

# The Art of Foaming.

Introduction into the most innovative Foam Sealing Technology.



More than you expect.

**CeraCon**



“Enjoy Foaming Now” - for CeraCon, is more than a sales statement. It is a promise we make all our customers. And the first time you experience our service, you will find that we not only keep our promises, we exceed them.

The patented Penguin Foam® system has two significant strengths. Sealant with unique properties and performance, combined with brilliantly-simple machine technology.

The Penguin Foam® brand of sealing materials are developed by the Japanese origin company SUNSTAR, a Global market leader in chemical products. The engineering strengths of CeraCon are obvious from the machine and FOAMPLY® system technology created. In combination, SUNSTAR and CeraCon offer you the most innovative foam sealing technology on the market.

This brochure explains why you need to forget about all the historic issues with foam seals and take advantage of the single-component foam sealing technology from CeraCon.

**Experience yourself:**

**ENJOY FOAMING NOW.**

**CeraCon**

# Enjoy Foaming Now.

Foam Sealing Technology by CeraCon.





One of the biggest challenges for a sealing system is to protect against moisture and humidity.

Historically foam compression seals were created by elastomeric inlays or punched gaskets. Subsequently, automatically applied sealing systems were developed, initially with two-component chemical reaction systems. These rather complex and wasteful two-component mechanisms are hugely different to the now state of the art single-component system technology from CeraCon. Also, SUNSTAR's Penguin Foam® material has a differentiated closed-cell structure that remains water-tight even when the surface is damaged.

Penguin Foam redefines foam sealing capability and extends performance beyond standard design expectation.

# When sealing really matters.

Foam Sealing Technology by CeraCon.





When a vehicle is in motion, its component parts are subject to dynamic forces. These forces result in movement or friction between mating surfaces and this in turn leads to noise. Specialists refer to this as NVH<sup>1)</sup> characteristic.

Inside a vehicle cabin you find the greatest diversity and number of assembled body parts. Therefore, this is an NVH critical area. Creaking centre consoles or dashboards, chattering glove box covers and squeaking seat belt covers are just 3 examples of many NVH problems, which can occur.

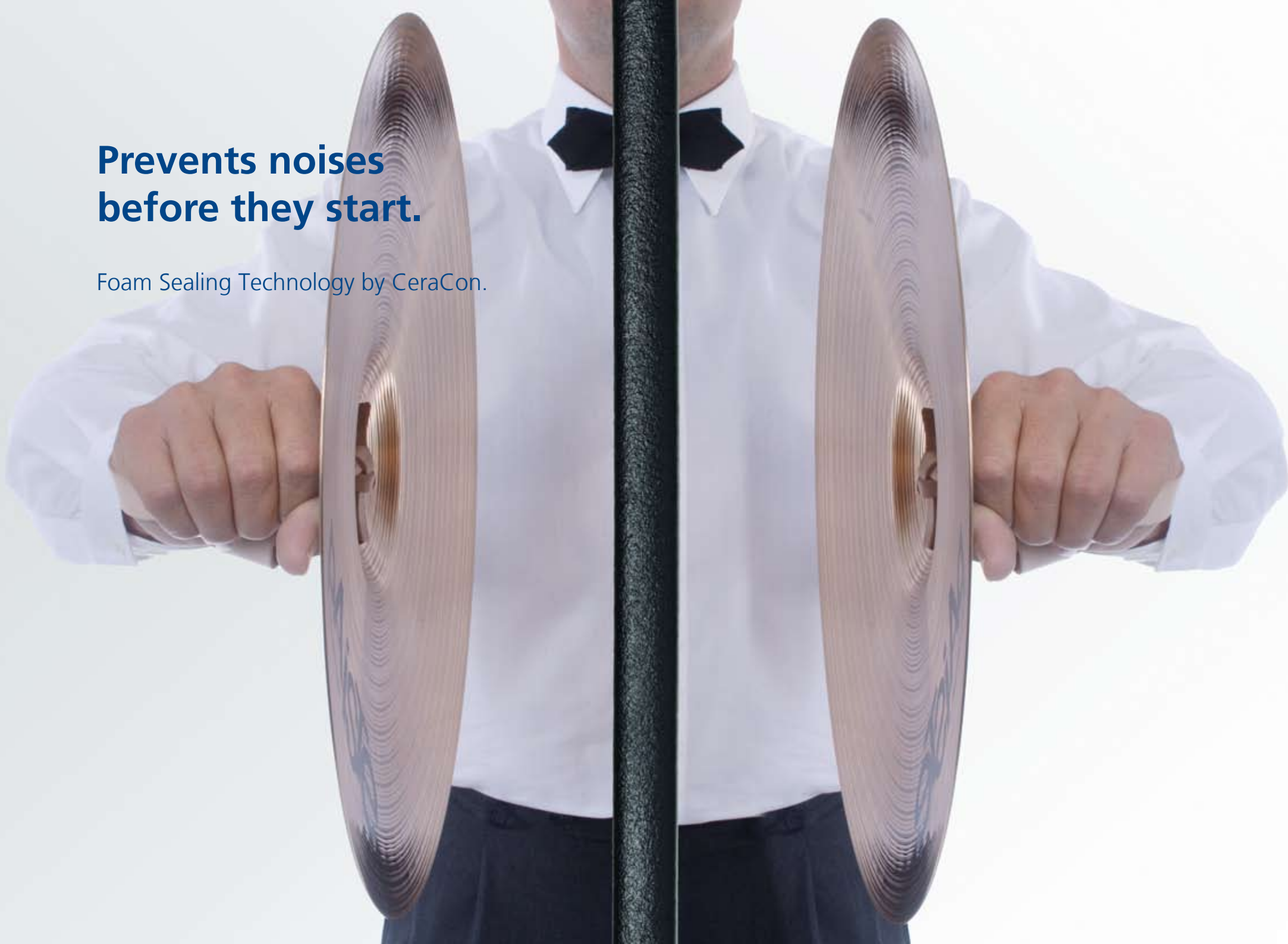
Using the single-component Penguin Foam® material on these types of part creates compressible foam cushions which permanently prevent noise.



