

Sealing elements O-rings

ERIKS



ERIKS O-rings: dedicated to the future

Quality

Excellent raw materials, process-control, controlled end-products, well-trained employees and the ISO 9001-2000 quality-system guaranteeing only quality-products.

Products, dedicated to your application!

Product development

Our engineers work in the forefront of development of new compounds and designs.

Due to our worldwide ERIKS network with 43 of our own companies, working in partnership with certified labs, we are always searching for new engineering challenges.

Expertise

We have been in the front line of seal development for more than 50 years.

Range

A total seals and gaskets program with 60.000 stock items is available.

Worldwide

More than 40 companies worldwide, located in Europe, the Far East and in the USA.

Customer service

Our employees offer individual service in order to find efficient solutions for your specific problems. We give free advice, using our extensive knowledge.

Logistics

15.000 different O-rings are kept in stock at our head office in Alkmaar.

60.000 seals and gaskets in various dimensions are in stock and complete our wide seal package.

After the invention of the O-ring in the early 40's of the last century, ERIKS was one of the pioneers to bring this product to the European market.

A wide assortment with one goal: to offer you the best solution with the perfect seal.



Standard stock O-ring and X-ring compounds for industrial use

ERIKS COMPOUNDS	HARDNESS IRHD $\pm 5^\circ$	COMPR.SET 22H / 100 °C ON O-R 3.53 mm	TEMP. RANGE °C
NBR 36624	70	Max. 20%	- 30 / + 120
NBR 47702	90	Max. 30%	- 30 / + 120
EPDM 55914	70	Max. 30%	- 50 / + 120
EPDM 55914 PC	70	Max. 25% (150°C)	- 50 / + 150
Silicone 714177	70	Max. 40% (200°C)	- 60 / + 220
Neoprene® 32906	70	Max. 25%	- 35 / + 110
Viton® black 51414	75	Max. 18% (200°C)	- 20 / + 200
Viton® green 51414	75	Max. 19% (200°C)	- 20 / + 200
Viton® black 514320	90	Max. 18% (200°C)	- 20 / + 200
X-rings in NBR/FPM	70		

- **15.000 different dimensions in stock in our division warehouses.**
- **Produced according to ERIKS spec's.**
- **Controlled in our laboratory.**
- **According to international norms.**
- **Produced in modern injection and compression moulded machines.**

® : Kalrez®, Viton® and Neoprene® are registered trademarks of DuPont Performance Elastomers; Aflas® of Asahi.



We are part of the genuine Viton® programme

In collaboration with DuPont Performance Elastomers we offer you an extensive range of special Viton® compounds of which we guarantee the best value for your application.

We store 5000 different O-rings in Viton® black and green in compounds 51414 (75° Shore) and 514320 (90° Shore).

Alongside our standard industrial Viton® compounds we offer 40 special grades for your specific application. Among these:

- | | |
|---|--|
| • Viton® 514625 | for gas applications |
| • Viton® 514670 | FDA 177.2600 black |
| • Viton® 514010 | FDA 177.2600 white |
| • Viton® 514676 | USP XXV Class VI |
| • Viton® GLT 514115 | for low temperatures |
| • Viton® GF 514141 | for optimal chemical resistance |
| • Viton® GFLT 514017 | for optimal chemical resistance and low temperatures |
| • Viton® extreme 514016 | for extreme chemical resistance |
| • Viton® SCVBR | high-purity Viton® for semicon |
| • Viton® 514204 | explosive decompression |
| • ASK FOR OUR SPECIAL VITON® BROCHURE! | |

DuPont Performance Elastomers

INNOVATION • QUALITY • TECHNOLOGY



Kalrez® perfluoroelastomers

The ultimate solution

Alongside the existing standard Kalrez® O-ring-compounds we can arrange, in collaboration with DuPont Performance Elastomers, the “ultimate” seal for your application to be designed by a special FEA computer programme.

