

# High-Performance Materials for Food Processing

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The food industry includes a variety of applications with unique, challenging requirements. The diversity of products and the use of numerous flavours can have varying effects on sealing materials. Furthermore, equipment is increasingly operated at full capacity, which requires more frequent product changes and cleaning cycles.

Elastomers used in process equipment, pumps, valves, pipe work, couplings, reaction vessels and bulk containers must be able to cope with an array of process media, aggressive cleaning and sterilising processes. Seals must be also be compliant with a growing range of legislative manufacturing regulations and hygiene standards.

## **FDA Seals (Food & Drug Administration)**

Although the jurisdiction of the FDA is restricted to the United States, FDA regulations are commonly adopted as international control standards. CFR21.177.2600 describes the relevant regulations for 'Rubber articles intended for repeated use'. It lists ingredients, and

quantitative limits that may be used in a rubber compound intended for repeated use in all stages of food manufacture, preparation and transportation.

## **WRAS - Water Regulations Advisory Scheme**

Sealing materials approved for drinking water applications in the UK must satisfy the requirement of BS 6920 of the Water Regulations Advisory Scheme. WRAS material approval includes non-metallic materials and components that must undergo testing for their effects on water quality. This type of approval demonstrates that the non-metallic material / component itself does not contaminate water and therefore satisfies this particular requirement of regulations.

## **USP Class VI**

United States Pharmacopeia (USP) are a non-government organisation that promotes public health by establishing advanced standards to ensure the quality of medicines and other health care technologies. Standards are published in the US Pharmacopeia and the National

Formulary (USP NF). Compliance to USP Class VI is often requested by end users. Testing for compliance involves an assessment of the effects of the material, and extractables, on tissue.

Although USP relates to pharmaceutical and bio-technology industries, many manufacturers of hygienic equipment are utilising multipurpose designs that can be used in a range of different industries.

Selecting the right material and grade offers several benefits;

- Extended service life of food processing equipment reduces repair costs.
- Increased operating periods between maintenance cycles.
- Reduced risk of contamination, which can lead to product failure / quarantine.
- Increased reliability and performance help prevent potential damage claims from end users.

Our group is an established market leader in food and dairy grade sealing products, from O-rings and metal detectable seals to mechanical seals, gaskets and custom moulded parts. We supply high performance food grade seals with excellent mechanical capabilities and chemical resistance. FDA-compliant elastomer materials include Nitrile, EPDM, Silicone, HNBR, FKM and FFKM. We also supply other materials with international approvals such as USP Class VI, WRAS, NSF and regulation (EU) 1935/2004, as well as seals based on hygienic design. Visit [www.easternseals.co.uk](http://www.easternseals.co.uk) or [www.ukseals.com](http://www.ukseals.com) to find out more.

# Hygiene is top priority

## Demanding applications in the Process industry require solid knowledge and materials expertise



Apart from our wide range of sealing solutions, we also supply specialist materials with international approvals such as FDA, USP Class VI, WRAS, NSF and regulation (EU) 1935/2004, as well as seals based on hygienic design

From FDA grade seals, metal detectable O-rings to inflatable seals and mechanical seals, we'll keep your plant operating round the clock

Visit [easternseals.co.uk](http://easternseals.co.uk) or [ukseals.com](http://ukseals.com) to find out more



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