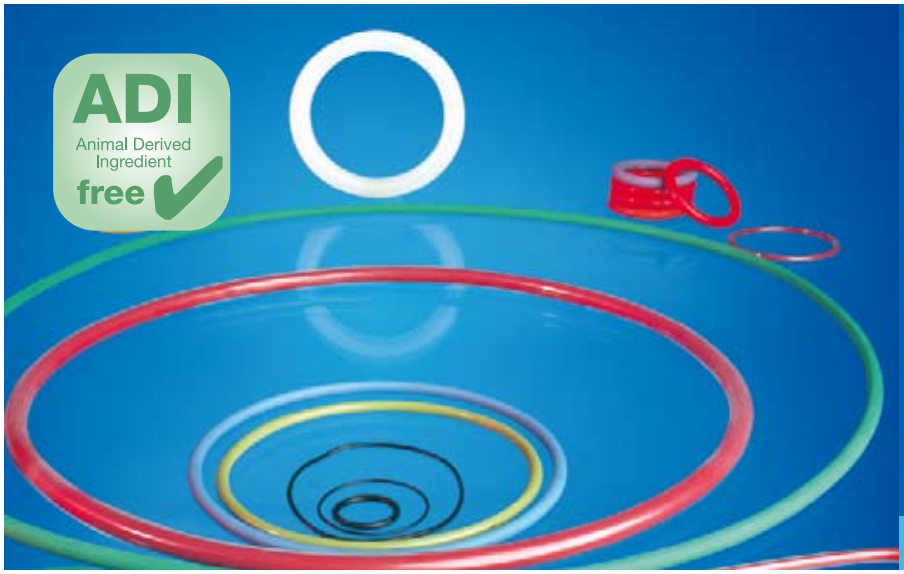
Sealing Elements: Overview High Purity Compounds For Food and Beverage

know-how makes the difference

ERIKS



High Performance O-rings and custom moulded parts

Selecting the right elastomer is a balance of material and design. All ERIKS compounds listed below are produced from listed ingredients. We distinguished the following grades:

High Performance O-rings with Certificates

Compound Number	Material ASTM D1418	Colour	Hardness IRHD±5	FDA 177.2600 aqueous & fatty foods	USP Class VI	KTW, DVGW, NSF, WRAS, ACS, W-270, KIWA	3A	EC 1935	ADI free	Temp. resistance °C
329303	Neoprene	black	75	X				X	X	-35/+100
366312 (*)	Nitrile-NBR	blue	60	X			X	X	X	-30/+120
366470	Nitrile-NBR	black	70	X			X	X	X	-30/+120
366302	Nitrile-NBR	black	75	X			X	X	X	-30/+120
366472	Nitrile-NBR	white	75	X				X	X	-30/+120
366480	Nitrile-NBR	black	80	X				X	X	-30/+120
366490	Nitrile-NBR	black	90	X				X	X	-30/+120
886972	HNBR	white	77	X				X	X	-30/+150
886172	HNBR	black	70	X				X		-30/+150
886214 (**)	HNBR	red	69	X				X	X	-30/+150
559260	EPDM	black	60	X				X		-40/+140
559311 (*)	EPDM	blue	67	X			X	X	X	-40/+140
55641	EPDM	black	70	X						-55/+150
559270	EPDM	black	70	X				X	X	-55/+150
559272	EPDM	white	70	X				X	X	-55/+150
559273	EPDM	black	70	X	X		X	X	X	-40/+150
55111	EPDM	black	70	X		X		X	X	-55/+150
559274	EP¨DM	white	70	X	X			X	X	-40/+150
559302	EPDM	black	70	X	X		X	X	X	-50/+150
559187	EPDM	black	75	X			X	X		-40/+140
559280	EPDM	black	80	X				X	X	-40/+140