Industry Segment	Kalrez® Compound N°	Elastomer	Hardness Shore A	Description / Application	Colour	Temp. °C
Chemical Processing	Spectrum (TM) 6375	FFKM	75	Outstanding performance in the wildest possible range of chemicals and temperatures	Black	275
Chemical Processing	Spectrum (TM) 7075	FFKM	75	Highest temperature resistance, lowest compression set, temperature cycling	Black	327
Chemical Processing	4079	FFKM	75	High temperature, low compression set	Black	316
Chemical Processing	1050LF	FFKM	82	General purpose hot water/steam, amines	Black	288
Chemical Processing	2037	FFKM	79	White filled, high purity, general chemical resistance	White	220
Chemical Processing/ Oil exploration	3018	FFKM	91	High hardness, high modulus, extrusion resistance	Black	288
Pharma & Food	6221	FFKM	70	FDA, USP Class VI, FCN 000101	White	260
Pharma & Food	6230	FFKM	75	FDA, USP Class VI, FCN 000101	Black	260
Semiconductor	4079UP	FFKM	75	Thermal applications	Black	316
Semiconductor	7075UP	FFKM	75	Recommended compound for thermal applications	Black	327
Semiconductor	6375UP	FFKM	75	Wet process applications, low elemental extractables, static and dynamic applications	Black	275
Semiconductor	2037UP	FFKM	79	High Purity	White	220
Semiconductor	8002	FFKM	69	Select semiconductor plasma and gas-deposition applications, low particle generation	Clear	250
Semiconductor	Sahara 8475	FFKM	60	Thermal applications	White	300
Semiconductor	Sahara 8575	FFKM	62	Etch-low weight loss in oxygen and fluorine based plasmas	White	300
Semiconductor	Sahara 8085	FFKM	80	Plasma and gas deposition, HPCVD, PECVD, SACVD Etch, ash, low particle O-rings and bonded doors	Beige	240

DuPont Performance Elastomers STRETCHING THE POSSIBILITIES





Vulc-O-ring

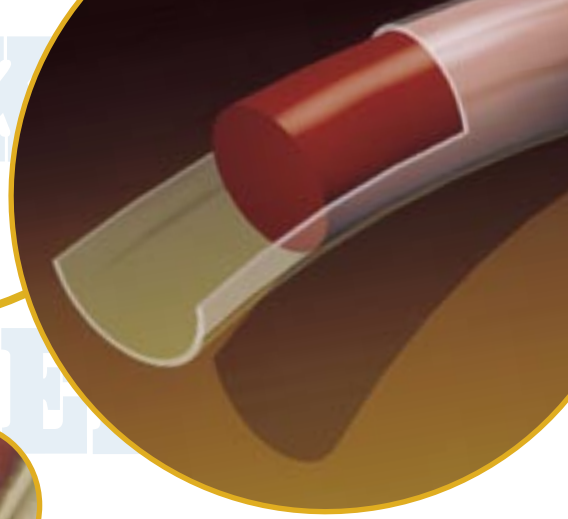
Hot vulcanised cord rings

ERIKS has developed a new technology for the production of O-rings in non-standard dimensions. Due to an advanced vulcanisation process, the O-rings are made from high-tech cord with almost the same quality as moulded O-rings. Extended lab tests show that the vulcanisation-joint has the same compression set properties as the cord.

Further advantages:

- Tolerances to DIN 3771 / ISO 3601
- Can be delivered in any internal diameter
- Available in FDA compliant quality
- Very low compression set values
- Check of each vulcanisation point
- Tolerances on cord of +/- 0,05 mm are possible
- Rush-production possibilities
- Standard compounds:

Description	ERIKS Reference
NBR 60 Black	366304
NBR 75 Black	366185
NBR 90 Black	360303
NBR 75 Black FDA/3A	366302
Viton® 60 Black	514307
Viton® 75 Black	514206
Viton® 75 Brown	514302
Viton® 75 Green	514306
Viton® 90 Black	514309
Viton® Extreme 75 Black	-
Viton® 90 brown	514310
FKM EDR 90 Black	-
Viton® GF Black	different compounds
Viton® GLT Black	different compounds
Viton® GLFT Black	different compounds
EPDM 75 Black	559303
Silicone 75 Red FDA	714206
Fluorsilicone 80 Blue	614016
Aflas® 80 Black	223301
Aflas® 90 Black	223302
CR 75 Black	329302
CR 75 Black FDA	329303
XNBR 75 Black	886390
HNBR 75 Black	886301
... and many others.	



