

Applications of PFAS in VEGA products

VEGA sensors for level, point level and pressure measurement are used in all areas of industry and enable reliable control of processes. In many applications, the sensors are used in safety-critical applications and make an indispensable contribution to preventing hazards to people, plants and the environment.

In many applications, the use of highly resistant plastics and sealing materials is essential for the safe and durable functioning of the equipment. The high demands placed on the materials used are not limited to complex processes in the chemical industry, but are also present in ostensibly simple applications such as the wastewater sector. Highly resistant, impact-resistant plastics such as PVDF are required due to their high UV and diffusion resistance in order to ensure long-term reliable function even in the presence of gases such as hydrogen sulfide or methane.

In the chemical and petrochemical industry, sensors with components made of PTFE or PFA are used to achieve high chemical resistance and to meet the requirements for temperature ranges. Sealing materials such as FKM, FFKM or FEPM enable the devices to function safely and reliably.

PFAS materials are used in the food and pharmaceutical industry because they have the appropriate approvals; the use of alternative materials is only possible to a limited extent here.

The chemical properties and the possibility of use at high and very low temperature ranges is also essential in other areas of industrial applications. They range from use in painting lines in the automotive industry to use on ships. The production and storage of hydrogen is also inconceivable without the use of plastics such as PTFE, PFA but also PVDF. Due to their high chemical resistance, these plastics are predestined for electrolysis plants for hydrogen. Also for the storage of liquid hydrogen, the temperature resistance at low temperatures of - 250 °C, no alternative materials are available.

Capacitive measuring methods as well as radar-based methods are used for level and limit level measurement due to the universal application possibilities. In radar technology in particular, plastics are needed that cause the lowest possible signal attenuation with microwave signals; this property is given in particular by PTFE. No other plastic is as suitable for radar applications as PTFE. The use of other plastics leads to considerable functional limitations, so that media such as hydrocarbons or solvents can no longer be measured, or only with great restrictions.

From a safety point of view, a ban on PFAS materials would be a significant restriction for a large number of processes in the petrochemical and chemical industries. For the production of food and in the pharmaceutical industry, it is practically impossible to meet the high hygiene requirements without these materials.

Not only would sensor manufacturers from the EU such as VEGA be at a considerable competitive disadvantage compared to suppliers from the USA or Asia as a result of the ban on PFAS, but the considerable restrictions in many areas of production are likely to lead to an increased relocation of production sites to countries in which materials made from PFAS are still permitted. This also contradicts the efforts to ensure the basic supply of pharmaceutical products or chemicals in Europe.