<sup>1)</sup> Noise Vibration Harshness

**Prevents noises  
before they start.**

Foam Sealing Technology by CeraCon.





Our innovative foam sealing technology rests on five pillars:

**1. Selection of the most suitable sealing material.**

The specialists at SUNSTAR can offer all the advise and practical support needed.

**2. Foam generation equipment FOAMPLY®, which is a robust and proven technology.**

Equipment manufactured by CeraCon is widely used by numerous blue-chip OEMs. This unique technology represents the best sealing choice available.

**3. Combining Foamply® technology with the most suitable integrated process is quality engineered by CeraCon.**

Providing you with the automation required to fulfil your individual solution.

**4. We allow you to prove your design concept and performance demands with high quality sample parts, via CeraCon’s “Application Engineering” department.**

Generating prototype and pre-production components to the highest standards assists you from CAD image to high volume integration.

**5. Alternatively, do you require a solution with “Zero Investment”?**

In this case we are applying the foam to your parts for you, in our independent business division “Contract Gasketing”.

Sealing Materials



Foaming Technology



Plant Automation



Application Engineering

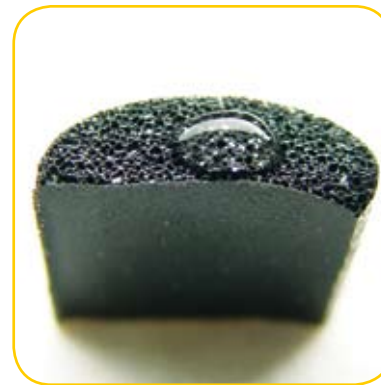


Contract Gasketing



Faster is better!