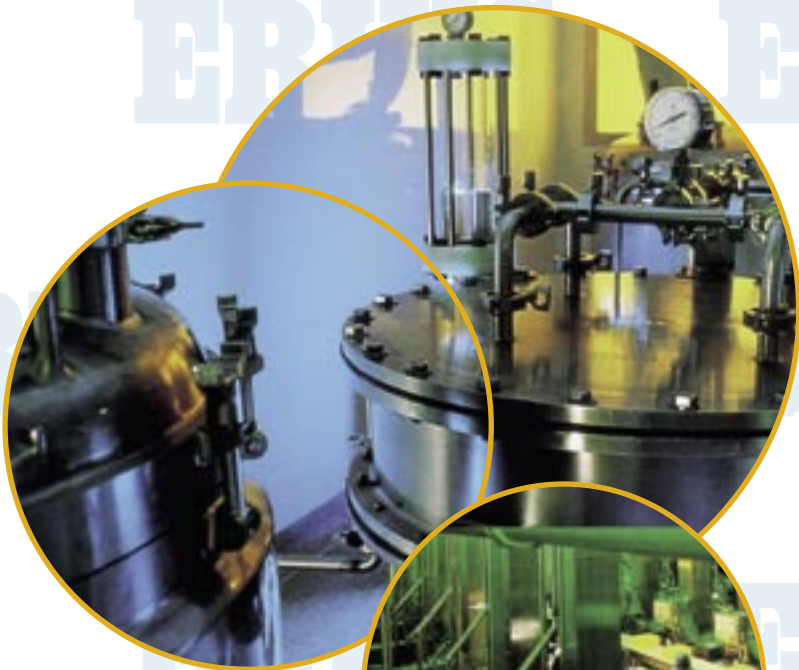
Teflex O-rings

Engineered O-rings for critical applications

To ensure an optimum chemical resistance we offer a unique Viton[®]-compound with extreme low compression-set which is encapsulated with Teflon[®] FEP. This results in better long term sealing and makes this encapsulated O-ring the best in the world. Available in all dimensions up to 5000 mm in diameter, compliant to FDA 21CFR.177.1550 and USP Class VI.

Specialities:

- silicone cord insertion
- silicone hollow cord insertion
- silicone and Viton[®] FDA insertion
- Teflon PFA-cover for better wear resistance
- Viton[®] extreme-cover of Viton[®]-cord for optimum flexibility
- New development:
Fully encapsulated sealing rings for Camlock/Eritite couplings DIN 11851





For extreme services

ERIKS offers you a number of compounds for "extreme" services in their application-field

- Aflas in different compounds
- NBR 36625 for gas applications according to EN 549
- NBR 366005 for VW 2.8.1-C70 Norms
- EPDM 559002 for better steam resistance
- EPDM 559425 for high temperature cycling applications
- Silicone THT for 280°C resistance
- HNBR for optimum hydraulic fluid resistance to 150°C - lowest compression set
- And many more...
- 120 datasheets are available on our site



