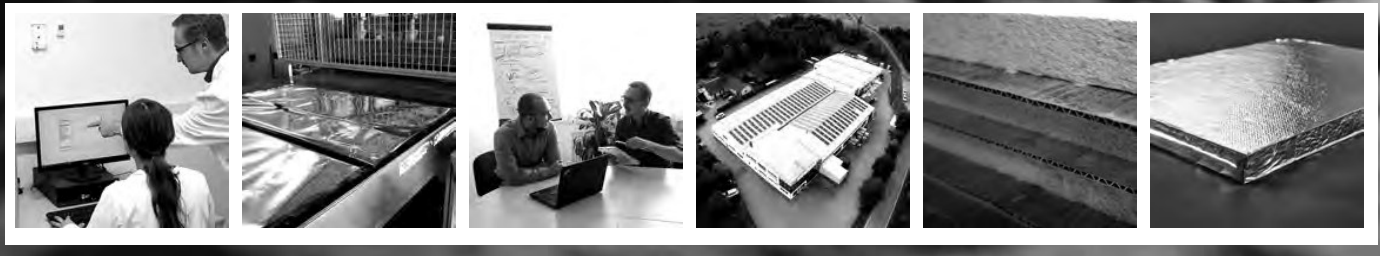
VAKUISOTHERM©

THE SUPERINSULATION COMPANY



ULTRA-HIGH-PERFORMANCE INSULATION
VACUUM INSULATION PANELS

ENERGY-EFFICIENT - SPACE-SAVING - INNOVATIVE

vaku-isotherm.de

Made in Germany

VAKU-ISOTHERM – **HIGHLY EFFICIENT** IN WHAT WE DO.



Whether buildings, vehicles, refrigerators or televisions – many everyday products are nowadays assigned an energy efficiency class. In the EU this is governed by energy consumption labelling. In construction, energy efficiency classes are regulated by the German Energy Saving Ordinance (EnEV). The fundamental aim of these labels is to give buyers simple and understandable information about energy consumption. It helps them to tell ecologically efficient products from inefficient ones. Regardless of this labelling obligation, growing environmental awareness can be observed in many countries around the world, which ideally is also reflected in corresponding legislation.

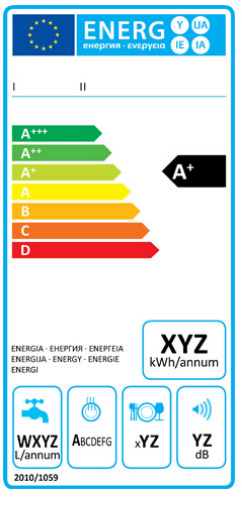
Vaku-Isotherm supports these efforts with suitable, highly efficient products. Our innovative vacuum insulation panels (VIPs for short) are characterised by unique effectiveness. The products can also be used in almost any field of application.

