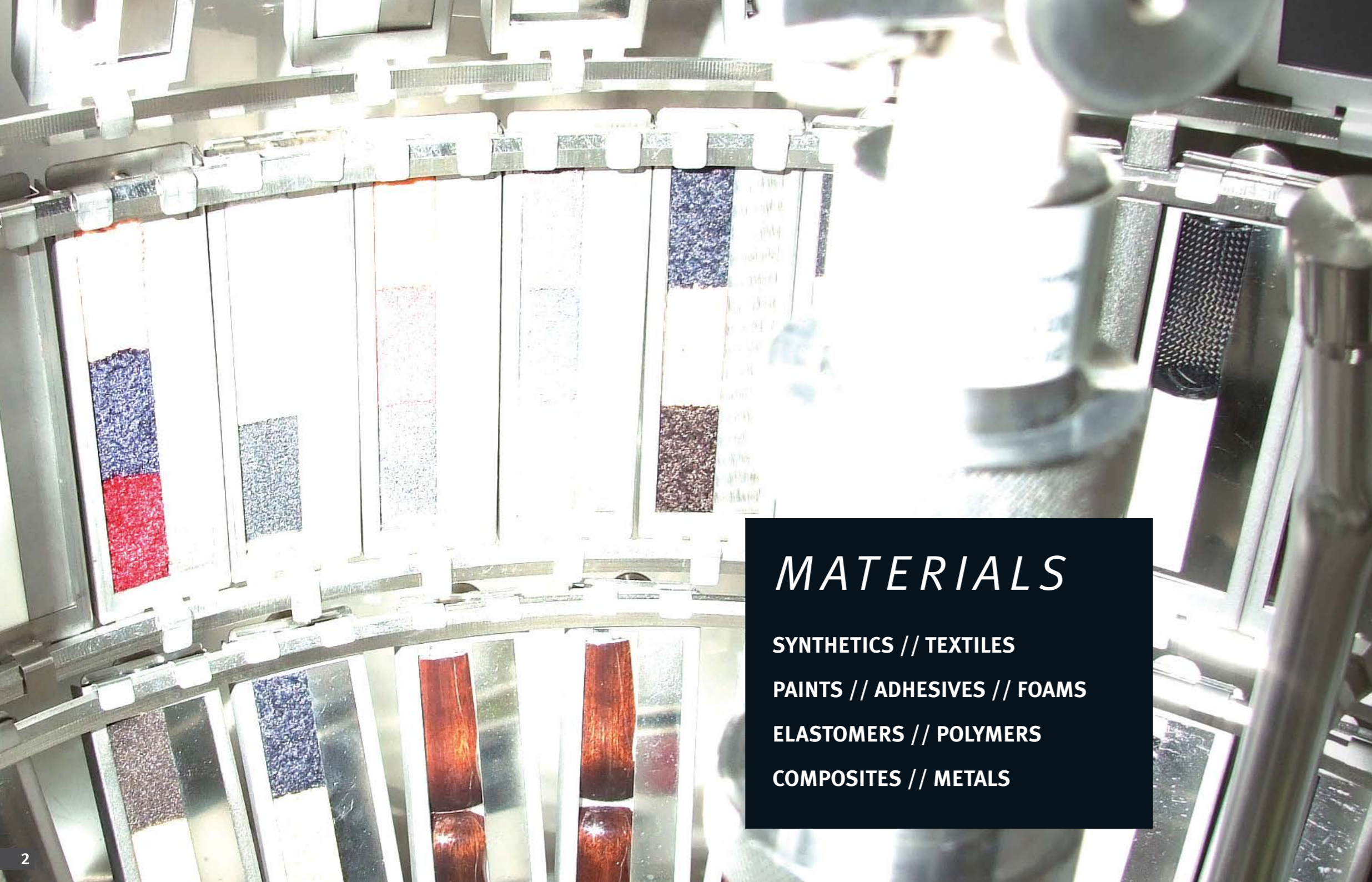


MATERIALS AND SURFACES

TESTING AND DEVELOPING WITH ALL SENSES





MATERIALS

SYNTHETICS // TEXTILES

PAINTS // ADHESIVES // FOAMS

ELASTOMERS // POLYMERS

COMPOSITES // METALS

OUR BENCHMARK: THE HUMAN BEING

We develop, simulate, test and analyse for visions of the future.