www.o-ring.info



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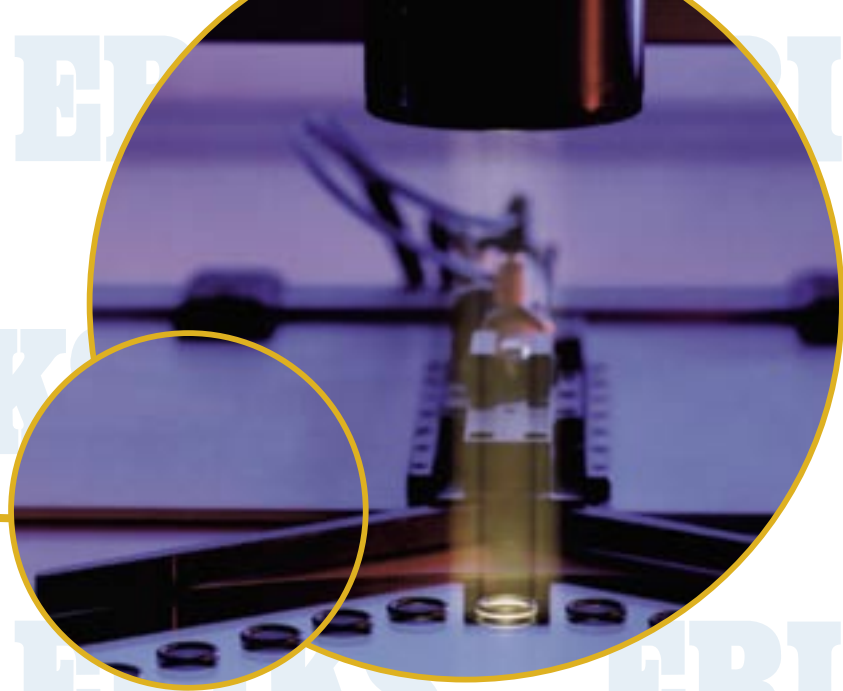


O-rings with homologations/certificates

We developed a whole range of compounds for contact with food and pharma, drinking water and gases. We summarize the main compounds:

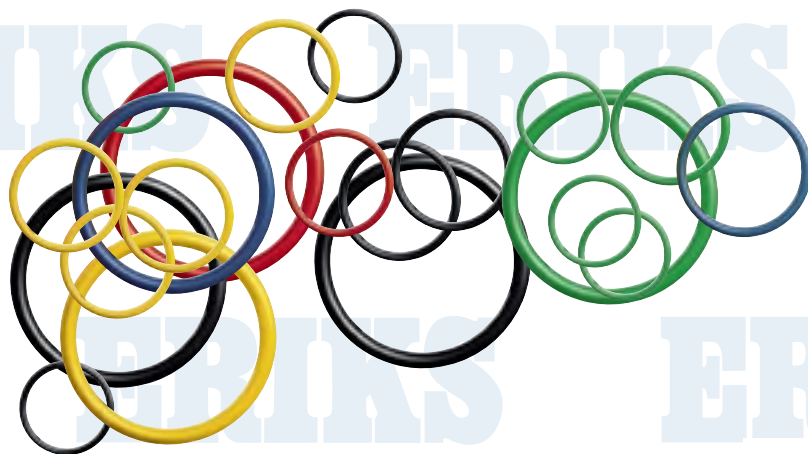
Look at our website
www.O-ring.info/datasheets
to find more than 40 FDA/3A/USP compounds!