# SEALING MATERIALS

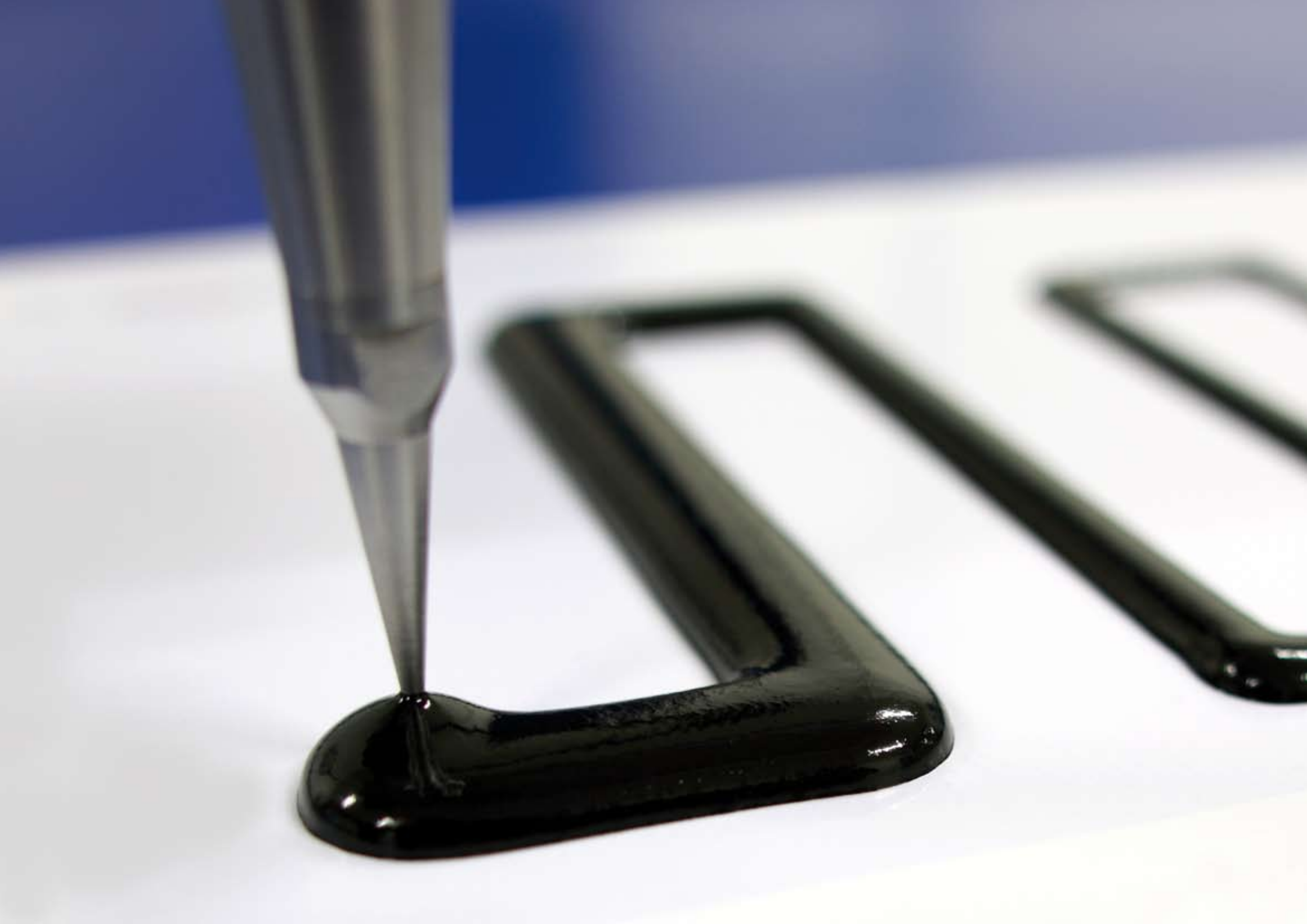


The Penguin Foam® materials of SUNSTAR are solvent-free and rapidly cross-linking single-component elastomers. These elastomers are processed at room temperature and room atmosphere and ensure an economical, ecological and reliable application of foam gaskets.

Within the standard range of Penguin Foam® materials are polyurethane and silicone compounds. Primarily the customer can choose from differing levels of softness and curing methods. The customer can select moisture curing products or thermally activated, rapidly cross-linking derivatives. Completely integrated systems with in-line applications can offer very low cycle times; cured foam gaskets can be applied and cured within 2 seconds.

## What are your advantages?

- » Very fine, closed-cell foam structure
- » Rapidly curing process
- » Mechanical foaming process using single-component foams



Keep it simple!

# FOAMING TECHNOLOGY

As easy as whipping cream – the FOAMPLY® system mechanically converts the Penguin Foam® material to its fine, closed-cell structure.

The single-component process takes place without any chemical reaction. Taking measured quantities of material and compressed air the mixture is homogenised and through shear forces is converted to a uniform foam structure upon application to the component. The FOAMPLY® system can vary the ratio of material to air and subsequently allow a wide range of foam softness to be created. Several standard FOAMPLY® systems exist, covering different customer requirements. From micro-dispensing of gaskets to replace o-rings, to high volume applications of foam to doors of switch cabinets, even direct injection of the foam into the tool of an injection mould machine.



## What are your advantages?

- » **Single-component process without disturbance sources**
- » **Softness of the foam continuously adjustable**
- » **Standard machine types**



It's up to you!