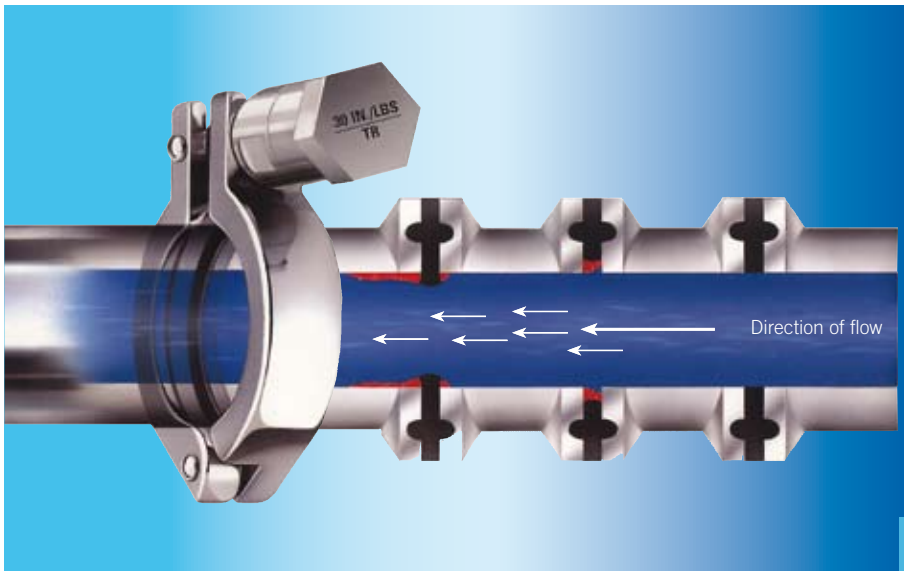
(*): metal detectable compounds

(**): Bio-Hygienic®

Overview High Purity Compounds

High Performance O-rings with Certificates											
Compound Number	Material ASTM D1418	Colour	Hardness IRHD±5	FDA 177.2600 aqueous & fatty foods	USP Class VI	FDA 177.1550	3A	BfR	EC 1935	ADI free	Temp. resistance °C
514660	FKM	black	60	X					X	X	-15/+200
514670	FKM	black	70	X					X	X	-20/+200
514328	FKM	blue	70	X			X		X	X	-15/+204
514642	FKM	green	70	X					X	X	-20/+200
514672 (*)	FKM	white	70	X					X	X	-15/+200
514674	FKM	blue	70	X					X	X	-20/+200
514002	FKM	green	75	X					X	X	-20/+200
514010	FKM	white	75	X	X		X		X	X	-20/+200
514304	FKM	white	75	X			X		X	X	-20/+200
514172	FKM	black	75	X			X		X	X	-20/+200
514641	FKM	black	75	X					X	X	-20/+200
514682	FKM	white	80	X					X		-15/+200
514683	FKM	black	75	X					X		-15/+200
514312	FKM	black	75	X	X		X		X	X	-20/+204
Genuine Viton® A 514680	FKM	black	80	X					X	X	-20/+200
Teflex® Viton®	FKM/FEP/PFA	black	75	X	X	X			X	X	-20/+200
Genuine Viton® A 514690	FKM	black	90	X					X	X	-20/+200
Genuine Viton® A 514694	FKM	blue	90	X					X	X	-20/+200
Silicone 714742	VMQ	white	40	X					X	X	-60/+200
Silicone 714747	VMQ	transl.	40	X					X	X	-60/+200
Silicone 714748	VMQ	red	40	X					X	X	-60/+200
Silicone 714762	VMQ	white	60	X					X	X	-60/+200
Silicone 714767	VMQ	transl.	60	X	X				X	X	-60/+200
Silicone 714768	VMQ	red	60	X					X	X	-60/+200
Silicone 714217	VMQ	white	60	X	X		X	X	X	X	-60/+200
Silicone 714001	VMQ	transp.	70	X	X			X	X	X	-60/+200
Silicone 714330 (*)	VMQ	blue	69	X			X		X	X	-60/+220
Silicone 714002	VMQ	Transp.	75	X	X			X	X	X	-60/+200
Silicone 714206	VMQ	red	75	X					X	X	-60/+220
Silicone 714006	VMQ	red	75	X			X		X	X	-60/+220
Silicone 714782	VMQ	white	80	X					X	X	-60/+200
Silicone 714787	VMQ	transl.	80	X					X	X	-60/+200
Silicone 714788	VMQ	red	80	X					X	X	-60/+200
Teflex® Silicone	VMQ FEP/PFA	red	70	X	X	X			X	X	-60/+200
Kalrez® 6221	FFKM	white	70	X	X					X	260
Kalrez® 6230	FFKM	black	75	X	X					X	260

