

alles **gummi**

Price Catalogue 2024



The **Competence Centre** for Elastomers
www.zrunek.at

Who we are, what we do

Dear Business Partner

Every company has a unique history – and so do we.
In the following pages we would like to briefly introduce our company:

Expertise - Zrunek Gummiwaren was founded in 1947 by chartered engineer Eduard Zrunek, inspired by his experiences as laboratory manager and managing director of the Semperit subsidiary Matador near Bratislava. Today, the company is run by the third generation, Dr Ulrich Zrunek."

Compound Formulating - Zrunek's activities extend from custom formulation in our own laboratory, through comprehensive mixing capabilities, to the manufacture of the end-product: this comprises a broad spectrum of production capabilities. Our production divisions are all on-site to offer the highest flexibility.

Production – From in-house development in our laboratory to the manufacture of customized solutions, small and medium production runs are one of the special strengths of Zrunek. We are fully equipped with state-of-the-art rubber industry machinery, including presses, injection moulding machines, extruders, autoclaves, grinders and above all our in-house mixing plant, and we provide our customers with flexible and independent production units.

Warehouse – We permanently carry a wide range of stock, which guarantees the immediate availability of standard items. By utilising our long-standing relationships with suppliers and business partners, we also ensure competent and reliable handling of complete production runs for our customers.

Certified according to ISO 9001: Nowadays it goes without saying that a company which manufactures such basic and high-quality components throughout industry has established a quality control system that is in compliance with the ISO 9001 standard.

Zrunek, the 'Competence Centre for Elastomers'. Our success is due to our in-house development of rubber compounds, our small production runs, and our reliable handling of full production runs. Furthermore, we rely on great expertise and competence to provide rubber solutions precisely to your requirements. This is more important than ever in times of continuously opening and expanding markets and when companies are being urged to either specialize or merge with other businesses. Because we are continuously extending and improving our service to customers, our well-established client base is steadily growing.
Our desire to meet and anticipate your needs and to ensure customer satisfaction, in addition to our skilled and experienced team form our most important assets.



Dr. Ulrich Zrunek

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If you need assistance ...



we maintain extensive laboratory facilities where we have developed and mixed custom compounds for more than 50 years. We devise solutions to meet all your requirements. Our processing capabilities extend to all common elastomers such as: Natural rubber, SBR rubber, NBR nitrile rubber, EPDM rubber, butyl rubber, Neoprene®, Polyurethane, Hypalon®, Therban®, silicone or Viton®. Meanwhile 800 tried and tested rubber formulations are at your disposal to cover all your specific needs:

- Durometer range:** 10 – 95 Shore A
- Colour:** black, white, transparent or to customer's specification
- Temperature range:** -100 °C bis 300 °C
- Resistant to:**
 - oil and solvents
 - acids, bases and chemicals
 - hot air and steam
 - weathering and ozone
 - abrasion and wear

If you are looking for a manufacturer ...



Our own on-site **mixing plant** gives us the necessary flexibility to react to your requests and requirements extremely quickly. The ready-mixed compounds then go directly to our other production departments:

RUBBER MOULDING DEPARTMENT: Our facilities include more than 50 presses and injection moulding machines to guarantee shortest delivery times and the production of just about any moulded rubber mould part:

- the smallest:** protective caps 1mm diameter, 2mm height
- the largest:** o-rings 1400mm i.d. x 40 mm
- the longest:** 1000m bag conveyor belt



Our manufacturing capabilities also include bonding rubber to other materials, such as rubber to metal, rubber to plastic and rubber to reinforcing materials.:

- wheels**
- anti-vibration mounts, stud mounts, bars and rails**
- teflon sealing coatings on rods**
- "sandwich"-constructions consisting of bakelite/silicone/reinforcement**



PROFILE EXTRUSION AND TUBING: We can extrude just about any custom profile, cord, strip or non-reinforced tube or hose in the right material for your needs. For this purpose, six extruders with screw diameters of 45 to 150mm are at our disposal.

EXTRUDED VULCANIZED RINGS: Any profile also can be vulcanized to ring form. Examples are:

- manhole rings made out of profiles
- cord rings
- extruded and vulcanized rings for special purpose machinery

DIE-CUT FLAT RINGS: Our die-cutting department with its express service can supply you with any die-cut flat ring, or hand-cut flat ring if large diameters are required. Our extensive inventory of sheet materials allows us to precisely meet your needs. To select the correct material please also see section "2.4.1".

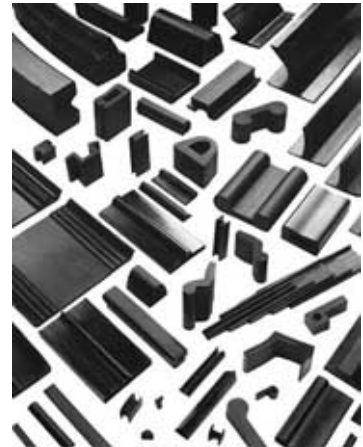
COMPRESSION MOULDED FLAT RINGS: If close tolerances are required, we recommend using flat rings manufactured in our compression moulding department with the appropriate compression moulding dice. Here, as in other areas, we ensure access to any formulation or rubber material to suit your needs. Our laboratory services are also at your disposal to give you the best solution for your sealing requirements.

LATHE-CUT RINGS: Our manufacturing facilities allow us to produce any custom sealing ring within a short period, precisely ground to the required inside diameter and cut to just the width you need. Lathe-cut sealing rings are the best choice if there are no standard sheets available for die-cutting (either due to material or size), or if the sideways grooves produced by die-cutting could cause problems. Other reasons why you would choose lathe-cutting as a manufacturing method could be if the tolerances produced by die-cutting are not close enough or if an expensive moulding tool makes production inefficient.

DIE-CUT PARTS: Zrunek's die-cutting facilities include various die-cutting machines to deliver your gaskets in the right material. Over 5000 cutting dice are on file and are available to be set-up immediately. For the selection of the correct material for your application please make use of the information given in sections "2.4.1" and "3.0".

We are capable of manufacturing any gasket:

- up to a size of 10m or more
- out of 257 different materials
- within 24 hours, if required
- custom-designed exactly to your specifications for your application
- whether you need one-time special parts or high-volume runs



RUBBER ROLLERS: With our extruders we can cover your roller cores with any compound required. The roller coverings are then ground to the required diameter by grinding machines; all production takes place on-site.



STRIPS, SHEET MATERIALS AND SHEETS CUT-TO-SIZE: We can fabricate your customized strips or cut-to-size sheets out of any elastomer sheets, gasket sheet materials, cellular rubber or sponge rubber sheets which are listed in section "2.4.1". Our machinery also includes several strip cutting presses which allow for the fastest fabrication of strips in any possible dimension out of any material, using the capabilities of our mixing-plant with its great variety of formulations

SLEEVES: Sleeves are used where flexible pipe joints or filler necks are required. They can also be used as flat hoses. We can produce sleeves out of any rubber sheet material (please see section '2.4.1'). Continuous lengths are also available; these are produced by splicing or by hot vulcanization in presses.

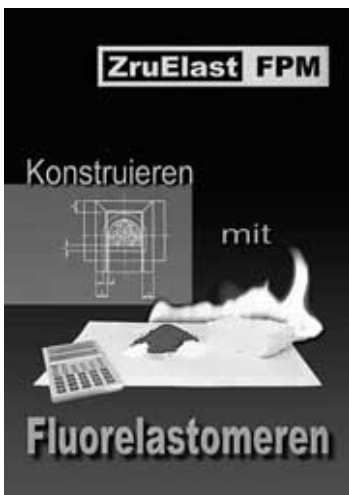


MANUAL PRODUCTION, MADE-TO-ORDER: As for sleeves, we can create precisely the required part out of any sheet material by vulcanizing it to form. Examples are rubber funnels, container linings or covering take-off-belts with highly abrasion-resistant materials. Furthermore, if you need outside sheets – no problem! Sheets can be vulcanized together and then be cut-to-size according to your specifications.

CONVEYER BELTS: Our advanced machinery includes several presses for the manufacture of conveyor belts. The largest press has heaters of 1.5 x 2.5m so that we can meet almost any of your specific requirements. This includes the fabrication of bag conveyor belts, conveyor belts with customized ribs or the vulcanization of rubber wedges on steel strips. The processed wedges themselves are pre-extruded in-house in precisely the material you require.