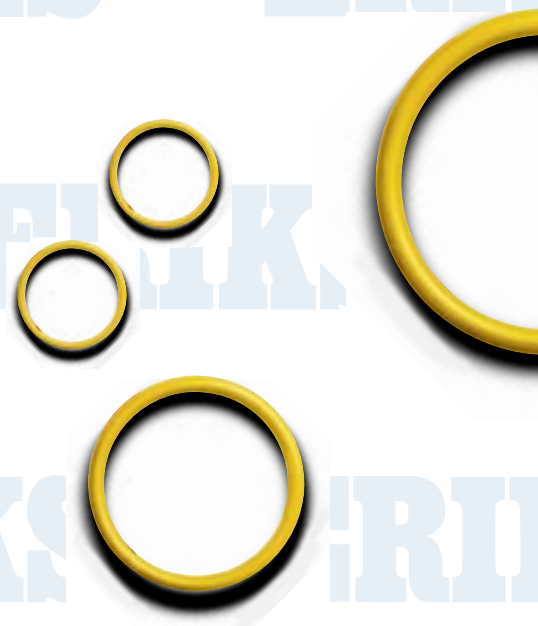


O-rings in special executions

- SCVBR-semicon quality
- X-rings
- micro O-rings
- Vulc-O-rings
- encapsulated O-rings Teflex®
- PTFE O-rings
- PTFE back up rings
- NBR 90 back up rings
- omniseals (with spring) PTFE
- high-purity compounds
- silicone free
- labsfree
- plasma treated
- Coatings with silicone, PTFE, graphite
- with narrow tolerances
- with surface-controll
- with homologations
- internal lubricants (PTFE, graphite, MOS2)
- Eriflon PTFE hydraulic seals
- Special bagging



**ERIKS O-rings are made
with the newest
technology machines**





Round and square cord

Alongside an extensive range of rubbercord to make your own O-ring, ERIKS produces special cords in high-tech compounds to meet your special needs.

Standard round

- NBR 70
- NBR 90
- EPDM 70
- Viton[®] 70, 75 and 90
- Neoprene[®] 70
- Silicone FDA 70
- Sponge NR/Neoprene[®]/Silicone/FPM

Standard square & rectangular

- Neoprene[®]
- Silicone
- EPDM
- FPM
- Sponge NR/Neoprene[®]/Silicone/FPM
- Self-adhesive backing

Specialty extrusions in

- FDA in NBR, EPDM, Viton[®], Silicone
- Fully transparent silicone
- Silicone high temp
- Conductive silicone
- Fluorsilicone
- Aflas[®]
- HNBR
- Viton[®] extreme
- many others in various hardnesses
- and many more...

**Ask for our special
Profiles brochure!**



Assortment kits

We offer 14 different O-ring boxes in Nitrile 70, Nitrile 90 and Viton® 70; in metrical, AS- and Afnor-dimensions. We also have custom-made boxes developed for your after-market. For the maintenance department we offer several “helps” for better installation and identification (Rubber-indicator, measuring device, glues, hardness-indicator, (de-)installation set).



Quality Control

ERIKS O-rings are of top quality. They are produced in accordance with ISO-norms and controlled with high precision test equipment. Our quality assurance system and our rigid ERIKS' specifications are implemented at each production.

On your request certification papers are edited according to DIN EN ISO 9002.

Extra service for your O-rings

Alongside our own standard test procedures ERIKS offers you different possibilities for your quality assurance system:

- compression set testing
- hardness control following Shore A or IRHD
- surface control to Sortenmerkmal S
- specific measurement to special tolerances
- special surface control
- tear strength test
- tensile strength test
- ozone testing
- lifetime testing
- chemical resistance tests
- infrared spectroscopy
- TGA analysis
- FDA migration test
- TOC analysis
- FEA calculations





Datasheets: our specifications on A4

Quality within your reach

Our quality assurance is laid down in a quality manual and in 120 datasheets which we have developed in collaboration with independent laboratories.

At all times these datasheets are available on your request.

Our technical staff will be pleased to discuss these datasheets with you in order to find the best compound for your application.

ERIKS
SEALING ELEMENTS

Genuine Viton® X-ring 3645 - Technical Data Sheet

1. Introduction
Original Viton® X-ring 3645 compound is based on a 100% Genuine Viton® polymer. It is a highly resistant compound with excellent performance in applications where high temperature and high pressure are required.