(*): metal detectable compounds



Sanitary Gasket

NEW

1	**Bio-Pro®**	FDA 177.1550 USP class VI	light blue
2	**Tuf-Flex®**	FDA 17.1550 USP class VI	black
3	**Kalrez®**	in FDA 177.2600 USP VI	black
4	**Tuf-Steel®**	in FDA 177.1550 USP VI 3A sanitary USDA standards	brown
5	**PTFE**	in FDA 177.1550 USP VI envelopes 3A sanitary USDA standards	white white EPDM or Viton®
6	**PTFE**	in FDA 177.1550 envelopes	white EPDM or Viton®
7	**PTFE**	in FDA 177.1550 USP VI 3A sanitary USDA standards	white-blue
8	**Viton®**	in FDA 177.2600 USP VI 3A sanitary USDA standards	black
9	**Viton®**	in FDA 177.2600	white-black-green
10	**Silicone Platinium**	in FDA 177.2600 USP VI 3A sanitary USDA standards	transparent-white
11	**Silicone Peroxide**	in FDA 177.2600	transparent-white
12	**EPDM**	in FDA 177.2600 USP VI 3A sanitary USDA standards	
13	**EPDM**	in FDA 177.2600	black-white
14	**NBR**	in FDA 177.2600	black-white

AUTHORIZED DISTRIBUTOR Kalrez® perfluoroelastomer parts DuPont Performance Elastomers

Overview High Purity Compounds

Requirements to seal

- chemical resistance against the product
- chemical resistance against the used CIP media
- good cleanable and sterilizable sealing surface
- good resistance against abrasion and wear
- nontoxic sealing material
- installation without any dead spots (spaces)

In addition to the above mentioned requirements, the following parameters strongly influence the quality of the cleaning process as well as the life time of the seals:

- immersion period
- temperature
- type of cleaning media
- concentration of the cleaning solution

Chemical	Example	Concentration	Temperature °C	Cleaning procedure
Chlorinated alkalis	Mild solution of caustic soda	max. 0,5%	55-70	CIP
Acidified rinse	Post rinse, fresh water, acid solution	pH 5,5-6,0	RT	CIP
Strong alkalis	Caustic soda	0,5-5%	up to 90	CIP
Strong acids	Phosphoric acid, nitric acid	pH-2	75-90	CIP
Sanitiser	Sodium hypochlorite	200 ppm active chlorine	cold	CIP
Hot water	-	-	80-90	CIP
Steam	-	-	+130	SIP

Material Sanitary	Nitric acid 85°C, 2%	caustic soda 85°C, 3%	Aqua dest. 100°C	Steam 140°C	Sodium hypochlorite solution 70°C, 5%	Solution sodium hydroxide sodiumhypochlorite 70°C, 3%	Solution sodium hydroxide sodium carbonate 70°C, 3%	Solution hydrogen peroxide peracetic acid 50°C, 3%	3-A standards 18-03
PUR 1,3**	+	+	+	-	+	+	+	+	Class
NBR	(-)	+	+at 70°C	(-)	n.d.a.	n.d.a.	n.d.a.	n.d.a.	n.d.a.
H-NBR	(-)	+	+	-	n.d.a.	n.d.a.	n.d.a.	n.d.a.	n.d.a.
Silicone	-	(-)	+	(-)	n.d.a.	+	+	n.d.a.	n.d.a.
Viton®	(o)	o	o	-	o	+	+	+	Class 1

immersion period: 168 hours
n.d.a.: no data available
(+,o,-): n.d.a. supposed to be +, o or -
** class 1,3: passed all tests for class 1, except the temperature of exposure to product of sterilization (possible up to 100°C)
+ : resistant
o : limited resistance - : not resistant