VITON® PARTS: Fluoroelastomers, best known by the trade name 'Viton®', are one of Zrunek's outstanding strengths. Zrunek not only possesses significant know-how and expertise in elastomer technology which goes back more than 70 years, but has also been implementing new developments to utilize them for the benefit of our customers. This includes, in particular, elastomer materials with constantly improving properties. In addition, especially with regard to fluoroelastomers, processing these high-performance materials perfectly matches the production capabilities and manufacturing spectrum Zrunek provides. Since 1980, considerable funds have been invested in research and development. Today, as results of these activities '**ZruElast® FPM**', – widely and successfully tested – has found a firm place as a well-established trademark and Zrunek has become the leading expert in the field of fluoroelastomer extrusion, as well as the largest processing manufacturer of fluoro rubber in Austria.





Some examples

of our product range:

supplied to:

Fluorosilicone gaskets	ABB
Conveyor belt assemblies	Agrana
Highly dampening moulded parts for microphones	AKG
Die-cut mudflaps	AL-KO
Rings for milk pipes	Alfa-Laval
Compression moulded continuous sleeves	Andritz AG
Gaskets	Biochemie
O-rings	BMW
Manhole rings	Brau AG
Cap sealings	Donaukraft AG
Rubber-to-metal bonded parts	Doubrava
Sealings for weir constructions	Ennskraftwerke
Bulb seals	EVN
Flat gaskets	Fernwärme Wien
Roller coverings	FMW
Rubber sheets	General Motors
Paste rollers	Henkel
O-rings for thermostat faucets	Herz
Sealing rings - NBR Rubber 20 Shore	Hoerbiger
Magnet grate belts	IFE
Food safe sleeves	Jungbunzlauer
Silicone coated metal plates	Kapsch
Motor gaskets	KTM
Cord rings	Lenzing
Sponge rubber cords	Master Foods
Hose fittings	ÖAG
Cable support sleeves	ÖBB
Viton®- strips for water purification plants	OMV
Conveyor belts	Philips
Valve flaps	Rosenbauer
Silicone caps	Schrack
Rubber-to-metal bars, rails	Schwarz Müller
Bag conveyor belts	Semperit
Shock absorbers for current collectors	Siemens
Membranes	Solvay
Rubber rollers	Starlinger
Lathe-cut rings	Steyr AG
Sealing profiles	Vogel & Noot
Viton®- cord rings up to Ø 1.400 mm	Voith AG
Rubber-to-metal parts/Fill level buffers	Wagner Biró
Rubber grippers	Wienerberger
Viton®- cords	Zellstoff Pöls



PLUGS FOR TEST-TUBES

NR 40, gray

P/N	ø bottom	x	ø top	x	height
96-10-0001	3,5	x	6,5	x	15
96-10-0002	4	x	8	x	20
96-10-0003	5	x	9	x	20
96-10-0004	6	x	10	x	20
96-10-0005	9	x	13	x	20
96-10-0006	11	x	15	x	20
96-10-0007	12	x	17	x	25
96-10-0008	12,5	x	16,5	x	20
96-10-0009	14	x	18	x	20
96-10-0010	16	x	21	x	25
96-10-0012	17	x	23	x	30
96-10-0013	19	x	24	x	25
96-10-0014	22	x	27	x	25
96-10-0015	25	x	31	x	30
96-10-0016	28	x	34	x	30
96-10-0017	31	x	38	x	35
96-10-0019	34	x	41	x	35
96-10-0020	35	x	44	x	40
96-10-0021	38	x	45	x	35
96-10-0102	40	x	50	x	50
96-10-0022	42	x	49	x	35
96-10-0024	46	x	54	x	40
96-10-0025	50	x	60	x	45
96-10-0026	50	x	60	x	50
96-10-0027	55	x	65	x	50
96-10-0028	63	x	73	x	50
96-10-0029	65	x	76	x	55
96-10-0030	70	x	90	x	50
96-10-0032	78	x	92	x	50
96-10-0034	85	x	95	x	50
96-10-0035	87	x	100	x	95
96-10-0036	90	x	150	x	50
96-10-0037	94	x	107	x	65
96-10-0038	95	x	105	x	50
96-10-0039	105	x	125	x	50

All plugs also available with bores !

**Other sizes and special materials are available
Please contact us !**



MACHINE BASE PADS

When installing machines or instruments – no matter which type – shock absorbing and vibration damping mounting solutions are an important consideration.

MAFUND is an excellent solution for effective impact sound insulation. Due to its low natural frequency, MAFUND also provides excellent shock absorption. MAFUND is also used for passive vibration isolation to protect sensitive machinery and equipment from external vibrations.

MACHINE BASE PADS, SOLID

P/N	size	per pc.	
94-11-0373	500 x 250 x 17	54,60	up to 650 N/cm ²

Please also make use of our manufacturing capabilities for the fabrication of solid pads in any material required!
(Please also see section 2.4 „Sheets, Strips and Cut-to-Size Material“)

7 rules for use:

When using MAFUND pads (whole pads or cut-to-size) beneath bases or adjustment plates the distance between the support points should not be more than 100 - 120 cm.

The size of custom cut MAFUND pads should not be smaller than 5 x 10 cm, whereby the lower value always indicates the length of the sheet pockets.

The coordinates of the support points should always be located symmetrically to the centre of gravity (projected onto the surface area), whereby the relevant support point is the one which shows lowest deflection. Otherwise you will receive differences in deflection which will result in lower insulating properties.

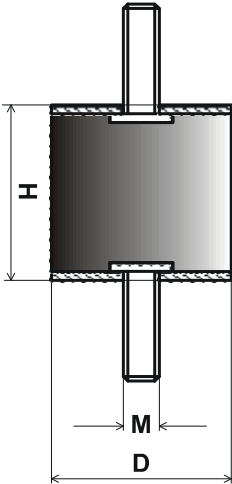
Rigid connections to either ground or environment are to be avoided at all costs. Connectors such as the pipes of compressors have to be interrupted by using appropriate intermediate elastic pieces (e.g. rubber bellow expansion joints or pieces of tubes). Also if machines are on a slope or if there are strong horizontal forces (each of which may cause the machines to move), no fastening or rigid connection between the machine or machine base and the ground is allowed.

Machine components which affect each other by tractive or other forces (eg by v-belts) must be used with a single base or adjustment plate.

Machines which are not warp resistant, but which are subject to high demands regarding quality and accuracy of manufactured products should be equipped with an appropriate base plate.

The same applies to machinery with strong dynamic forces, such as reciprocating engines, centrifuges or other similar machines. These machines almost always need bases which function as a steadying mass.

ANTI-VIBRATION-MOUNT Style „A“, double stud

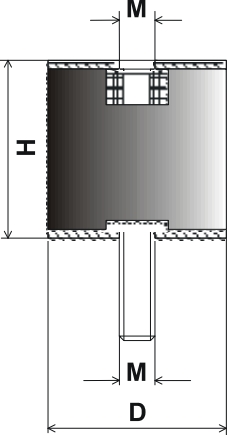
	P/N	D	H	hread x bolt length)
	96-15-0031	15	8	M 4 X 10
	96-15-0032	15	10	M 4 X 10
	96-15-0033	15	15	M 4 X 10
	96-15-0172	15	30	M 4 x 10
	96-15-0034	20	15	M 6 X 18
	96-15-0035	20	20	M 6 X 18
	96-15-0036	20	25	M 6 X 18
	96-15-0037	25	10	M 6 X 18
	96-15-0038	25	15	M 6 X 18
	96-15-0039	25	20	M 6 X 18
	96-15-0040	25	25	M 6 X 18
	96-15-0041	25	30	M 6 X 18
	96-15-0042	30	15	M 8 X 20
	96-15-0043	30	20	M 8 X 20
	96-15-0044	30	25	M 8 X 20
	96-15-0045	30	30	M 8 X 20
	96-15-0046	40	30	M 10 X 23
	96-15-0048	40	40	M 10 X 23
	96-15-0049	50	20	M 10 X 28
	96-15-0050	50	30	M 10 X 28
	96-15-0051	50	40	M 10 X 28
	96-15-0052	50	45	M 10 X 28
	96-15-0053	50	50	M 10 X 28
	96-15-0054	70	45	M 10 X 28
	96-15-0055	75	40	M 12 X 37
	96-15-0056	75	50	M 12 X 37
	96-15-0057	75	55	M 12 X 37
	96-15-0058	100	40	M 16 X 41
	96-15-0059	100	55	M 16 X 41
	96-15-0060	100	60	M 16 X 41
	96-15-0061	100	75	M 16 X 41
	96-15-0062	150	50	M 16 X 41
	96-15-0063	150	55	M 16 X 41
	96-15-0064	150	75	M 16 X 41

metal parts: zinc plated steel
rubber material: NR, 55 Shore

Prices for larger quantities upon request!