2. Product Description
Chemical Composition: 50% Fluorine, 50% Carbon
Color: Black
Storage Stability: 5 years

3. Physical Properties

Property	Value	Unit
Tensile Strength at Break	15	MPa
Elongation at Break	250	%
Compression Set (24h/150°C)	max 12%	
Volume Change	max -1.5%	

4. Temperature Resistance
-50° to +200°C
175° long temp. resistance -15°C

5. Chemical Resistance
Alkali: excellent
Acid: excellent
Oxidation: excellent
Ozone: excellent
Vegetable oils: excellent
Inorganic acids: unsatisfactory
Organic acids: excellent

6. Advantages
• Low compression set
• Good balance of mechanical properties
• Meets DVGW part 1.

7. Other Information
• Meets DVGW part 1.

ERIKS
SEALING ELEMENTS

NBR 70-compound 32770 - Technical Data Sheet

1. Introduction
NBR 70-compound 32770 is a Buna N compound for gas applications.

2. Product Description
Chemical Composition: Acrylonitrile/Butadiene Rubber
Color: Black
Storage Stability: 5 years

3. Physical Properties

Property	Value	Unit
Tensile Strength at Break	10	MPa
Elongation at Break	300	%
Compression Set (24h/150°C)	max 15%	

4. Temperature Resistance
-30° to +150°C

5. Chemical Resistance
Alkali: good
Acid: fair
Oxidation: fair
Ozone: fair
Vegetable oils: fair
Inorganic acids: poor
Organic acids: poor

6. Advantages
• Excellent chemical resistance, comparable with that of PTFE
• Low compression set of silicone compound

ERIKS
SEALING ELEMENTS

Teflex-VMQ Silicone - Technical Data Sheet

1. Introduction
ERIKS Teflex® O-Rings (VMQ silicone) are composed of a Silicone elastomer encapsulated in seamless FEP or PFA cover. The elastomer works as a rubber-chemical and helps the slow recovery of the FEP or PFA cover. The chemical resistance of FEP and PFA is almost the same as PTFE. FEP and PFA comply with the FDA and USP class II regulations for contact with food and pharmaceuticals.

2. Product Description
Chemical: FEP cover: Copolymer of Hexa-Fluoroisoprene and Hexa-Fluoroacrylonitrile (HFIP)
PFA cover: Copolymer of Perfluoroalkoxy (PFA) and Tetrafluoroethylene (TFE)
Physical form: O-Rings
Color: Black
Storage stability: 10 years

3. Physical Properties

Property	Value	Unit
Tensile Strength	17	MPa
Elongation at Break	170	%
Compression Set (24h/175°C)	max 15%	

4. Temperature Resistance
-50° to +200°C
with PFA -80° to +200°C

5. Chemical Resistance
Concentrated acids: very good
Alkalies: very good
Hydroxides: very good
Benzene: very good
Chloro alcohols: very good
Toluene: very good
ASTM Fuel C: very good
MTBE: very good
Water: very good
Steam: very good

6. Advantages
• Excellent chemical resistance, comparable with that of PTFE
• Low compression set of silicone compound

ERIKS
SEALING ELEMENTS

Genuine Viton® O-compound 314670 - Technical Data Sheet

1. Introduction
Original Viton® O-ring 314670 compound is based on a 100% Genuine Viton® polymer. It is a highly resistant compound with excellent performance in applications where high temperature and high pressure are required.

2. Product Description
Chemical Composition: 50% Fluorine, 50% Carbon
Color: Black
Storage Stability: 5 years

3. Physical Properties

Property	Value	Unit
Tensile Strength at Break	15	MPa
Elongation at Break	250	%
Compression Set (24h/150°C)	max 12%	

4. Temperature Resistance
-50° to +200°C
175° long temp. resistance -15°C

5. Chemical Resistance
Alkali: excellent
Acid: excellent
Oxidation: excellent
Ozone: excellent
Vegetable oils: excellent
Inorganic acids: unsatisfactory
Organic acids: excellent

6. Advantages
• Low compression set
• Good balance of mechanical properties
• Meets DVGW part 1.

ERIKS
SEALING ELEMENTS

EPDM 70-compound 36511 - Technical Data Sheet

1. Introduction
Original Viton® EPDM 36511 compound is based on a 100% Genuine Viton® polymer. It is a highly resistant compound with excellent performance in applications where high temperature and high pressure are required.