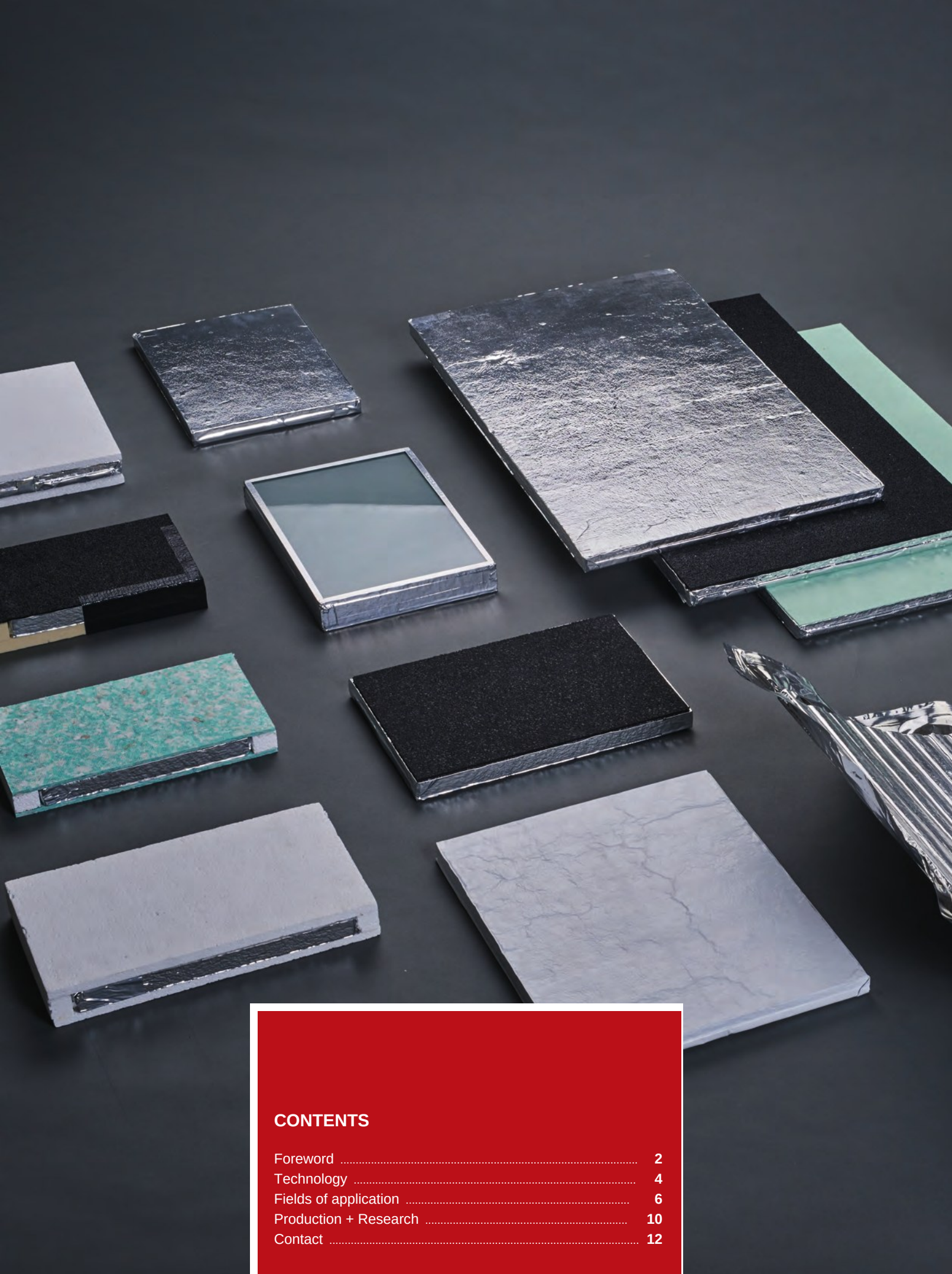
Energy efficiency class A or better (A++, A+++) can often only be achieved with VIPs. Conventional insulation materials quickly reach their limits here and require too much volume for the same performance. In most applications this space is not available, so compromises become necessary. With our VIPs these are not required. In this way, together with our customers, we actively contribute to reducing energy demand and CO_2 emissions. We are also continuously working on new, innovative products that make further fields of application possible. For a greener and climate-neutral future.

This brochure is intended to give you a first overview of the company Vaku-Isotherm and its products.

Vaku-Isotherm – The superinsulation company.

Sebastian Baars
Managing Director





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VAKU-ISOTHERM – **TAILOR-MADE TECHNOLOGY** AND VERSATILE.

VAKU-ISOTHERM

Since its founding in 2005, Vaku-Isotherm has specialised in the manufacture of VIPs and has grown into one of the leading manufacturers in the DACH market. As one of the first VIP manufacturers, the company – now run by the second generation of the family – has grown strongly through steady investment in research and development as well as in plant technology.

To the original application in the construction sector, many different applications have since been added: healthcare + thermal boxes, heating and cooling technology, and industry.

Due to increasing demands for energy-efficient products, a focus of Vaku-Isotherm will remain on the further development of our products and on solving problems.

VIP – TECHNOLOGY

VIPs can be made from different core materials. What they all have in common, however, is that the contents are enclosed in a gas-tight film and then evacuated. By evacuating the air from the interior of the core, thermal conduction is significantly reduced. In a complete vacuum there is no thermal conduction. VIPs take advantage of this fact. The solid supporting core maintains the vacuum.