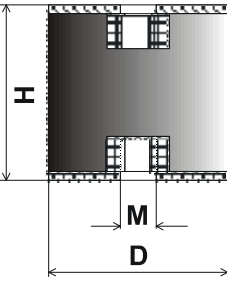


ANTI-VIBRATION MOUNT Style „B“, stud/insert

	P/N	D	H	hread x bolt length)
	96-15-0065	15	15	M 4 X 10
	96-15-0066	20	15	M 6 X 18
	96-15-0067	20	20	M 6 X 18
	96-15-0068	20	25	M 6 X 18
	96-15-0069	25	15	M 6 X 18
	96-15-0070	25	20	M 6 X 18
	96-15-0071	25	25	M 6 X 18
	96-15-0072	25	30	M 6 X 18
	96-15-0073	30	20	M 8 X 20
	96-15-0074	30	25	M 8 X 20
	96-15-0075	30	30	M 8 X 20
	96-15-0076	40	30	M 8 X 23
	96-15-0077	40	40	M 8 X 23
	96-15-0078	50	20	M 10 X 28
	96-15-0079	50	30	M 10 X 28
	96-15-0080	50	40	M 10 X 28
	96-15-0081	50	45	M 10 X 28
	96-15-0082	50	50	M 10 X 28
	96-15-0188	60	40	M 10 x 28
	96-15-0083	70	45	M 10 X 28
	96-15-0084	75	40	M 12 X 37
	96-15-0085	75	50	M 12 X 37
	96-15-0086	75	55	M 12 X 37
	96-15-0087	100	40	M 16 X 41
	96-15-0088	100	55	M 16 X 41
	96-15-0089	100	60	M 16 X 41
	96-15-0183	100	75	M 16 X 41

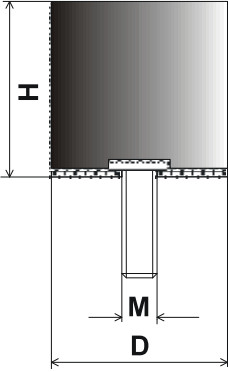
metal parts: zinc plated steel
 rubber material: NR, 55 Shore

ANTI-VIBRATION MOUNT Style „C“, double insert

	P/N	D	H	hread x bolt length)
	96-15-0090	15	15	M 4 X 5
	96-15-0173	20	15	M 6 x 6
	96-15-0091	20	20	M 6 X 6
	96-15-0092	20	25	M 6 X 6
	96-15-0093	25	20	M 6 X 6
	96-15-0094	25	25	M 6 X 6
	96-15-0095	25	30	M 6 X 6
	96-15-0174	30	20	M 8 x 8
	96-15-0096	30	25	M 8 X 8
	96-15-0097	30	30	M 8 X 8
	96-15-0098	40	30	M 8 X 8
	96-15-0099	40	40	M 8 X 8
	96-15-0100	50	30	M 10 X 10
	96-15-0102	50	40	M 10 X 10
	96-15-0103	50	45	M 10 X 10
	96-15-0104	50	50	M 10 X 10
	96-15-0105	70	45	M 10 X 10
	96-15-0106	75	40	M 12 X 12
	96-15-0107	75	50	M 12 X 12
	96-15-0108	75	55	M 12 X 12
	96-15-0109	100	40	M 16 X 18
	96-15-0110	100	55	M 16 X 18
	96-15-0111	100	60	M 16 X 18
	96-15-0112	100	75	M 16 X 18
	96-15-0113	150	50	M 16 X 18
	96-15-0114	150	55	M 16 X 18
	96-15-0115	150	75	M 16 X 18

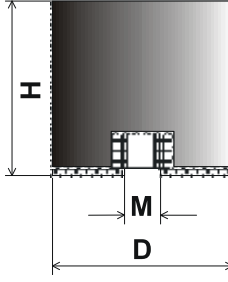
metal parts: zinc plated steel
 rubber material: NR, 55 Shore

ANTI-VIBRATION MOUNT Style „D“, bump stop, single stud

	P/N	D	H	hread x bolt length)
	96-15-0116	15	8	M 4 X 10
	96-15-0117	15	10	M 4 X 10
	96-15-0118	15	15	M 4 X 10
	96-15-0119	20	15	M 6 X 18
	96-15-0120	20	20	M 6 X 18
	96-15-0121	20	25	M 6 X 18
	96-15-0179	25	10	M 6 x 18
	96-15-0122	25	15	M 6 X 18
	96-15-0123	25	20	M 6 X 18
	96-15-0124	25	25	M 6 X 18
	96-15-0125	25	30	M 6 X 18
	96-15-0126	30	15	M 8 X 20
	96-15-0127	30	20	M 8 X 20
	96-15-0128	30	25	M 8 X 20
	96-15-0129	30	30	M 8 X 20
	96-15-0130	40	20	M 8 X 23
	96-15-0131	40	30	M 8 X 23
	96-15-0132	40	40	M 8 X 23
	96-15-0133	50	20	M 10 X 28
	96-15-0134	50	30	M 10 X 28
	96-15-0135	50	40	M 10 X 28
	96-15-0136	50	45	M 10 X 28
	96-15-0137	70	45	M 10 X 28
	96-15-0138	75	25	M 12 X 37
	96-15-0139	75	40	M 12 X 37
	96-15-0140	75	50	M 12 X 37
	96-15-0141	75	55	M 12 X 37

metal parts: zinc plated steel
rubber material: NR, 55 Shore

ANTI-VIBRATION MOUNT Style „E“, bump stop, single insert

	P/N	D	H	hread x bolt length)
	96-15-0142	15	15	M 4 X 5
	96-15-0143	20	15	M 6 X 6
	96-15-0144	20	20	M 6 X 6
	96-15-0145	20	25	M 6 X 6
	96-15-0146	25	15	M 6 X 6
	96-15-0147	25	20	M 6 X 6
	96-15-0148	25	25	M 6 X 6
	96-15-0149	25	30	M 6 X 6
	96-15-0150	30	15	M 8 X 8
	96-15-0151	30	20	M 8 X 8
	96-15-0152	30	25	M 8 X 8
	96-15-0153	30	30	M 8 X 8
	96-15-0154	40	30	M 8 X 8
	96-15-0155	40	40	M 8 X 8
	96-15-0156	50	20	M 10 X 10
	96-15-0157	50	30	M 10 X 10
	96-15-0158	50	40	M 10 X 10
	96-15-0159	70	45	M 10 X 10
	96-15-0160	75	25	M 12 X 12
	96-15-0161	75	40	M 12 X 12
	96-15-0162	75	55	M 12 X 12
	96-15-0163	100	40	M 16 X 16
	96-15-0164	100	55	M 16 X 16
	96-15-0165	100	60	M 16 X 18
	96-15-0169	100	75	M 16 X 18
	96-15-0166	150	45	M 16 X 18
	96-15-0167	150	55	M 16 X 18
	96-15-0168	150	60	M 16 X 18

metal parts: zinc plated steel
rubber material: NR, 55 Shore



ZRUNEK GUMMIWAREN GESELLSCHAFT M.B.H.

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office@zrunek.at, www.zrunek.at

Rubber Hoses without 2.2.3 Reinforcement

RUBBER HOSE SLEEVES

Toilet connector

P/N	size	1-9 pc.	10-24 pc.	>= 25 pc.
96-23-0025	90 x 100 x 600 mm	96,50	84,30	74,30
96-23-0026	100 x 110 x 600 mm	127,50	113,10	98,90