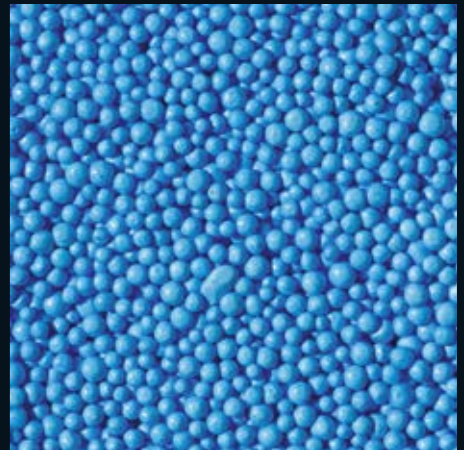
Our passion is mobility and sport.

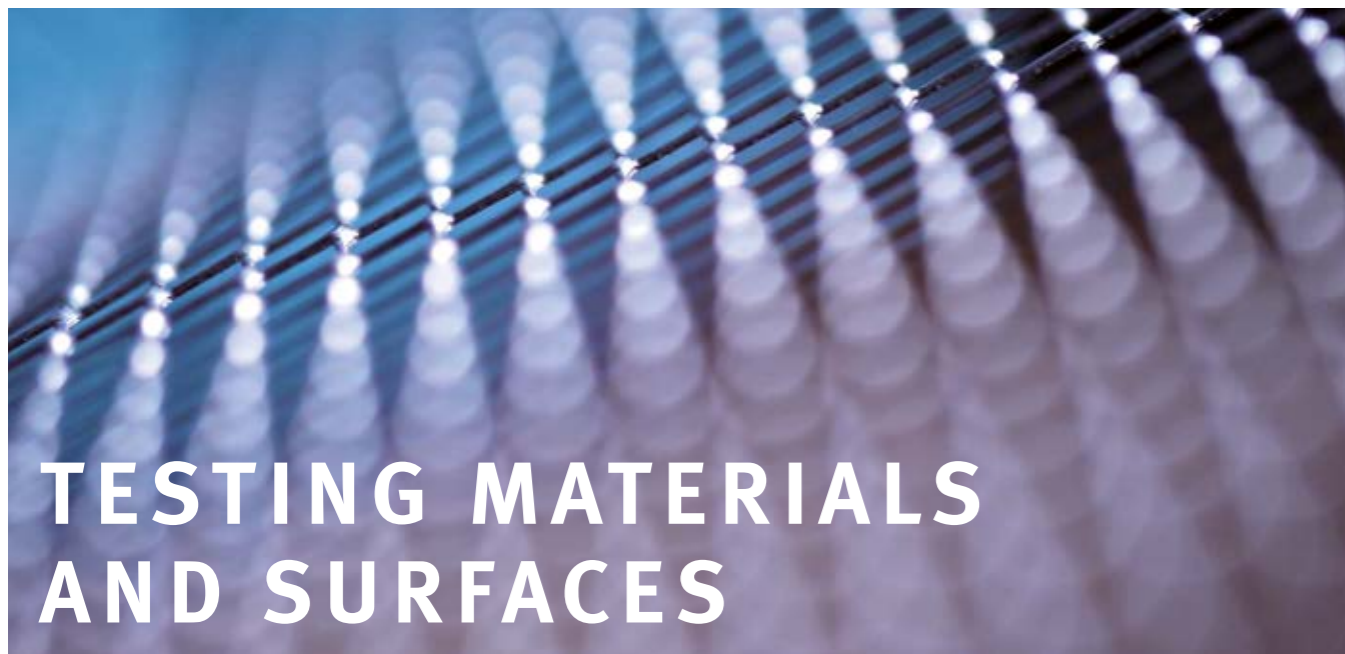
FROM THE IDEA TO THE FINISHED PRODUCT

imat-ue, an expert in the field of engineering development, is a service provider with many years of experience in the fields of design, development, construction and testing materials, building components and systems. We support our customers along the process chain, from the first idea to the finished product or component part. Around 100 designers, chemists and engineers collaborate daily to find the best possible solutions for our customers. The focus is on the automobile industry and its suppliers, but also aviation, textile and building as well as the leisure industry.

TESTING MATERIALS WITH ALL SENSES

The development of material testing is central to our work. We are accredited according to DIN EN ISO/IEC 17025 and have also been approved by various car manufacturers and suppliers, which shows that we can guarantee to carry out a multitude of testing methods with competence. Our excellent experience allows us to determine customised material and component durability. Apart from tests for mechanical and chemical reliability imat-ue uses test methods, which involve odour, visual and haptic testing.