Another parameter in heat transfer is convection. Due to the evacuation and the high solid content inside VIPs, however, it is negligible.

To reduce thermal radiation, an opacifier is added to the core material. It causes absorption, reflection or scattering of infrared radiation.

Depending on the core material used, the effects described can achieve exceptionally good thermal conductivities of down to less than 2.5 mW/mK compared with conventional insulation materials.

For comparison: commercially available EPS has a thermal conductivity of 35 mW/mK and therefore has a 14x lower insulation performance.

Innovative insulation does not need much space between warm and cold. VIPs are the most effective insulation material on the market.

For all our products we use special, unique technologies and processes which, compared with the rest of the industry, lead to better thermal conductivities and longer service lives. Our VIPs have a service life of 50 years and more (depending on the product).

VAKU VIP
ULTRAVIP
FLEX VIP
CURVE VIP
CORE PAN



> “I appreciate Vaku-Isotherm as a cosmopolitan, multicultural company in which I can actively contribute to international, future-oriented projects.

Jhocabed Guido Guevara



FOR EVERY APPLICATION THE RIGHT **PRODUCT.**

VAKUVIP

vakuVIP: The classic vacuum insulation panel with pressed cores and high compressive strength

ULTRAVIP

ultraVIP: Our product specially for the insulation of terraces, with a cuttable edge-sealing layer

FLEXVIP

FlexVIP: Hand-formable vacuum insulation panel for almost any geometry

CURVEVIP

CurveVIP: Our special manufacturing process allows cut-outs and shapes of any kind

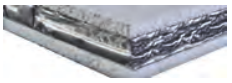
COREPAN

CorePAN: The cuttable product for fire protection and high-temperature applications

MORE SPACE WITHOUT COMPROMISING **COMFORT TEMPERATURE.**

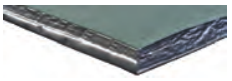


















BUILDING AND CONSTRUCTION

As the market leader for VIPs in the construction sector, Vaku-Isotherm has outstanding expertise and has the right solution ready for every challenge. The core material is non-combustible, and the product vakuVIP B2 holds a general building-authority approval from the DIBt (German Institute for Building Technology) for many areas of use.

Both in the renovation and in the new construction of buildings, VIPs offer great advantages thanks to their low space requirement. Areas that were previously difficult to access can thus be insulated easily. With interior wall insulation, the effective living space can be kept as large as possible. With exterior wall insulation, the facade projection can be minimised and statutory requirements met without having to forgo effective insulation. Particularly in metropolitan areas with very high prices per square metre, the use of VIPs on facades is a worthwhile investment.

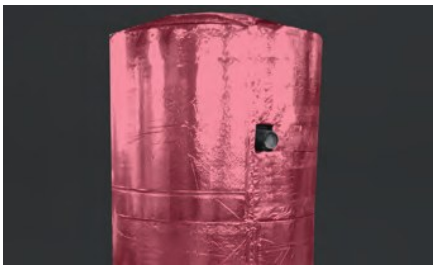
In the construction of apartment blocks and high-rise buildings, too, it is possible to use significantly slimmer panels/cassettes by employing VIPs. This also considerably reduces material and space requirements here.

Further applications lie in the build-up of floor and terrace insulation. Here it is possible to avoid steps and to achieve barrier-free access. VIPs can also be installed in combination with underfloor heating. When insulating dormers and windows, the incidence of light is hardly impaired compared with conventional insulation, which prevents the so-called “arrow-slit effect”.



> “We place great value on maximum quality and an energy-efficient and resource-saving production.
>
> Jan Hertel – Head of Production

SAVES **ENERGY AND RESOURCES** WITHOUT LOSS OF VALUABLE SPACE.





HEATING AND COOLING TECHNOLOGY

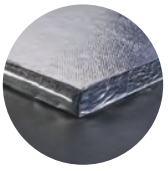
At an ambient temperature of 25°C, a refrigerator has to bridge a difference of approx. 20°C, a hot water boiler even a difference of approx. 40°C.