prices per piece
material: NR 40 Shore
color: gray

FPM - HOSES

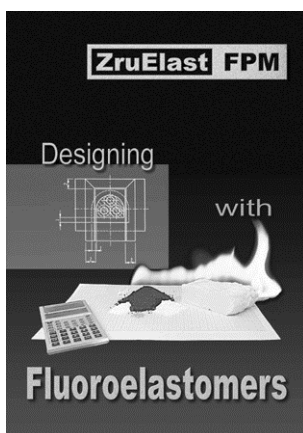
prices per m

P/N	i.d.	x	wall thickness	coil length	>= 25 m	>= 50 m	>= 100 m	>= 200 m	>= 500 m
95-14-0002	2	x	1	50 m	18,54	10,90	7,08	5,16	4,02
95-14-0003	3	x	1	50 m	16,48	10,12	6,92	5,34	4,38
95-14-0004	3	x	1,5	50 m	15,98	10,90	8,34	7,08	6,30
95-14-0005	4	x	1	50 m	14,50	9,40	6,86	5,58	4,82
95-14-0006	4	x	1,5	50 m	16,84	11,76	9,20	7,92	7,16
95-14-0007	4	x	2	50 m	19,52	14,42	11,86	10,60	9,90
95-14-0008	5	x	1	50 m	15,34	10,24	7,70	6,42	5,66
95-14-0009	5	x	1,5	50 m	18,00	12,90	10,36	9,08	8,32
95-14-0010	5	x	2	50 m	21,04	15,96	13,40	12,14	11,36
95-14-0011	6	x	1	50 m	16,16	11,06	8,52	7,24	6,48
95-14-0012	6	x	1,5	50 m	19,20	14,10	11,56	10,28	9,52
95-14-0013	6	x	2	50 m	22,52	17,42	14,86	13,60	12,90
95-14-0014	7	x	1,5	50 m	20,34	15,24	12,68	11,42	10,66
95-14-0027	7	x	2	50 m	23,86	18,76	16,22	15,22	14,86
95-14-0025	8	x	1	50 m	17,96	12,86	10,32	9,04	8,28
95-14-0015	8	x	1,5	50 m	21,48	16,38	13,84	12,56	11,80
95-14-0016	8	x	2	50 m	25,52	20,42	17,86	16,60	16,12
95-14-0017	9	x	2	25 m	27,06	21,98	19,42	18,14	17,76
95-14-0018	10	x	1,5	25 m	24,14	19,06	16,50	15,22	14,46
95-14-0019	10	x	2	25 m	28,68	23,58	21,02	19,76	19,36
95-14-0020	12	x	1,5	25 m	26,50	21,40	18,86	17,58	16,82
95-14-0021	12	x	2	25 m	31,70	26,60	24,06	22,86	22,56
95-14-0022	15	x	2	25 m	36,18	31,08	28,54	27,82	27,50
95-14-0023	18	x	2	25 m	40,84	35,74	33,20	32,70	32,38

material: ZruElast® FPM, 77 Shore

Tolerances: ISO 3302-1 / E2

color: black

Purchase only in whole coils!


Our brochure 'Designing with Fluoroelastomers' will give you detailed information about the outstanding performance of fluoroelastomers (FPM), including numerous figures and charts.

Brochure available to download on our website www.zrunek.at !



CORDS ZruElast® NBR 70 black

P/N	Ø	coil length	>= 10 m	>= 50 m	>= 100 m	>= 500 m	prices per m
91-33-0004	2,00	50 m	0,92	0,68	0,64	0,54	
91-33-0005	2,40	50 m	1,07	0,76	0,64	0,54	
91-33-0006	2,50	50 m	1,08	0,76	0,64	0,55	
91-33-0007	2,62	50 m	1,08	0,76	0,64	0,55	
91-33-0008	3,00	50 m	1,23	0,92	0,70	0,55	
91-33-0009	3,53	50 m	1,47	1,20	0,77	0,68	
91-33-0010	4,00	50 m	1,47	1,20	1,00	0,80	
91-33-0011	4,50	50 m	1,58	1,28	1,15	0,95	
91-33-0012	5,00	50 m	1,95	1,63	1,23	1,07	
91-33-0013	5,33	50 m	2,03	1,93	1,34	1,14	
91-33-0014	5,50	50 m	2,03	1,93	1,39	1,20	
91-33-0015	5,70	50 m	2,26	2,04	1,51	1,27	
91-33-0016	6,00	50 m	2,50	2,33	1,58	1,30	
91-33-0017	6,50	50 m	2,70	2,50	1,95	1,52	
91-33-0018	7,00	50 m	3,42	2,85	2,03	1,71	
91-33-0019	7,50	50 m	3,88	3,19	2,37	1,96	
91-33-0020	8,00	50 m	4,21	3,49	2,60	2,20	
91-33-0021	8,50	50 m	4,35	3,53	2,88	2,41	
91-33-0022	9,00	50 m	4,98	4,12	3,19	2,64	
91-33-0023	9,50	50 m	5,86	4,84	4,02	3,05	
91-33-0024	10,00	50 m	6,07	4,98	4,27	3,28	
91-33-0025	11,00	50 m	6,58	5,42	4,96	4,00	
91-33-0026	12,00	50 m	7,11	5,86	5,33	4,49	
91-33-0027	13,00	25 m	8,68	7,11	6,79	5,68	
91-33-0028	14,00	25 m	12,68	10,46	7,92	6,79	
91-33-0029	15,00	25 m	13,77	11,35	9,37	8,38	
91-33-0030	16,00	25 m	15,28	12,60	10,09	9,08	
91-33-0032	18,00	25 m	16,42	13,54	12,74	11,35	
91-33-0034	20,00	25 m	21,76	17,88	15,34	13,88	
91-33-0037	25,00	25 m	33,98	27,94	23,98	21,71	

Tolerances: ISO 3302-1 / E1

CORDS ZruElast® NBR 90 black

P/N	Ø	coil length	>= 25 m	>= 50 m	>= 100 m	>= 500 m	prices per m
91-33-0049	3,00	50 m		3,42	2,93	2,62	
91-33-0050	3,53	50 m		3,49	2,98	2,70	
91-33-0040	4,00	50 m		3,71	3,15	2,84	
91-33-0041	5,00	50 m		4,01	3,39	3,08	
91-33-0048	5,33	50 m		4,09	3,46	3,12	
91-33-0042	6,00	50 m		4,62	3,93	3,52	
91-33-0043	7,00	50 m		5,39	4,57	4,10	
91-33-0044	8,00	50 m		6,18	5,27	4,74	
91-33-0051	9,00	50 m		7,06	5,99	5,40	
91-33-0045	10,00	50 m		8,03	6,81	6,14	
91-33-0046	12,00	50 m	12,12	10,39	8,83	7,93	
91-33-0052	14,00	25 m	20,55	13,55	11,50	10,37	
91-33-0053	16,00	25 m	16,11	17,24	14,66	13,20	
91-33-0054	18,00	25 m	25,85	21,72	18,47	16,63	
91-33-0055	20,00	25 m	31,19	26,26	22,30	20,05	

Tolerances: ISO 3302-1 / E1

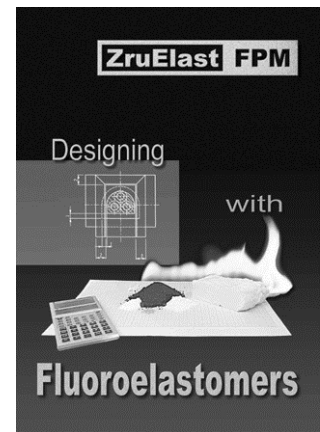
CORDS ZruElast® FPM 75 black

P/N	∅	coil length	>= 1 m	>= 100 m	>= 200 m	>= 500 m prices per m
91-37-0001	1,78	50 m	5,26	3,40	2,48	1,92
91-37-0002	2,00	50 m	5,40	3,54	2,60	2,04
91-37-0003	2,40	50 m	5,68	3,82	2,88	2,32
91-37-0004	2,50	50 m	5,76	3,90	2,96	2,40
91-37-0005	2,62	50 m	5,86	4,00	3,06	2,50
91-37-0006	3,00	50 m	6,20	4,34	3,40	2,84
91-37-0007	3,53	50 m	6,74	4,88	3,96	3,40
91-37-0008	4,00	50 m	6,92	5,06	4,12	3,56
91-37-0009	4,50	50 m	7,60	5,74	4,80	4,34
91-37-0010	5,00	50 m	8,36	6,50	5,62	5,10
91-37-0011	5,33	50 m	8,92	7,04	6,26	5,86
91-37-0035	5,50	50 m	9,20	7,34	6,50	6,08
91-37-0012	5,70	50 m	9,56	7,70	6,86	6,50
91-37-0013	6,00	50 m	10,14	8,28	7,66	7,26
91-37-0014	6,50	50 m	11,24	9,38	8,66	8,28
91-37-0015	7,00	50 m	12,32	10,60	9,94	9,54
91-37-0016	7,50	50 m	13,48	11,96	11,36	10,84
91-37-0017	8,00	50 m	14,78	13,36	12,74	12,34
91-37-0018	8,50	50 m	16,16	14,88	14,12	13,76
91-37-0019	9,00	50 m	17,98	16,42	15,80	15,40
91-37-0020	9,50	50 m	19,50	18,22	17,58	17,08
91-37-0021	10,00	50 m	21,26	20,00	19,22	18,84
91-37-0036	11,00	50 m	25,06	23,80	23,06	22,66
91-37-0022	12,00	50 m	29,30	27,76	27,12	26,74
91-37-0023	13,00	25 m	33,88	32,34	31,72	31,32
91-37-0024	14,00	25 m	38,58	37,30	36,68	36,30
91-37-0025	15,00	25 m	43,80	42,50	41,90	41,50
91-37-0026	16,00	25 m	49,40	48,00	47,36	47,02
91-37-0037	17,00	25 m	55,14	53,86	53,22	52,70
91-37-0027	18,00	25 m	61,76	60,22	59,60	59,18
91-37-0028	20,00	25 m	75,00	73,62	72,94	72,46
91-37-0030	25,00	25 m	117,02	114,86	113,82	113,06

Tolerances: ISO 3302-1 / E1

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Brochure available to download on our website www.zrunek.at !