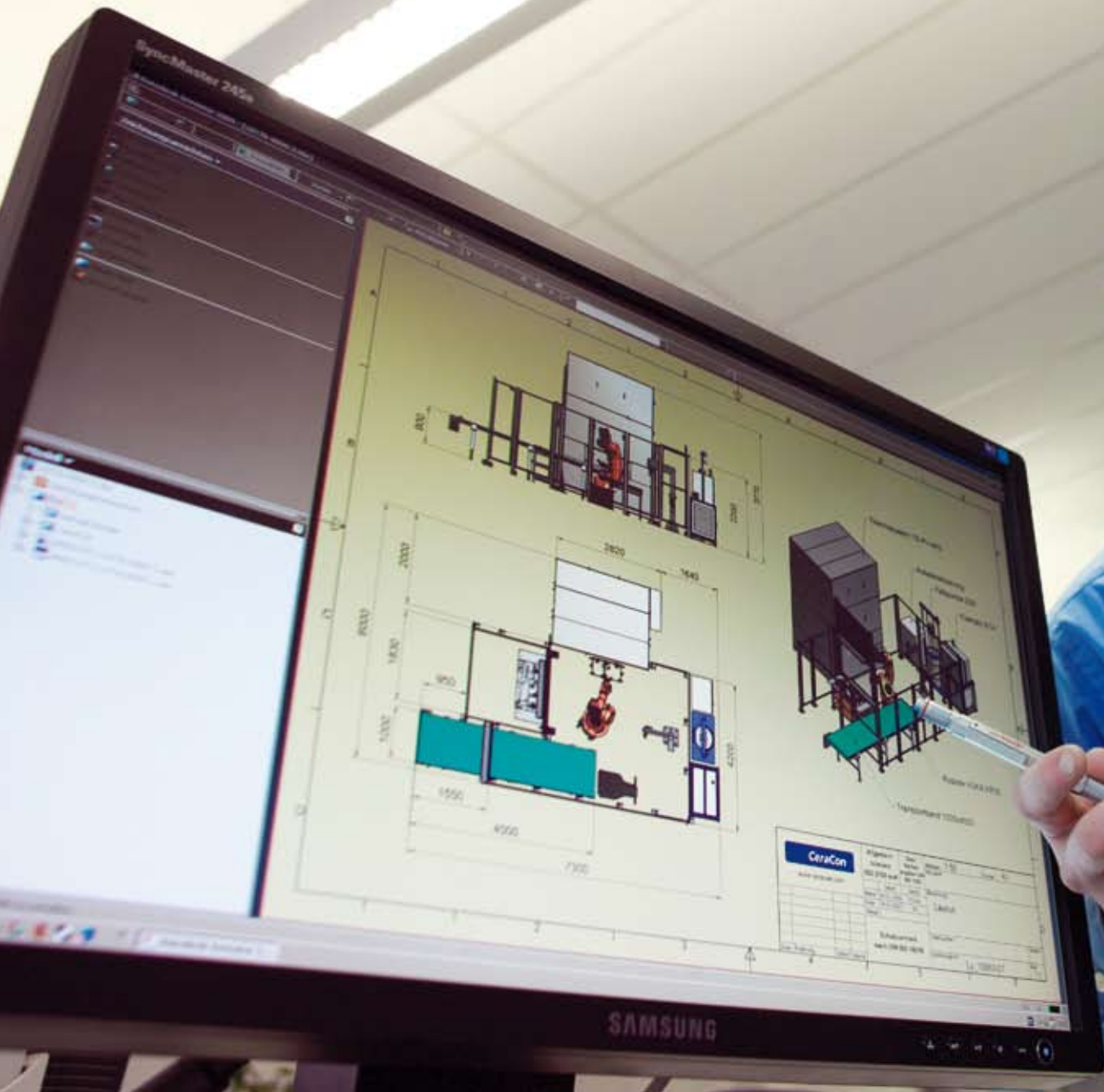
# PLANT AUTOMATION

We specialized in developing individual solutions for your needs. It is our belief that the customer should always have the choice; whether it is to simply purchase the foaming equipment or to have a "turn-key" system created from our vast engineering and automation expertise. We can work to our customer specifications and requirements to tailor a standard manufacturing cell or generate a bespoke piece of equipment, which can be integrated within an existing production line. The depth of our experience allows significant flexibility and choice for the customer. Taking into account entire component processes we can assist in important steps such as measuring systems, pre-treatment and other dispensing systems. Where heat treatment is required, our "Thermal Systems" division can provide advise and support



## What are your advantages?

- » For many years we are working in the area of automation of sealing processes
- » We integrate additional production steps
- » We act as general contractor



Applying progress!