THE APPROPRIATE TEST METHOD FOR ANY EVENTUALITY

imat-uve has more than 2500 test methods as part of its repertoire. Amongst them are tests for mechanical reliability as well as those dealing with tribological and acoustic performance through sound analyses. Furthermore we carry out tests to ascertain the stability of media and resistance to corrosion, levels of emission, odour ratings and fogging grades. We round off our range by carrying out burn tests, simulating the environment, climate tests and light exposure aging as well as weathering tests in our own test sites in South Africa, which fulfil all OEM requirements, e.g. approved by Daimler.

COMPLETE PROCESSING OF PRODUCT SPECIFICATION CATALOGUES

We undertake the technical test processes for complete DBL or TL specification and delivery requirements according to the regulations of most internationally known automobile manufacturers. Our automotive process chain services the pre-series and series development as much as the production. After-sales performance such as the analysis of faults and field-problems are also covered. imat-uve is your well established, reliable partner in collaborative development and production processing of components, structural elements or total systems.



MATERIAL TESTING

- Mechanical reliability
- Chemical consistency
- Surface testing
- Surface and fibre testing
- Burn testing
- Characterisation of materials
- Colour metric tests
- Haptic tests
- UV-test
- Climatic tests
- Acoustic performance



DEALING SYSTEMATICALLY WITH VARIED MATERIALS

Whether textile materials (trim, tuft, airbag or safety belt), skins (leather, artificial leather or foils), lacquered surfaces, elastomers and foams, synthetics and composite fibre materials (carbon fibre, glass fibre, CFK and GFK), wood and ceramics, paints and lacquers or metals – imat-uve has the appropriate test method and experts with the necessary material knowledge. We have a comprehensive material database and therefore are able to establish correlations and solve actual problems. You can also benefit from this expert experience.





MATERIAL STRESSING

MECHANICAL TESTS – TENSILE, BENDING AND IMPACT TESTING

Various tests examine mechanical impacts on materials and determine specific properties. imat-uve has a large range of established tensile, impact and bending tests, as well as shock and vibration tests according to DIN norms. Furthermore we offer durability tests using robots, which record the mechanical strain during a material's specific service life. The identified data allow us to compare materials as far as their intended use is concerned and help manufacturers to plan the intended service life.



TEXTILE TESTS

imat-uve has many years of experience and expertise in the area of testing textiles. Using abrasion and rubbing tests, fastness to light and aging tests, we offer manufacturers or processors information on the suitability of textiles. Located near various colleges, imat-uve regularly hosts research projects on customer specific issues. We work for instance on improving textiles for automotive seat covers with regards their reaction to soiling or seating comfort and seating climate. This also creates innovative solutions to problems for test procedures and equipment, such as Mace Snag or Martindale.



BURN TESTS

Product safety is determined by understanding the flammability or reaction when burning component parts and is a legal requirement. imat-uve supports this by carrying out the necessary burn tests for instance for interior fittings.

CORROSION TESTS

Corrosion tests are carried out to determine the specific reaction of materials to environmental impacts. imat-uve has a variety of standard test processes here, such as salt spray fogging tests, corrosive gas or water condensation tests. We research the impact of temperature and humidity in climate chambers.



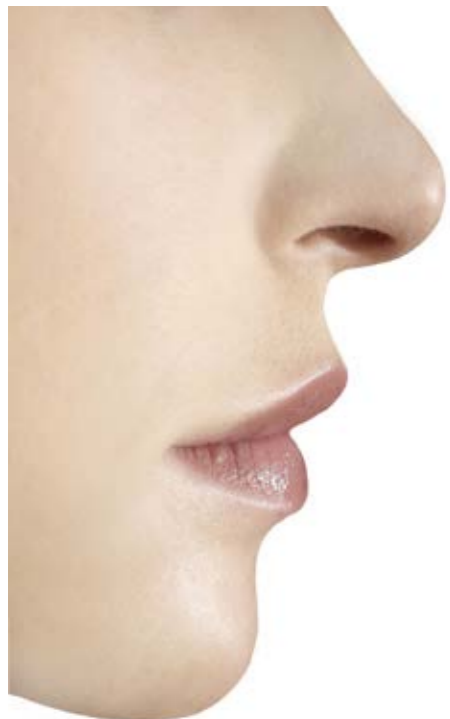
SURFACE STABILITY

imat-uve examines surface stability using cutting and scratching tests or abrasion tests as well as colour and lustre measurements. When testing stability we focus in particular on lacquered surfaces, which are frequently used for interior car design. User impacts put stresses on surfaces in many ways. This often leads to problems when comparing tests. imat-uve is therefore concerned with optimising test procedures. To improve test procedures a specific research project worked out promising findings as far as the resistance of lacquered surfaces to lotion is concerned.