CORDS ZruElast® SILICONE 60 transparent

P/N	∅	coil length	>= 25 m	>= 100 m	>= 250 m	>= 500 m prices per m
91-36-0002	2,00	50 m	1,49	1,01	0,95	0,58
91-36-0003	3,00	50 m	2,39	1,66	1,56	0,94
91-36-0004	4,00	50 m	3,47	2,39	2,25	1,36
91-36-0005	5,00	50 m	4,51	3,15	2,95	1,77
91-36-0006	6,00	50 m	6,45	4,47	4,21	2,55
91-36-0007	7,00	50 m	8,90	5,47	5,13	3,08
91-36-0008	8,00	50 m	11,33	6,93	6,52	3,93
91-36-0010	10,00	50 m	18,21	11,14	10,49	6,34
91-36-0012	12,00	50 m	29,50	15,74	14,17	13,46
91-36-0014	14,00	25 m	32,20	19,37	17,43	16,56
91-36-0015	15,00	25 m	33,99	22,50	20,25	19,24
91-36-0016	16,00	25 m	36,80	25,60	23,04	21,89
91-36-0018	18,00	25 m	59,81	31,91	28,72	27,28
91-36-0020	20,00	25 m	61,14	35,37	31,83	30,24

Tolerances: ISO 3302-1/E2

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CORDS ZruElast® NR 40 gray

P/N	Ø	coil length	>= 25 m	>= 50 m	>= 100 m	>= 500 m	prices per m
91-31-0001	3,00	50 m	2,25	2,16	1,97	1,77	
91-31-0002	4,00	50 m	2,41	2,30	2,16	1,94	
91-31-0003	5,00	50 m	2,60	2,48	2,31	2,14	
91-31-0004	6,00	50 m	2,78	2,67	2,52	2,26	
91-31-0005	7,00	50 m	3,12	3,06	2,82	2,40	
91-31-0006	8,00	50 m	3,54	3,14	2,95	2,59	
91-31-0008	10,00	50 m	5,82	5,18	4,17	3,36	
91-31-0009	12,00	25 m	7,37	6,55	4,56	3,77	
91-31-0011	14,00	25 m	9,71	8,46	7,53	6,67	
91-31-0013	16,00	25 m	11,65	10,19	9,07	8,13	
91-31-0014	18,00	25 m	13,94	12,23	10,87	9,80	
91-31-0015	20,00	25 m	15,72	13,73	12,23	11,12	

Tolerances: ISO 3302-1 / E2

CORDS ZruElast® EPDM 70 black

P/N	Ø	coil length	>= 25 m	>= 50 m	>= 100 m	>= 500 m	prices per m
91-34-0001	3,00	50 m	3,99	3,08	1,91	1,26	
91-34-0010	3,50	50 m	4,10	3,15	2,02	1,34	
91-34-0002	4,00	50 m	4,26	3,27	2,15	1,45	
91-34-0003	5,00	50 m	4,62	3,52	2,39	1,71	
91-34-0004	6,00	50 m	5,14	3,99	2,84	2,17	
91-34-0005	7,00	50 m	5,79	4,46	3,36	2,64	
91-34-0006	8,00	50 m	6,48	5,01	3,86	3,17	
91-34-0008	10,00	50 m	8,14	6,31	5,14	4,46	
91-34-0009	12,00	50 m	10,13	7,82	6,64	5,98	

Toleranzen: ISO 3302-1 / E2

Please also make use of our manufacturing capabilities for the fabrication of cords exactly to your specifications !

FKM Sponge Rubber medium density, 30 shore

P/N	Ø	Spool Length	per Spool	100 Mtrs	200 Mtrs	500 Mtrs	Preise per m
91-35-0018	3,00	50 m	5,16	3,66	2,90	2,47	
91-35-0001	4,00	50 m	5,91	4,41	3,66	3,23	
91-35-0002	5,00	50 m	6,77	5,27	4,62	4,19	
91-35-0003	6,00	50 m	9,25	7,85	6,56	6,45	
91-35-0004	8,00	50 m	15,59	13,33	11,61	11,40	
91-35-0005	10,00	25 m	23,54	20,21	17,85	17,63	
91-35-0006	12,00	25 m	32,79	28,60	25,26	24,83	
91-35-0007	15,00	25 m	49,67	43,86	38,92	37,95	
91-35-0008	18,00	20 m	69,12	62,14	55,04	54,61	
91-35-0009	20,00	20 m	82,45	75,04	67,30	66,97	
91-35-0010	25,00	10 m	119,54	111,59	101,70	101,27	
91-35-0011	30,00	10 m	165,66	157,27	144,16	143,19	

Prices: per metre, in **EURO**, exclude Value Added Tax, EXW Vienna

Minimum order amount: 1 spool

Tolerances: ISO 3302-1 / E3

Delivery form: cardboard spool

Our brochure '**A fluoroelastomeric Sponge Rubber**' will give you detailed information about the outstanding performance of ZruMoos® FPM.

Brochure available to download on our website www.zrunek.at !





A 1040 NR/SBR 40 sh gray/beige

P/N thickness mm reinforce-ments roll size

elastomer:	NR, Natural Rubber/SBR	94-11-0067	0,5		1,2 x 30 m
durometer:	35 - 45	94-11-0068	1		1,45 x 10 m
color:	gray	94-11-0069	1,5		1,45 x 10 m
temperature resistance:	-40 to 70°C	94-11-0070	2		1,45 x 10 m
tensile strength:	15 MPa	94-11-0071	2,5		1,45 x 10 m
elongation at break:	500 %	94-11-0072	3		1,45 x 10 m
other features:		94-11-0073	4		1,45 x 10 m
		94-11-0074	5		1,45 x 10 m
Also available in thicknesses 12, 15 and 20 mm		94-11-0075	6		1,45 x 5 m
		94-11-0076	8		1,45 x 5 m
		94-11-0077	10		1,45 x 5 m

A 1050/R NR/SBR 50 sh red

P/N thickness mm reinforce-ments roll size

elastomer:	NR/SBR	94-11-0078	1		1,4-1,5 x 10 m
durometer:	50 ± 5	94-11-0079	1,5		1,4-1,5 x 10 m
color:	red	94-11-0080	2		1,4-1,5 x 10 m
temperature resistance:	-30 to 90°C	94-11-0081	3		1,4-1,5 x 10 m
tensile strength:	7 MPa	94-11-0082	4		1,4-1,5 x 10 m
elongation at break:	500%	94-11-0083	5		1,4-1,5 x 10 m
other features:	conform to FDA	94-11-0084	6		1,4-1,5 x 5 m
		94-11-0085	8		1,4-1,5 x 5 m
		94-11-0086	10		1,4-1,5 x 5 m

A 1050/W NR/SBR 45 sh white

P/N thickness mm reinforce-ments roll size

elastomer:	NR/SBR	94-11-0087	1		1,4-1,5 x 10 m
durometer:	45 ± 5	94-11-0088	1,5		1,4-1,5 x 10 m
color:	white	94-11-0089	2		1,4-1,5 x 10 m
temperature resistance:	-30 to 70°C	94-11-0090	3		1,4-1,5 x 10 m
tensile strength:	12 Mpa	94-11-0091	4		1,4-1,5 x 10 m
elongation at break:	550%	94-11-0092	5		1,4-1,5 x 10 m
other features:	conform to FDA	94-11-0093	6		1,4-1,5 x 10 m
		94-11-0094	8		1,4-1,5 x 5 m
		94-11-0095	10		1,4-1,5 x 5 m

A 1050/S NR/SBR 50 sh black

P/N thickness mm reinforce-ments roll size

elastomer:	NR/SBR	94-11-0096	1		1,2 x 10 m
durometer:	50 ± 5	94-11-0098	1,5		1,2 x 10 m
color:	black	94-11-0097	2		1,2 x 10 m
temperature resistance:	-35 to 70°C	94-11-0099	3		1,2 x 10 m
tensile strength:	4 MPa	94-11-0100	4		1,2 x 10 m
elongation at break:	300 %	94-11-0101	5		1,2 x 10 m
other features:		94-11-0102	6		1,2 x 5 m
		94-11-0103	8		1,2 x 5 m
		94-11-0104	10		1,2 x 5 m

A 1060/S NR/SBR 60 sh black

P/N thickness mm reinforce-ments roll size

elastomer:	NR/SBR	94-11-0050	1		1,2-1,4 x 20 m
durometer:	60 ± 5	94-11-0051	1,5		1,2-1,4 x 20 m
color:	black	94-11-0052	2		1,2-1,4 x 20 m
temperature resistance:	-30 to 70°C	94-11-0053	3		1,2-1,4 x 10 m
tensile strength:	15 MPa	94-11-0054	4		1,2-1,4 x 10 m
elongation at break:	400 %	94-11-0055	5		1,2-1,4 x 10 m
other features:	plain on both sides	94-11-0056	6		1,2-1,4 x 10 m
	wear resistant membrane and sandblast quality	94-11-0057	8		1,2-1,4 x 5 m
		94-11-0058	10		1,2-1,4 x 5 m

Section 3.0 „Elastomer Properties“ helps you select the most suitable rubber for your application
Minimum amount per item: 100 EUR!

