Sealing Elements
O-Rings
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.
Standard stock O-ring and X-ring compounds for industrial use

- 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.

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

®: Kalrez® and Viton® are registered trademarks of DuPont Performance Elastomers.
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 A).

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 USP Class VI
- Viton® 514676 FDA 177.2600 white
- Viton® GLT 514115 for low temperatures
- Viton® GF 514141 for optimal chemical resistance
- Viton® GFLT 514017 for optimal chemical resistance and low temperatures
- Extreme ETP 514016 for extreme chemical resistance
- SCVBR® high-purity for semicon
- Viton® 514204 explosive decompression

DuPont Performance Elastomers

- INNOVATION
- QUALITY
- TECHNOLOGY

Sealing Elements - O-Rings
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.
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

- 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
- RXL O-rings: extra large O-rings moulded in 1 piece

### 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-ring**

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/Erlite couplings DIN 11851
ERIKS offers you a number of compounds for ‘extreme services’ in their application field. 120 datasheets are available on our site!

### Compounds

- FKM 514322 for high chemical resistance at low temperature TR10 = -45°C
- MVQ 714002 USP Class VI tested in vivo with extractables obtained at the highest temperature of 121°C.
- EPDM 559273 USP Class VI tested in vivo with extractables obtained at the highest temperature of 121°C.
- SurfaPlus® surface treatment
- Specials FKM’s for biofuels
- And many more

Sealing Elements - O-Rings
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 life science compounds!
O-rings in special executions

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

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-control
- With homologations
- Internal lubricants (PTFE, graphite, MOS2)
- Eriflon PTFE hydraulic seals
- Special bagging
- Fluorinated
Round and square cords

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.

Ask for our special Profiles brochure.

**Standard round**
- NBR 70 E1
- NBR 90 E1
- EPDM 70 E1
- Viton® 70, 75 and 90 E1
- Neoprene 70
- Silicone FDA-USP 70 E1
- 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 transparant silicone
- Silicone high temp
- Conductive silicone
- Fluorsilicone
- Aflas®
- HNBR
- Viton® extreme
- Many others in various hardnesses
ERIKS offers different methods of interactive customer solutions. Free programmes are available on our websites.

- O-Ring Design Calculator: Industry leading
- Rubber Profile Calculator: Industry leading
- O-Ring Weight Calculator: Industry leading
- 400 data sheets: Industry leading
- Comparison of plastics: Industry leading
- Unit Converter: Industry leading
- Chemical Resistance Guide: Industry leading
- Approvals / Certificates: Industry leading

ERIKS offers you a number of compounds for ‘extreme services’ in their application field. 120 datasheets are available on our site! Technical information available in English, Dutch, German and French. Visit: www.O-ring.info
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 line

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. Quality within your reach!
<table>
<thead>
<tr>
<th>Norm</th>
<th>O-ring cord diameter - Available dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric</td>
<td>1.0/1.5/2.0/2.5/3.0/3.5/4.0/4.5/5.0/6.5/6.0/7.0/8.0/10.0/12.0</td>
</tr>
<tr>
<td>ISO 3601-1</td>
<td>1.80/2.65/3.55/5.30/7.0</td>
</tr>
<tr>
<td>(swedish) SMS 1586</td>
<td>1.6/2.4/3.0/5.7/8.4</td>
</tr>
<tr>
<td>French Norm</td>
<td>1.9/2.7/3.6/5.33/6.99</td>
</tr>
<tr>
<td>JIS B 2401</td>
<td>1.9/2.4/3.1/3.5/5.7/8.4</td>
</tr>
<tr>
<td>American Norm AS 568 A</td>
<td>1.78/2.62/3.53/5.33/6.99</td>
</tr>
<tr>
<td>British Norm BS 1806</td>
<td></td>
</tr>
<tr>
<td>American Norm</td>
<td>1.02/1.42/1.63/1.83/1.98</td>
</tr>
<tr>
<td>AS 568A (range 990)</td>
<td>2.08/2.20/2.46/2.95/3.00</td>
</tr>
<tr>
<td>Specials</td>
<td>available on request in any cross-section</td>
</tr>
</tbody>
</table>

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

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

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

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

www.O-ring.info