# APPLICATION ENGINEERING

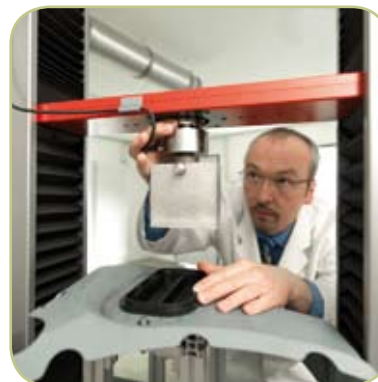


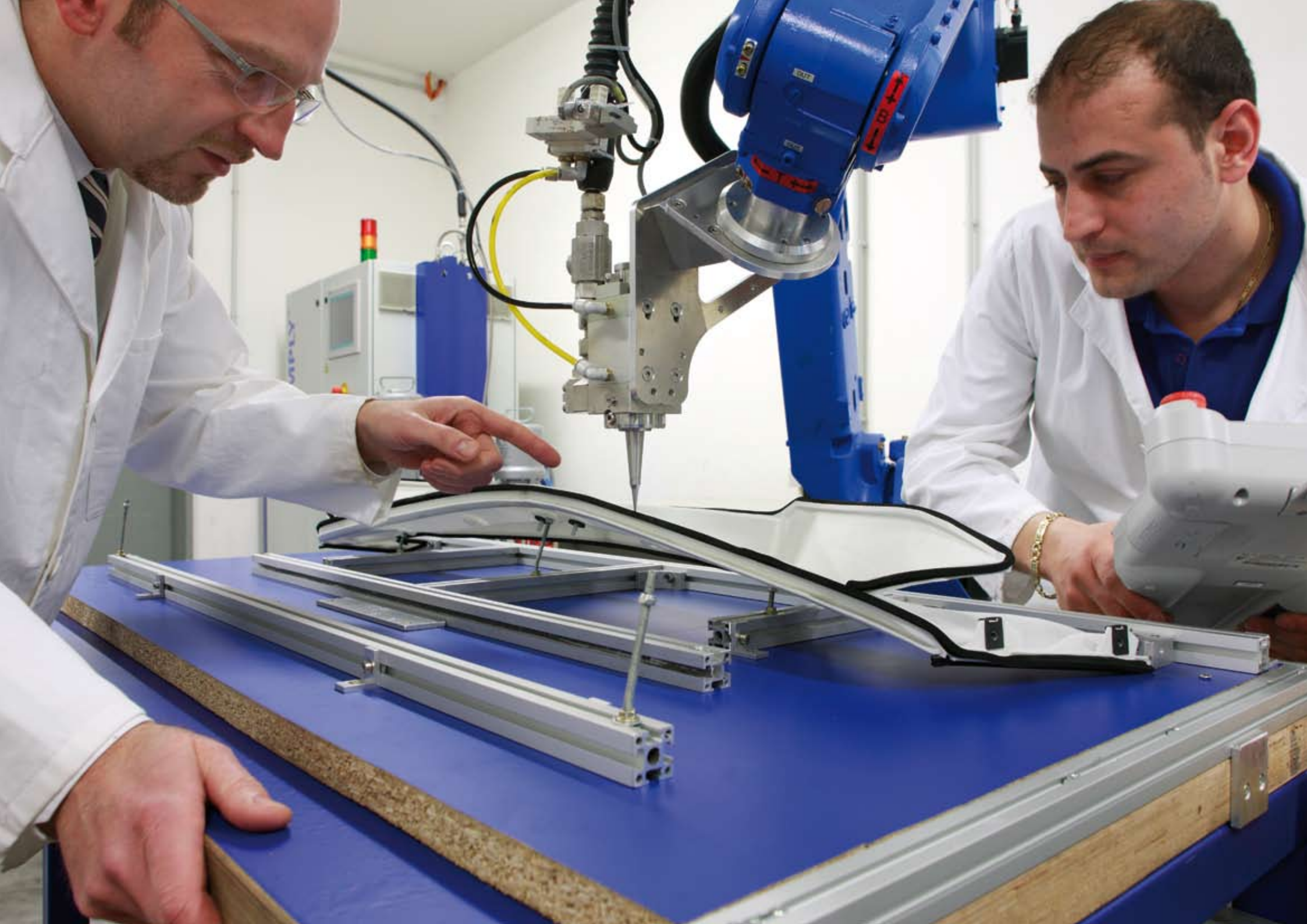
Our specialists can process your component samples in our laboratories; demonstrating and proving the ultimate material properties needed. We can assist in optimizing part design, from material selection to fine tuning physical characteristics. This important sample process also allows the collecting of key data and production parameters which assists in defining the best manufacturing process for your parts.