A 1065/W NR/SBR 65 sh white

		P/N	thickness mm	inforce-ments	roll size
elastomer:	NR/SBR	94-11-0032	1		1,3-1,4 x 20 m
durometer:	65 ± 5	94-11-0033	1,5		1,3-1,4 x 20 m
color:	white	94-11-0034	1,5	1	1,3-1,4 x 20 m
temperature resistance:	-30 to 70°C	94-11-0035	2		1,3-1,4 x 20 m
tensile strength:	8 MPa	94-11-0036	2	1	1,3-1,4 x 20 m
elongation at break:	380%	94-11-0037	3		1,3-1,4 x 10 m
other features:	food grade	94-11-0038	3	1	1,3-1,4 x 10 m
		94-11-0039	3	2	1,3-1,4 x 10 m
		94-11-0040	4		1,3-1,4 x 10 m
		94-11-0041	4	1	1,3-1,4 x 10 m
		94-11-0042	4	2	1,3-1,4 x 10 m
		94-11-0043	5		1,3-1,4 x 10 m
		94-11-0044	5	1	1,3-1,4 x 10 m
		94-11-0045	5	2	1,3-1,4 x 10 m
		94-11-0046	6		1,3-1,4 x 10 m
		94-11-0047	6	2	1,3-1,4 x 10 m
		94-11-0048	8		1,3-1,4 x 5 m
		94-11-0049	10		1,3-1,4 x 5 m

A 1070/S NR/SBR 70 sh black

		P/N	thickness mm	inforce-ments	roll size
elastomer:	NR/SBR	94-11-0004	1		1,2-1,4 x 10 m
durometer:	70 ± 10	94-11-0005	1,5		1,2-1,4 x 10 m
color:	black	94-11-0006	1,5	1	1,2-1,4 x 10 m
temperature resistance:	-20 to 70°C	94-11-0007	2		1,2-1,4 x 10 m
tensile strength:	4 MPa	94-11-0008	2	1	1,2-1,4 x 10 m
elongation at break:	150%	94-11-0009	3		1,2-1,4 x 10 m
other features:	blended material	94-11-0010	3	1	1,2-1,4 x 10 m
	plain on both sides	94-11-0011	3	2	1,2-1,4 x 10 m
		94-11-0012	4		1,2-1,4 x 10 m
		94-11-0013	4	1	1,2-1,4 x 10 m
		94-11-0014	4	2	1,2-1,4 x 10 m
		94-11-0015	5		1,2-1,4 x 5/10 m
		94-11-0016	5	1	1,2-1,4 x 5/10 m
		94-11-0017	5	2	1,2-1,4 x 5/10 m
		94-11-0018	6		1,2-1,4 x 5 m
		94-11-0019	6	1	1,2-1,4 x 5 m
		94-11-0020	6	2	1,2-1,4 x 5 m
		94-11-0021	8		1,2-1,4 x 5 m
		94-11-0022	8	2	1,2-1,4 x 5 m
		94-11-0023	10		1,2-1,4 x 5 m
		94-11-0024	10	2	1,2-1,4 x 5 m
		94-11-0025	12		1,5 x 1 m
		94-11-0026	15		1,5 x 1 m
		94-11-0027	20		1,5 x 1 m
		94-11-0028	25		1,5 x 1 m
		94-11-0029	30		1,5 x 1 m
		94-11-0030	40		1,5 x 1 m
		94-11-0031	50		1,5 x 1 m

A 1090/S SBR 85 sh black

		P/N	thickness mm	inforce-ments	roll size
elastomer:	SBR	94-11-0059	1		1,2 x 10 m
durometer:	85 ± 5	94-11-0060	1,5		1,2 x 10 m
color:	black	94-11-0061	2		1,2 x 10 m
temperature resistance:	-30 to 70°C	94-11-0062	3		1,2 x 10 m
tensile strength:	5 MPa	94-11-0063	4		1,2 x 10 m
elongation at break:	100 %	94-11-0064	5		1,2 x 5 m
other features:		94-11-0065	6		1,2 x 5 m

Section 3.0 „Elastomer Properties“ helps you select the most suitable rubber for your application
 Minimum amount per item: 100 EUR!



P 1050/S NBR/SBR 50 sh black

		P/N	thickness mm	reinforce-ments	roll size
elastomer:	NBR/SBR	94-11-0132	1		1,4 x 20 m
durometer:	50 ± 7	94-11-0133	1,5		1,4 x 20 m
color:	black	94-11-0134	2		1,4 x 20 m
temperature resistance:	-20 to 80°C	94-11-0135	2,5		1,4 x 10 m
tensile strength:	5 MPa	94-11-0136	3		1,4 x 10 m
elongation at break:	300%	94-11-0137	4		1,4 x 10 m
other features:	oil resistance	94-11-0138	5		1,4 x 10 m
		94-11-0139	6		1,4 x 5 m
		94-11-0140	8		1,4 x 5 m
		94-11-0141	10		1,4 x 5 m

P 1065/S NBR/SBR 65 sh black

		P/N	thickness mm	reinforce-ments	roll size
elastomer:	NBR/SBR	94-11-0106	1		1,2-1,4 x 20 m
durometer:	65 ± 7	94-11-0107	1,5		1,2-1,4 x 20 m
color:	black	94-11-0108	1,5	1	1,2-1,4 x 20 m
temperature resistance:	-20 to 70°C	94-11-0109	2		1,2-1,4 x 20 m
tensile strength:	5 MPa	94-11-0110	2	1	1,2-1,4 x 20 m
elongation at break:	200 %	94-11-0111	2,5		1,2-1,4 x 10 m
other features:	good resistance to oil	94-11-0112	3		1,2-1,4 x 10 m
	limited resistance to gasoline	94-11-0113	3	1	1,2-1,4 x 10 m
		94-11-0114	3	2	1,2-1,4 x 10 m
		94-11-0115	4		1,2-1,4 x 10 m
		94-11-0116	4	1	1,2-1,4 x 10 m
		94-11-0117	4	2	1,2-1,4 x 10 m
		94-11-0118	5		1,2-1,4 x 10 m
		94-11-0119	5	1	1,2-1,4 x 10 m
		94-11-0120	5	2	1,2-1,4 x 10 m
		94-11-0121	6		1,2-1,4 x 10 m
		94-11-0122	6	1	1,2-1,4 x 10 m
		94-11-0123	6	2	1,2-1,4 x 10 m
		94-11-0124	8		1,2-1,4 x 5 m
		94-11-0125	10		1,2-1,4 x 5 m
		94-11-0126	12		ca.1,67 x 1,4 m
		94-11-0127	15		ca.1,67 x 1,4 m
		94-11-0128	20		ca.1,67 x 1,4 m
		94-11-0129	25		ca.1,5 x 1,0 m

P 1080/S NBR/SBR 80 sh black

		P/N	thickness mm	reinforce-ments	roll size
elastomer:	NBR/SBR	94-11-0161	1		1,4 x 20 m
durometer:	80 ± 5	94-11-0162	1,5		1,4 x 20 m
color:	black	94-11-0163	2		1,4 x 20 m
temperature resistance:	-15 to 80°C	94-11-0165	2,5		1,4 x 10 m
tensile strength:	4 Mpa	94-11-0164	3		1,4 x 10 m
elongation at break:	240%	94-11-0166	4		1,4 x 10 m
other features:	resistant to oil, gasoline, bases and acids	94-11-0167	5		1,4 x 10 m
		94-11-0168	6		1,4 x 5 m
		94-11-0169	8		1,4 x 5 m
		94-11-0170	10		1,4 x 5 m

PG 1070/S NBR 80 sh black

		P/N	thickness mm	reinforce-ments	roll size
elastomer:	NBR	94-11-0171	1		1,4 x 20 m
durometer:	80 ± 5	94-11-0172	1,5		1,4 x 20 m
color:	black	94-11-0173	2		1,4 x 20 m
temperature resistance:	-15 to 80°C	94-11-0174	3		1,4 x 10 m
tensile strength:	13 MPa	94-11-0175	4		1,4 x 10 m
elongation at break:	180%	94-11-0176	5		1,4 x 10 m
other features:	resistant to oil, gasoline, bases, acids	94-11-0177	6		1,4 x 5 m
	DVGW certificates acc. to DIN 3535 1,2, DIN EN 549				

Section 3.0 „Elastomer Properties“ helps you select the most suitable rubber for your ap
Minimum amount per item: 100 EUR!

