

A dramatic photograph of two firefighters in full protective gear, including helmets and oxygen tanks, working in a structure engulfed in intense orange and yellow flames. The scene is filled with thick smoke and the bright light of the fire. The firefighters are positioned in the foreground, looking towards the burning structure. A curved grey graphic element separates the image from the white background below.

SAFETY

FREUDENBERG-NOK
SEALING TECHNOLOGIES

FREUDENBERG-NOK
INNOVATING TOGETHER

THE KNOW-HOW IS ESSENTIAL



165 years of experience – unique expertise in materials: as a global and technological market leader in sealing technology, Freudenberg-NOK Sealing Technologies offers the broadest standardized materials program in the industry. We develop materials for our customers to meet their specific requirements in the area of safety. For this purpose, we have materials solutions with all relevant approvals. Our in-house material development laboratories, in-house mixers and portfolio of more than 1,700 compounds from 850 raw materials allow us almost unlimited possibilities.

With our uncompromising standards of production safety, we measure up to the highest benchmarks. Our focus is on standardized and customized gaskets, specialty molded components and assemblies made of elastomers, silicone, polyurethane, thermoplastics and multi-component parts (e.g. rubber-metal or rubber-plastic solutions). We support our customers in the product development process, to provide the most robust sealing solution with the most efficient manufacturing process. Extensive simulation and test methods help to make your product market-ready faster. Our in-house tool-making facilities and experienced development teams enable us to always achieve extraordinary results in terms of product geometry, manufacturing tolerances and manufacturing efficiency.

Our global presence puts us in close proximity to our customers. Our team of experts advises and assists you every step of the way – from the selection of materials through the testing phase, and throughout the production life of the product.

Just contact us: safety@fnst.com

INNOVATIVE SOLUTIONS FOR NEW CHALLENGES

Firefighting in buildings, for which every fire department was originally established, accounts for only one fifth of all missions today. Today, the role of the firefighter has changed: more than ever, fire departments are now the center of excellence for danger prevention and hazard control. Firefighters need to be prepared for anything. This requires equipment that functions in the widest possible range of missions – for deployment on the high seas or in perpetual ice, for handling dangerous substances, providing technical assistance or in the fight against forest fires.

2K Regulator Diaphragm



Valve



2K Micro Membrane



SUITABLE SOLUTIONS FOR EVERY SAFETY APPLICATION



The know-how and expertise of Freudenberg-NOK Sealing Technologies make the use of firefighting equipment safer and more efficient in many areas. Our diaphragms for **respirator masks** made of special 35 Shore A soft PVMQ silicone are designed for temperatures from $-148\text{ }^{\circ}\text{F}$ ($-100\text{ }^{\circ}\text{C}$) to $356\text{ }^{\circ}\text{F}$ ($+180\text{ }^{\circ}\text{C}$). They reliably protect firefighters against smoke and toxic gases, while not affecting breathing, due to the extremely **thin and flexible membrane**.

Our temperature-resistant multi-component valves, and **valves** made from special FKM, EPDM, PTFE or FFPM, assist in controlling consistent air flow. In addition, our O-rings are used as critical seals at various points in the flow of oxygen.

ABSOLUTELY SAFE IN SPECIFIC APPLICATIONS

Industrial respiratory masks must be designed for a very diverse range of uses, whether for industrial welding, in the paint spraying shop, in the chemical industry, in mines or in oil and gas production. For welders, it is important that the CO_2 content of the mask is reduced to a minimum (<0.5 per-

cent) in order to reduce fatigue. In the chemical industry, the priority is on protection against hazardous substances and environments. When used as escape masks, what counts most is resistance to chemical substances, radioactive and toxic particles or bacteria and viruses. Our **O-rings** and **micro-molded components** are also used in gas sensors and warning devices that can detect dangerous situations at an early stage. We can provide the most reliable solution for every application. Our expertise in seal design and material development makes us the ideal partner.

PRESSURE-RESISTANT AND UNCOMPROMISINGLY RELIABLE

Full face masks are also used by professional divers and for diving in cold or polluted waters. Especially under adverse conditions, it is imperative that the diver can rely on the pressure resistance and dependability of the mask material. Special sealing solutions are required particularly in the sensitive area between the regulator and the mask. For this application, you can count on our know-how in the field of diaphragms, valves, O-rings and gaskets.

Molded Seal



O-rings



Freudenberg-NOK Sealing Technologies
47690 East Anchor Court
48170 Plymouth, Michigan, USA
Phone: +1 734 451 0020
safety@fnst.com

www.fnst.com

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