2. Product Description
Chemical Composition: 50% Fluorine, 50% Carbon
Color: Black
Storage Stability: 5 years

3. Physical Properties

Property	Value	Unit
Tensile Strength at Break	10	MPa
Elongation at Break	300	%
Compression Set (24h/150°C)	max 15%	

4. Temperature Resistance
-50° to +200°C
175° long temp. resistance -15°C

5. Chemical Resistance
Alkali: excellent
Acid: excellent
Oxidation: excellent
Ozone: excellent
Vegetable oils: excellent
Inorganic acids: unsatisfactory
Organic acids: excellent

6. Advantages
• Low compression set
• Good balance of mechanical properties
• Meets DVGW part 1.

Available dimensions

Norm	O-ring cord diameter	
Metric DIN 3771	1.0/1.5/2.0/2.5/3.0/3.5/4.0/4.5/5.0/5.5/6.0/7.0/8.0/10.0/12.0	
ISO 3601/1	1.80/2.65/3.55/5.30/7.0	
(swedish) SMS 1586	1.6/2.4/3.0/5.7/8.4	
French Norm	1.9/2.7/3.6/5.33/6.99	
JIS B 2401	1.9/2.4/3.1/3.5/5.7/8.4	
American Norm AS 568 A British Norm BS 1806	1.78/2.62/3.53/5.33/6.99	
American Norm		1.02/1.42/1.63/1.83/1.98
AS 568A (range 990)		2.08/2.20/2.46/2.95/3.00
Specials	available on request in any cross-section	

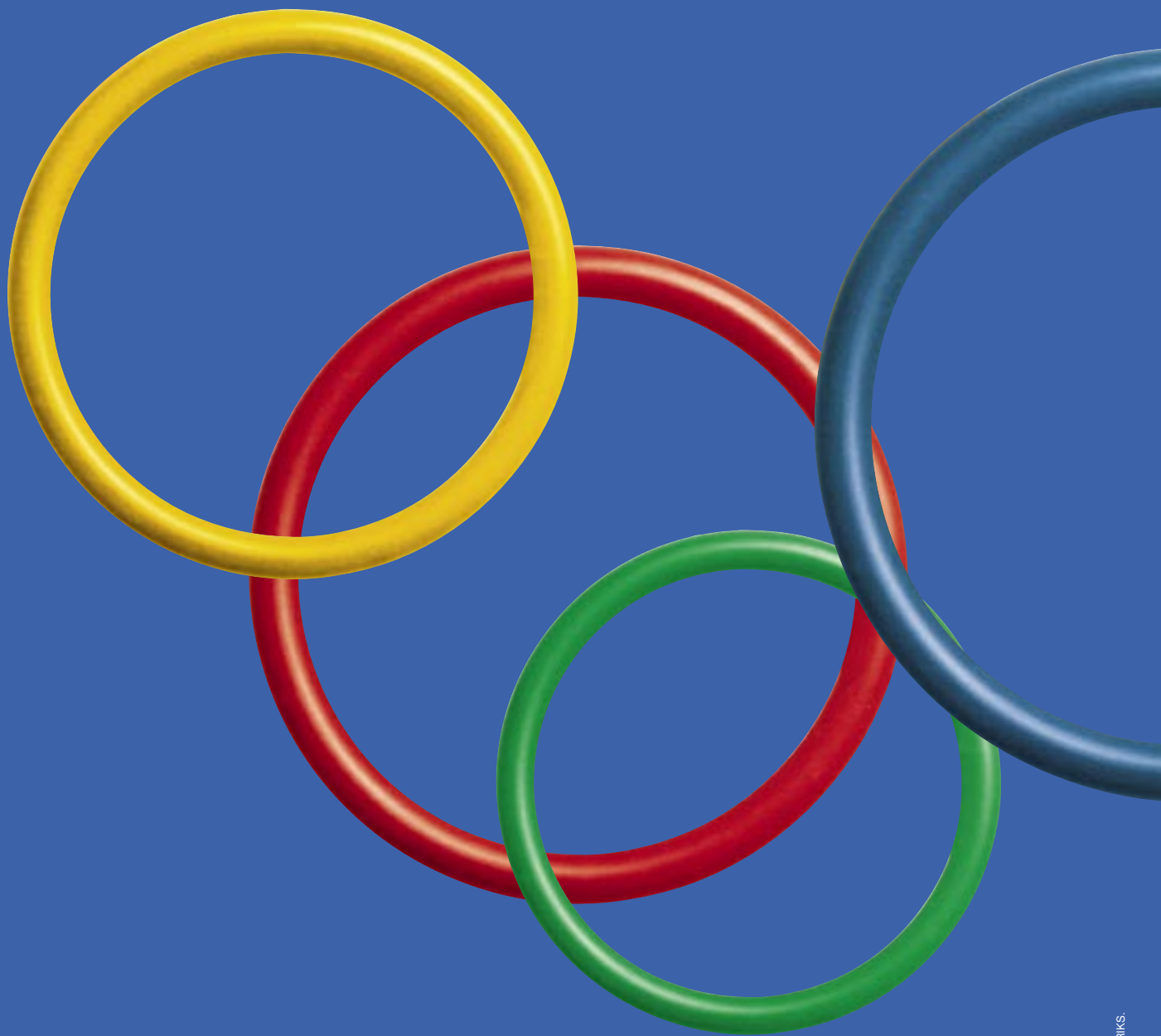
And this in thousands of inside diameters in ca. 200 different compounds