PH 1070/S NBR 70 sh black

		P/N	thickness mm	inforce-ments	roll size
elastomer:	NBR	94-11-0427	1		1,4 x 10 m
durometer:	70 ± 5	94-11-0430	1,5		1,4 x 10 m
color:	black	94-11-0428	2		1,4 x 10 m
temperature resistance:	-20 to 100°C	94-11-0431	3		1,4 x 10 m
tensile strength:	7 MPa	94-11-0432	4		1,4 x 10 m
elongation at break:	400%	94-11-0433	5		1,4 x 10 m
other f features:	verygood resistance to hot oils resitant to transformer oil limited resistance to bases and acids	94-11-0434	6		1,4 x 10 m
		94-11-0435	8		1,2 x 3,6 m
		94-11-0436	10		1,2 x 3,6 m

PS 1065/S NBR 65 sh black

		P/N	thickness mm	inforce-ments	roll size
elastomer:	NBR	94-11-0142	1		1,4 x 10 m
durometer:	60 ± 5	94-11-0143	1,5		1,4 x 10 m
color:	black	94-11-0144	2		1,4 x 10 m
temperature resistance:	-20 to 80°C	94-11-0145	3		1,4 x 10 m
tensile strength:	11 MPa	94-11-0146	4		1,4 x 10 m
elongation at break:	400%	94-11-0147	5		1,4 x 10 m
other f features:	verygood resistance to oil/gasoline resistant to fuel oil + super gasoline limites resistant to bases and acids	94-11-0148	6		1,4 x 10 m
		94-11-0149	8		1,4 x 5 m
		94-11-0150	10		1,4 x 5 m

N 1050/S CR/SBR 50 sh black

		P/N	thickness mm	inforce-ments	roll size
elastomer:	CR/SBR	94-11-0256	1		ca. 1,5 m x 20 m
durometer:	50 ± 5	94-11-0257	1,5		ca. 1,5 m x 20 m
color:	black	94-11-0258	2		ca. 1,5 m x 20 m
temperature resistance:	-20 to 70°C	94-11-0259	2,5		ca. 1,5 m x 10 m
tensile strength:	6 MPa	94-11-0260	3		ca. 1,5 m x 10 m
elongation at break:	400%	94-11-0261	4		ca. 1,5 m x 10 m
other f features:	fair resistance to bases good resistance to acids limited resistance to oil and weathering	94-11-0262	5		ca. 1,5 m x 10 m
		94-11-0263	6		ca. 1,5 m x 10 m
		94-11-0264	8		ca. 1,5 m x 5 m
		94-11-0265	10		ca. 1,5 m x 5 m

N 1060/S CR/SBR 65 sh black

		P/N	thickness mm	inforce-ments	roll size
elastomer:	CR/SBR	94-11-0231	1		1,4 x 20 m
durometer:	65 ± 5	94-11-0232	1,5		1,4 x 20 m
color:	black	94-11-0233	1,5	1	1,4 x 20 m
temperature resistance:	-30 to 70°C	94-11-0234	2		1,4 x 20 m
tensile strength:	6 MPa	94-11-0235	2	1	1,4 x 20 m
elongation at break:	200%	94-11-0236	2,5		1,4 x 10 m
other f features:	fair resistance to bases and acids limited resistance to oil good resistance to weathering gasoline: not recommended	94-11-0237	3		1,4 x 10 m
		94-11-0238	3	1	1,4 x 10 m
		94-11-0239	4		1,4 x 10 m
		94-11-0240	4	1	1,4 x 10 m
		94-11-0241	5		1,4 x 10 m
		94-11-0242	5	1	1,4 x 10 m
		94-11-0243	6		1,4 x 5 m
		94-11-0244	6	1	1,4 x 5 m
Also available in thicknesses 20, 30, 40, 50 mm		94-11-0378	6	2	1,4 x 5 m
		94-11-0245	8		1,4 x 5 m
		94-11-0246	10		1,4 x 5 m

N 1080/S CR/SBR 80 sh black

		P/N	thickness mm	inforce-ments	roll size
elastomer:	CR/SBR	94-11-0247	1		ca. 1,5 m x 30 m
durometer:	80 ± 5	94-11-0248	1,5		ca. 1,5 m x 30 m
color:	black	94-11-0249	2		ca. 1,5 m x 30 m
temperature resistance:	-20 to 70°C	94-11-0250	3		ca. 1,5 m x 10 m
tensile strength:	5 MPa	94-11-0251	4		ca. 1,5 m x 10 m
elongation at break:	200 %	94-11-0252	5		ca. 1,5 m x 10 m
other f features:	limited resistance to bases and acids limited resistance to oil good weathering resistance	94-11-0253	6		ca. 1,5 m x 5 m
		94-11-0254	8		ca. 1,5 m x 5 m
		94-11-0255	10		ca. 1,5 m x 5 m

Section 3.0 „Elastomer Properties“ helps you select the most suitable rubber for your ap
Minimum amount per item: 100 EUR!



E 1050/S EPDM 50 sh black

P/N thickness mm reinforcement roll size

elastomer:	EPDM	94-11-0213	1		1,4 x 20 m
durometer:	50 ± 5	94-11-0214	1,5		1,4 x 20 m
color:	black	94-11-0215	2		1,4 x 20 m
temperature resistance:	-40 to 100°C	94-11-0216	3		1,4 x 10 m
tensile strength:	8 MPa	94-11-0217	4		1,4 x 10 m
elongation at break:	500 %	94-11-0218	5		1,4 x 10 m
other features:	resistance to weathering and ozone	94-11-0219	6		1,4 x 10 m
	VW -Standard 2.8.1 G50/DBL 5556.10	94-11-0220	8		1,4 x 5 m
	good resistance to bases and acids	94-11-0221	10		1,4 x 5 m

EH 1055/S EPDM 50 sh black

P/N thickness mm reinforcement roll size

elastomer:	EPDM	94-11-0197	1		1,4 x 20 m
durometer:	50 ± 5	94-11-0198	1,5		1,4 x 20 m
color:	black	94-11-0199	2		1,4 x 20 m
temperature resistance:	-40 to 120°C, short excursions up to 150°C	94-11-0200	3		1,4 x 10 m
tensile strength:	10 MPa	94-11-0201	4		1,4 x 10 m
elongation at break:	350%	94-11-0202	5		1,4 x 10 m
other features:	resistance to weathering and ozone	94-11-0203	6		1,4 x 10 m
	excellent heat resistance, sulfur free	94-11-0204	8		1,4 x 5 m
	very good resistance to bases + acids	94-11-0205	10		1,4 x 5 m

E 1060/S EPDM 60 sh black

P/N thickness mm reinforcement roll size

elastomer:	EPDM	94-11-0178	1		1,2-1,4 x 10 m
durometer:	60 ± 5	94-11-0179	1,5		1,2-1,4 x 10 m
color:	black	94-11-0180	1,5	1	1,2-1,4 x 10 m
temperature resistance:	-30 to 100°C	94-11-0181	2		1,2-1,4 x 10 m
tensile strength:	5 Mpa	94-11-0182	2	1	1,2-1,4 x 10 m
elongation at break:	300 %	94-11-0183	3		1,2-1,4 x 10 m
other features:	good resistance to weathering and ozone	94-11-0184	3	1	1,2-1,4 x 10 m
	limited resistance to bases and acids	94-11-0185	3	2	1,2-1,4 x 10 m
		94-11-0186	4		1,2-1,4 x 10 m
		94-11-0187	4	1	1,2-1,4 x 10 m
		94-11-0188	4	2	1,2-1,4 x 10 m
		94-11-0189	5		1,2-1,4 x 5/10 m
		94-11-0190	5	1	1,2-1,4 x 10 m
		94-11-0191	5	2	1,2-1,4 x 10 m
Also available in thicknesses 12, 15 and 20 mm		94-11-0192	6		1,2-1,4 x 5 m
		94-11-0193	6	1	1,2-1,4 x 5 m
		94-11-0194	6	2	1,2-1,4 x 5 m
		94-11-0195	8		1,2-1,4 x 5 m
		94-11-0196	10		1,2-1,4 x 5 m

EBL 1060/S EPDM 60 sh black

P/N thickness mm reinforcement roll size

elastomer:	EPDM	94-11-0206	2		1,3 x 10 m
durometer:	60 ± 5	94-11-0207	3		1,3 x 10 m
color:	black	94-11-0208	4		1,3 x 10 m
temperature resistance:	-35 to 100°C	94-11-0209	5		1,3 x 10 m
tensile strength:	18 MPa	94-11-0210	6		1,3 x 10 m
elongation at break:	400 %	94-11-0211	8		1,2 x 3,6 m
other features:	antivibration structural bearings	94-11-0212	10		1,2 x 3,6 m
	resistance to weathering and ozone				

Section 3.0 „Elastomer Properties“ helps you select the most suitable rubber for your ap
Minimum amount per item: 100 EUR!