Here the right insulation plays a decisive role in keeping cold/heat energy efficiently inside the refrigerator or boiler.

The higher the insulation value, the longer the desired temperature can be maintained. Consequently, the use of VIPs reduces energy demand and operating costs while performance remains the same.









COLD ROOM CONSTRUCTION

The use of VIPs is ideal for cold room construction. Since the temperature difference between inside and outside is particularly large (comparable to a refrigerator), energy-efficient insulation is especially important here.

In addition, cold rooms are often integrated into existing buildings. The challenge is to keep height differences at the floor as small as possible.

To minimise the build-up height and to enable barrier-free access without sacrificing insulation performance, the use of VIPs is essential.



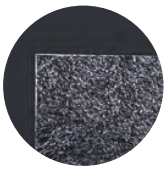
HIGHEST INNOVATION IN THE TIGHTEST SPACE.



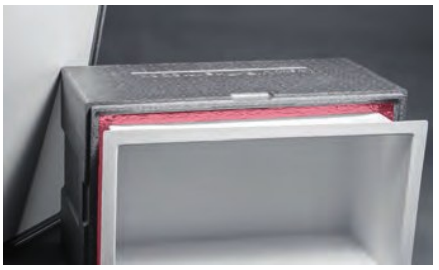
INDUSTRY

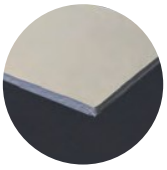
Industrial applications require flexible solutions in production and development. Together with its customers, Vaku-Isotherm tailors the suitable product with regard to composition and mechanical properties, depending on the requirements.

There are also manifold possibilities regarding geometry (2D, 3D), which we can offer thanks to our many years of experience and our expertise in production as well as research & development.



