



## E.C. FOOD INDUSTRY REGULATIONS AND 3-A SANITARY / FDA REQUIREMENTS: MATERIALLY COMPLIANT SEALS FROM STRAMEK

Stramek offer from stock all common food and dairy seals, specified and specifically manufactured to be compliant with F.D.A. and E.C. Food Industry Regulations.

The principle underlying European Community (E.C) Regulation Number 1935/2004 "On Materials and Articles Intended to Come into Contact with Food" is that any material or article intended to come into contact directly or indirectly with food, must be sufficiently inert to preclude substances from being transferred to food, in quantities large enough to endanger human health, or to bring about an unacceptable change in the composition of the food, or a deterioration in its organoleptic properties.

Understanding the implications of these regulations is increasingly leading to food industry manufacturers stipulating that all materials, including mechanical seals, that come into contact with food should be made from F.D.A. compliant materials, which comply with the above E.C. Regulations and have full traceability of said materials.

In order to comply with these regulations where specified and as an integral part of Stramek's standard policy to only offer superior designs and materials, we have made available from stock, all of our market leading range of food industry seals, specified to be manufactured from certified compliant materials to meet U.S. and European Food Industry Regulations.

The materials, production and surface finish of Stramek's Food Industry Compliant Seals have been carefully specified to meet all of the EHEDG recommendations and F.D.A. or 3-A Sanitary Standard criteria. Full details are available in the materials guideline section of Stramek's information pack on these seals; please enquire upon our Commercial Technical Department.

This range of Stramek seals offer superior performance, reliability and life. They are specified to be compliant to the existing known regulations applicable in Europe and North America.

### MATERIAL GUIDELINES

These materials are specified to comply firstly with Part 177 of Title 21 of the Food and Drug Administration Regulations for safe use as articles or components of articles for producing, manufacturing, processing, preparing, treating, packing, transporting or holding food, in accordance with FDA Regulation 21. CFR.177.1550. and 177.2600.

Secondly, The Sub Group Mechanical Seals of the European Hygienic Engineering & Design Group (EHEDG), Specification of August 2002, stipulates requirements for component materials of mechanical seals, which come into contact with food.

### Carbon-Graphite

Stramek Specification: M825 grade of Carbon, with approval certification available from Stramek's selected Carbon manufacturer. This Carbon grade is resin impregnated both prior to and subsequent to machining to minimise porosity.

### Ceramics and Silicon Carbide

Stramek Specification: Silicon Carbide Faces are considered to be G.R.A.S. (Generally Regarded As Safe). We solely specify our pure sintered Silicon Carbide, C.N.C. ground on all surfaces. Reaction Bonded SiC is not utilised, as the free Silicon is readily attacked by the Caustics in C.I.P. Systems. Stramek's Ceramic Grade is 99.5% pure, providing better integrity and performance, than the 95/96% pure Ceramics utilised as standard elsewhere.

### Elastomer Material

Stramek Specification: Our Elastomer Components and 'O' Rings are moulded from FDA Compliant Material Compounds and manufactured in accordance with Title 21. Code of Federal Regulations – paragraph 177.2600. and 177.1550.

### Hard Metal

Stramek Specification: Nickel Bound Tungsten Carbide which is CNC ground on all surfaces to comply.

### Metallurgy

Stramek Specification: All our metal parts and springs are specified compliant AISI Type 316 austenite Stainless Steel (as specified by EHEDG) and are manufactured on our GILDEMEISTER® and HAAS® machining centres to produce seal part surface finishes of within 0.8 Ra µm. This standard is required to inhibit micro bacterial growth on seal surfaces.

### W.R.A.S.® APPROVED ELASTOMERS AND SEAL FACES

The elastomers and face materials utilised are generally suitable for use in contact with potable water and food processing. The following materials are UK Water Regulation Advisory Scheme Approved: it is necessary for you to specify your requirements upon order and obtain our confirmation.

MATERIAL	STRAMEK GRADE	APPROVAL NUMBER	NOTES
Sintered Silicon Carbide	WNV2	094510	W.R.A.S.® approved Sintered Silicon Carbide.
Reaction Bonded Silicon Carbide	VES2	1207529	W.R.A.S.® approved Reaction Bonded Silicon Carbide
Alumina Ceramic	V99.CER	1003531	W.R.A.S.® approved Ceramic.
Carbon	M825	0812516	W.R.A.S.® approved Carbon.
Viton®	V3F. FE2602	1003530	Moulded components
Nitrile	ME0995	0507521	Available for 'O'-Rings only, not moulded parts. Please ask for other Nitrile / E.P. components
E.P.	VEP. MAR.4045	0308510	
<b>Please ask for approval details on other seal materials and elastomers.</b>			

Many other countries have their own standards and there are far too many to include all compliances. If you have a specific requirement, please refer to our Commercial Technical Department.