



Foam seals for vehicles and workpieces

The foamy fillers

They are small, they can be found almost everywhere, but generally no one pays any attention to them: foam seals. However, they provide reliable protection against air, dust and moisture. CeraCon's new 1-component system, produced using proportional technology, is bringing innovation to the seals industry.

There are over 40 million cars on Germany's roads. Each of them has at least two lights at the front and two at the rear, protected against wind and weather by high-quality foam seals. This means a total of at least 160 million of these "little widgets" in this market sector. If we also include the countless seals for electronic plug connectors and cavity sealing, we arrive at a total of billions. Foam seals are mass-produced items with zero fault tolerance. The main priorities during manufacture are speed and quality.

Making short work of seals with a fast process

The fewer the process steps, the better. In the interests of lean high-speed production, CeraCon has developed a new and unique process named FOAMPLY®. In order to produce highly modern foam

seals, this process requires only one material: polyurethane. With this 1-component system, there no longer is any chemical reaction as there was with earlier multi-component processes. The previous laborious mixing operation is now a thing of the past. This has been replaced by 100% mechanical foaming of the polyurethane using air.

This technology offers several advantages. Firstly, it produces a closed-cell foam. This means that every individual air bubble in the foam is individually encapsulated and separate from the other bubbles. As a result, the sealing effect of the foam strip is maintained even if the outer foam skin is damaged. Secondly, the process is not dependent on the ambient temperature and the temperature of the material to be foamed. This makes the production process reliable and en-

Just one more question



► trends in automation:

In your view, what are the challenges for the future when you think of your customers, your company and your product portfolio?

Erich A. Krämer, General Manager, Technische CeraCon: For our customers, productivity is inextricably linked to intelligent solutions that can be implemented quickly, meet users' economic needs and are sup-

ported by our services. For us, productivity in machine building is dependent on standardisation based on a high level of system integration and universal software structures. I would say that a crucial factor for machine building in general is the seamless interaction of electrical engineering, energy technology and software to form integrated solutions. That is the only way to achieve a genuine increase in productivity and efficiency.



CeraCon matches its FOAMPLY® technology to the desired number and size of the workpieces and the degree of automation requested by customers.



FOAMPLY® technology: air and polyurethane are mixed together under pressure and form a homogeneous foam structure. The Festo valve terminal CPX/MPA, networked via Profibus, controls the dosing unit. The adsorption dryer PDAD (on the left of the picture, mounted on the left-hand machine door) provides dry air for the foaming process.

sure high availability of production machinery – from Lapland to Lesotho.

Easy start-up and a long service life

A major role in the new CeraCon technology is played by the Festo valve terminal CPX/MPA with diagnostic functions. This terminal forms the interface to the master machine controller within the “Material preparation and dosing” section of the production plant. Linked in via Profibus, the CPX/MPA provides numerous advantages for CeraCon, owing to the standard networking and the transparent installation structure. The combination of electrical and pneumatic functions on one valve terminal saves space, reduces installation time and integrates functions which previously had to be implemented externally, resulting in increased complexity. The proportional pressure valves VPPM used to control the dosing function are also inte-

grated directly into the valve terminal. Thanks to the ease with which it can be installed and the high density of its functions, the use of the Festo CPX/MPA platform brings further benefits for CeraCon: commissioning and maintenance become extremely simple. ■

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Electrical terminal CPX

is 1.10-6

Proportional pneumatics

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Area of activity: Engineering and construction of equipment for the application of foam seals, and automated thermal systems for the hot and cold treatment of workpieces, and contract foaming of seals in short and long runs.