QUALITY WITH THE RIGHT BALANCE BETWEEN **WARM AND COLD.**



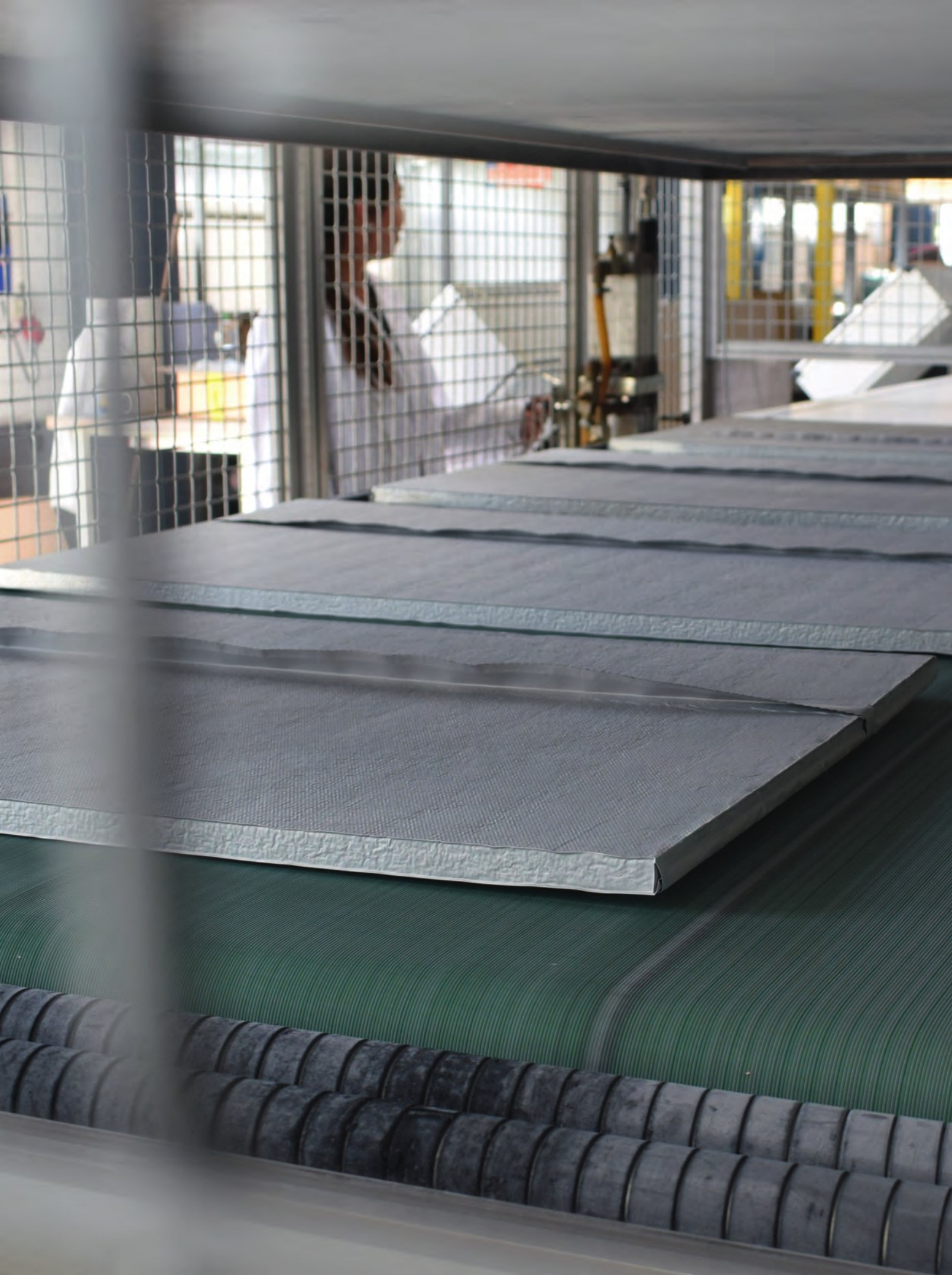


HEALTHCARE + THERMAL BOXES

In the healthcare sector, VIPs play a decisive role in the shipping of temperature-sensitive goods. Here the health of the consumer is the focus. If transport temperatures are too high, medications lose their effectiveness.

A thermal box, transport box or container equipped with VIPs can, with the same energy input (same number of cooling elements), significantly extend the duration of a desired temperature range (for example 2°C – 8°C for medications) and increase the transport volume with the same external dimensions.

An interruption of the cold chain is also prevented under extreme climatic conditions.



RESEARCH AND DEVELOPMENT ARE A TOP PRIORITY FOR US.

PRODUCTION

All Vaku-Isotherm products are developed, manufactured and tested 100 % in Germany. This enables complete control over the entire value chain. The VIPs manufactured by Vaku-Isotherm contain no hazardous substances and can be disposed of easily with household waste. It is also possible to have the core material of the VIPs recycled at Vaku-Isotherm.

Through continuous investment in production, processes are constantly improved. The aim is to reduce any kind of waste.

Vaku-Isotherm's flexible production processes guarantee short delivery times of max. 5–10 working days (depending on order volume).

RESEARCH + DEVELOPMENT + SERVICE

Vaku-Isotherm invests in the continuous further development of existing products as well as in entirely new products. Highly qualified specialists and cooperation with universities and institutes provide the best prerequisites. The ideas of today and tomorrow are created here every day. For this reason, further development takes place in all areas and departments at Vaku-Isotherm.

The R&D; department: a special team that primarily deals with the further development of products. It is closely linked with production and the quality department. The areas are located in the same building to ensure close interlinking. Research must not only take place in the laboratory, but must also prove itself under production conditions.

For this purpose, **separate production machines for prototype manufacturing** are available in the first phase.

VAKU-ISOTHERM AS AN EMPLOYER

Vaku-Isotherm is a dynamic and successful company with approx. 60 employees, specialising in the development and manufacture of ULTRA high-performance insulation for a wide variety of applications (including the construction industry, logistics, heating technology and refrigeration technology).

The products are distributed worldwide. Employees are offered a highly interesting field of work, self-directed action, flexible working hours and the opportunity for further development in a growing company.



VAKU ISOTHERM©

THE SUPERINSULATION COMPANY



“I particularly enjoy opening up new markets for our high-performance insulation and opening up new possibilities for our customers. In this way we increase energy efficiency and actively contribute to environmental protection.

Marcus Backmann – Business Development Manager

VAKU-ISOTHERM GMBH

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