Properties of general elastomeric compounds

Standard ASTM D 1413	Chemical name	Minimum working temperature	Maximal working temperature	Maximal temperature to attain	Tensile strength	Tearing resis- tance	Abrasion resis- tance	Ozone resis- tance	Compression set at -20°C	Compr. set at room temp.	Compression set at 120°C
CR	Polychloropen	-20/-30	+85/+95	+115	H	H	M/H	H	P	VG	G
ECO	Epichlorohydrin, ethylenoxide copolymer	-40/-50	+120	+135	M	M	M	H	G	VG	VG
EPDM EPM	Ethylene, propylene, terpolymer, sulphur crosslinked, ethylene, propylene, copolymer peroxide crosslinked	-20/-45	+130/+140	+140/+160	M	M	M	H	VG	VG	G/VG
EU	Polyurethanic rubber	-20/-45	+75	+100	H	H	H	H	G	VG	P
FKM(I)	Fluororubber, copolymers and terpolymers	-10/-28	+200/+230	+275	M/H	M	M	VH	P	G	VG
FKM(II)	Fluororubber tetrapolymers for low temperatures	-30/-45	+200/+230	+275	M/H	M	M	VH	G	G	VG
FVMQ	Fluorosilicone rubber	-60/-70	+175/+200	+220	L	L	L	VH	VG	G	G
HNBR	Hydrogenated nitrile rubber	-25/-35	+120/+150	+160	M/H	M	H	M	G	G	G
NBR	Nitrile rubber	-15/-40	+110/+115	+120	M/H	M	H	L	P	VG	G
TFEP	Fluorine, ethylene propylene afas	-5	+200/+220	+250*	L	H	H	VH	P	G	G
VMQ	Silicone rubber	-65/-90*	+180/+220	+250*	L	L	L	VH	VG	VG	VG

ACM properties: VH = very high properties
H = high properties
M = medium properties
L = low properties

Compression set: Exellent (E) = value under 10%
Very good (VG) = value between 10 and 30 %
Good (G) = value between 30 and 50 %
Poor (P) = value over 50 %



Current adresses can be found on www.o-ring.info

www.O-ring.info

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www.eriks.com