CHEMICAL CONSISTENCY

We test materials according to standard requirements, ascertaining their consistency against solid and liquid mediums and chemicals, such as lotions and cleaning agents. This includes tests for changes in chemical features, weight, changes in volume; reaction to swelling as well as changes in colour and density.



IDENTIFYING EMISSIONS AND ODOURS



imat-uve has expert experience to satisfy the test specifications of all well-known automobile manufacturers in the world. This applies to hydrocarbons (VOC) as well as heavy transient hydrocarbons (FOG/Fogging). imat-uve also proves to be the expert in odour testing methods for automobiles whether applied to various headspace and flanging features, thermo-desorption and thermo-extraction or to pouch methods, which are in particularly common use in Asia/Pacific territories.

Apart from the global recognition by VOC and FOG, our engineers have the expertise to handle the many single substance tests required by OEMs under VOC and FOG and their classification according to the international statutory set of rules for hazardous materials. The regulation for 1.3-Butadiene, Formaldehyde, Acetaldehyde and further Carbonyl compounds as well as the individual and relevant Phthalic Acid esters and other plasticizers complete the spectrum.

We help you to develop materials which create less emission. Apart from material expertise we also support you with tests for emissions and odours as far as components and full vehicles are concerned. Wherever you need us, you can rely on our efficient engineers and invite them to temporarily join your project teams.

EMISSION TESTS

Odour tests // VOC // TVOC, Hydrocarbons

Formaldehyde, Aldehyde, Ketone // Amine // FOG

Phthalic Acid Ester // Nitrosamine // Phenols // Ammoniac



SIMULATING THE ENVIRONMENT

imat-uve has many years of experience in the field of artificial aging and weathering tests through environmental simulation as well as outdoor weathering tests. Infra red irradiation and exposure to light with Xenontest or Weather-Ometer according to DIN EN ISO, ASTM, SAE and OEM standards complement the offered range.

CLIMATE TESTS / SUN SIMULATION

Depending on requirement and use imat-uve has test chambers and climate cabinets with a test capacity volume of 0.5 to 46m³. This covers the approved OEM standards for climate tests. We have also developed several unique sun simulation test boxes for customer specific requirements. Various manufacturer certifications are available such as those from BMW or Porsche, for instance.

OUTDOOR WEATHERING

We perform weathering of material, building components and vehicles under natural sunlight. Our outdoor weathering site in South Africa enables us to test in the same locality in dry/hot as well as humid/hot environments using a patented method and to compare real conditions with those simulations performed in the test chambers.

TESTING CLIMATIC IMPACT





APPROVAL / AUTHORISATION CERTIFICATION

IMAT-UVE IS ACCREDITED ACCORDING TO DIN EN ISO/IEC 17025 AND ALSO HAS A FLEXIBLE ACCREDITATION FOR THE FIELD OF ENVIRONMENTAL SIMULATION.

- Approved by Porsche for the sun simulation method DIN 75220 as part of the Porsche specification brochure PTL 8140 (for instrument panels, central consoles, whole vehicles)
- BMW approved for sun simulation method BMW PR 306.4 for interior fittings
- Further sun simulation tests, climate change and constant climate tests according to the requirements of other car manufacturers, such as infra red tests on structural components according to Ford-, GM-, KIA/Hyundai specifications
- imat-uve is a member of the GUS/Gesellschaft für Umweltsimulation (Association for Environment Simulation)
- GM/Opel (Vauxhall)-approved for material tests with focus on textiles
- Reference laboratory for tests on upholstery and carpets
- Member of the VDA working group for textiles
- Emissions testing according to VDA 278 for BMW, Daimler and GM
- Member of various DIN committees
- OEM-certified test site in South Africa
- Our customers: car manufacturers, system suppliers, suppliers of parts, suppliers of semi-finished products

Comprehensive one-stop service – which means that our customers save money as well as time. At once we offer service structures which ensure simple processing for your commissions. We would be pleased to work with you.



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Our services are certified according to DIN EN ISO 17025, ISO 9001 and VDA 6.2.

Read more: www.imat-uve.com