Our prototype and pre-production sample service can be a vital step in the successful production implementation of your parts. It allows valuable insight to avoid potential problems.

## What are your advantages?

- » Advice in designing your parts
- » Foam application to prototypes and samples
- » Collection of process parameters necessary for the future production machine





100% sealed, 0% investment!

# CONTRACT GASKETING

“Why buy a cow, when you only want a glass of milk?” This analogy is the very reason CeraCon offers a Contract Gasketing Service. If you are a smaller volume manufacturer or you have intermittent production, where economic justification does not allow your own foaming system, we can provide a high level of service in applying Penguin Foam® to your parts. For our larger volume customers with their own systems this service can also be used to ease production bottlenecks or allow pilot production of new components parts. It also provides assurance to the end user that there are alternative manufacturing sources in the supply chain. The group expertise of CeraCon enables us to offer extensions to this service, where we can happily include additional processes at the request of the customer; therefore supplying complex component parts or complete sub-assemblies.



## What are your advantages?

- » Steady costs, even if quantities are unsteady
- » No investment
- » No manpower needed

668  
KH BLACK  
13-5

RMI 10182000

Serial	1
Batch 1	Shuttle
Produced off Series Tool Weeks 13 / 14 / 28	
Material	Packed:

RMI 10182000

Initial IMD Carrier - Carbon Black

**Bruchgefahr!**  
Nicht werfen! Fragile!  
Handle with care!

**Bruc**  
Nicht w  
Hand

Beschäumt

When sealing really matters!

# AUTOMOTIVE SECTOR



Sealing of locker cases



Sealing of door modules



Sealing of third break lights



Sealing of lamp holders  
for back-up lights



Cushioning of cover caps  
against creaking



Sealing of housings for top antennas



When sealing really matters!

# ELECTRICAL SECTOR



Sealing of doors for switch cabinets



Sealing of linear luminaires



Sealing of display covers  
for electric hand-held units



Sealing of aluminium die cast covers  
for transmitter housings.



Sealing of housings for electronic parts



Sealing of covers for dispenser housings



When sealing really matters!

# WHITE GOODS SECTOR



Sealing of valve supports  
for washing machines



Sealing of faceplates for dish washers



Sealing of boiler fittings  
for washing machines



Sealing of lint filters for tumble dryers



Sealing of shaver heads  
for electric razors



Sealing of siphon flanges



When sealing really matters!

# BUILDING SECTOR



Sealing of inspection shafts  
for water channels



Sealing of window jambs



Sealing of exterior adaptor housings



Sealing of connecting pieces  
for plastic roof gutters



Sealing of exterior socket covers



Sealing of covers  
for roller shutter boxes

**CeraCon**

More than you expect



**CeraCon**

If this is the first time you have considered foam application or using one of the high quality services provided by our company, be assured we are dedicated to our company principle:

**CeraCon - More than you expect.**

From your initial contact, from our first response, to the start of your foam production, and beyond.

Summarized reference list



Summarized OEM<sup>1)</sup> list (automotive sector)



<sup>1)</sup> Original Equipment Manufacturer

**One more core competency!**

## **AUTOMATED THERMAL SYSTEMS**

The Thermal Systems from CeraCon are electrically heated fan ovens with horizontal or vertical design. We offer a comprehensive standard range of ovens, but can also tailor each design to suit your component, the quantities and the cycle time. We have precise thermal control, heating parts in fine degrees up to 250°C. The incorporation of cooling cells with the oven is also accommodated. Components are moved through the individually controlled and adjustable thermal zones, via the use of conveyor belts, chain systems or lifting bars. Our existing customer base utilises our oven technology for applications such as the curing of adhesives, sealing and casting components, functional heating and cooling tests, expansion after ultra-sonic sealing or preheating or cooling in conjunction with other processes. All ovens can be integrated with existing systems and so can be fully integrated in existing production lines.



### **What are your advantages?**

- » **High temperature accuracy**
- » **Space-saving vertical design possible**
- » **Standard and individual solutions**