E 1063/S EPDM 65 sh black

		P/N	thickness mm	inforce-ments	roll size
elastomer:	EPDM	94-11-0393	1		1,2-1,4 x 10 m
durometer:	65 ± 5	94-11-0395	1,5		1,2-1,4 x 10 m
color:	black	94-11-0394	2		1,2-1,4 x 10 m
temperature resistance:	-55 to 130°C	94-11-0396	3		1,2-1,4 x 10 m
tensile strength:	12 MPa	94-11-0397	4		1,2-1,4 x 10 m
elongation at break:	230%	94-11-0398	5		1,2-1,4 x 10 m
other features:	antistatic, conform to FDA	94-11-0399	6		1,2-1,4 x 10 m
	very good resistance to bases + acids				
	very good resistance to weathering and ozone,				
	sulfur-free, peroxid cured				

E 1080/S EPDM 80 sh black

		P/N	thickness mm	inforce-ments	roll size
elastomer:	EPDM	94-11-0222	1		1,4 x 20 m
durometer:	80 ± 5	94-11-0223	1,5		1,4 x 20 m
color:	black	94-11-0224	2		1,4 x 20 m
temperature resistance:	-40 to 100°C	94-11-0225	2,5		1,4 x 10 m
tensile strength:	5 MPa	94-11-0226	3		1,4 x 10 m
elongation at break:	200%	94-11-0227	4		1,4 x 10 m
other features:	good resistance to weathering/ozone	94-11-0228	5		1,4 x 10 m
	limited resistance to bases + acids	94-11-0229	6		1,4 x 10 m
		94-11-0230	8		1,4 x 5 m

B 1065/S BUTYL 60 sh black

		P/N	thickness mm	inforce-ments	roll size
elastomer:	CIIR/EPDM	94-11-0266	1		1,4 x 20 m
durometer:	60 ± 5	94-11-0267	1,5		1,4 x 20 m
color:	black	94-11-0268	2		1,4 x 20 m
temperature resistance:	-40 to 100°C	94-11-0269	3		1,4 x 10 m
tensile strength:	13 MPa	94-11-0270	4		1,4 x 10 m
elongation at break:	600%	94-11-0271	5		1,4 x 10 m
other features:	good resistance to weathering/ozone	94-11-0272	6		1,4 x 10 m
	good resistance to bases and acids	94-11-0273	8		1,4 x 5 m
	high damping character	94-11-0274	10		1,4 x 5 m

Section 3.0 „Elastomer Properties“ helps you select the most suitable rubber for your ap

Minimum amount per item: 100 EUR!



SILICONE 40 TR 40 sh transparent

		P/N	thickness mm	reinforce-ments	roll size
elastomer:	MVQ	94-11-0284	1		1 - 1,2 x 10 m
durometer:	40 ± 5	94-11-0285	1,5		1 - 1,2 x 10 m
color:	transparent	94-11-0286	2		1 - 1,2 x 10 m
temperature resistance:	-40 to 200°C, short excursions up to 300°C	94-11-0287	3		1 - 1,2 x 10 m
tensile strength:	4 MPa	94-11-0288	4		1 - 1,2 x 10 m
elongation at break:	300%	94-11-0289	5		1 - 1,2 x 10 m
other features:	very good resistance to weathering/ozone	94-11-0290	6		1 - 1,2 x 10 m
	food-grade, excellent heat resistance	94-11-0291	8		1 - 1,2 x 5 m

SILICONE 60 TR 60 sh transparent

		P/N	thickness mm	reinforce-ments	roll size
elastomer:	MVQ	94-11-0292	0,5		1 - 1,2 x 30 m
durometer:	60 ± 5	94-11-0293	1		1 - 1,2 x 10 m
color:	transparent	94-11-0294	1,5		1 - 1,2 x 10 m
temperature resistance:	-60 to 200°C, short excursions up to 300°C	94-11-0295	2		1 - 1,2 x 10 m
tensile strength:	5 MPa	94-11-0296	3		1 - 1,2 x 10 m
elongation at break:	250%	94-11-0297	4		1 - 1,2 x 10 m
other features:	very good resistance to weathering and ozone	94-11-0298	5		1 - 1,2 x 10 m
	food-grade, excellent heat resistance	94-11-0299	6		1 - 1,2 x 10 m
		94-11-0300	8		1 - 1,2 x 5 m
		94-11-0301	10		1 - 1,2 x 5 m

SILICONE 60 red 60 sh

		P/N	thickness mm	reinforce-ments	roll size
elastomer:	MVQ	94-11-0302	0,5		1 - 1,2 x 10 m
durometer:	60 ± 5	94-11-0303	1		1 - 1,2 x 10 m
color:	red	94-11-0304	1,5		1 - 1,2 x 10 m
temperature resistance:	-60 to 200°C, short excursions up to 300°C	94-11-0305	2		1 - 1,2 x 10 m
tensile strength:	5 MPa	94-11-0306	3		1 - 1,2 x 10 m
elongation at break:	250%	94-11-0307	4		1 - 1,2 x 10 m
other features:	very good resistance to weathering and ozone	94-11-0308	5		1 - 1,2 x 10 m
	excellent heat resistance	94-11-0309	6		1 - 1,2 x 10 m
		94-11-0310	8		1 - 1,2 x 5 m
		94-11-0311	10		1 - 1,2 x 5 m

FPM 75 75 sh black

		P/N	thickness mm	reinforce-ments	roll size
elastomer:	FPM	94-11-0312	0,5		1 - 1,2/1,4 x 10 m
durometer:	75 ± 5	94-11-0313	1		1 - 1,2/1,4 x 10 m
color:	black	94-11-0314	1,5		1 - 1,2/1,4 x 10 m
temperature resistance:	-10 to 200°C, short excursions up to 300°C	94-11-0315	2		1 - 1,2/1,4 x 10 m
tensile strength:	8 MPa	94-11-0316	3		1 - 1,2/1,4 x 10 m
elongation at break:	200 %	94-11-0317	4		1 - 1,2/1,4 x 10 m
other features:	very good resistance to weathering, ozone, chemical media, oil and gasoline	94-11-0318	5		1 - 1,2/1,4 x 10 m
	very good heat resistance	94-11-0319	6		1 - 1,2/1,4 x 10 m
		94-11-0320	8		1 - 1,2/1,4 x 3,6/5 m
		94-11-0321	10		1 - 1,2/1,4 x 3,6/5 m

Section 3.0 „Elastomer Properties“ helps you select the most suitable rubber for your ap

Minimum amount per item: 100 EUR!

O-rings:

Recently an incredible variety of applications for precision o-rings have come up. They are particularly important as sealing elements. Space-saving and easy mounting features are combined with the possibility to choose from a variety of materials to specifically meet application needs. This makes o-rings very economical seals. The sealing effect of o-rings is basically achieved through the ability to distort under pressure. However, to obtain proper working and sealing force, the space between the parts that have to be sealed must not be too great. Otherwise, under compression the o-ring would just move into these free spaces and be destroyed.

O-rings are used both in dynamic and static applications. The max. admissible working pressure also depends on the other operating conditions. An o-ring used as a static seal can be submitted to continuous pressure of around 1000 atü (if a correspondingly high hardness is chosen).

In dynamic applications, however, the o-ring should not be submitted to more than 80 atü because dynamic force is a very basic factor. Sealing applications under high pressure allow only low dynamics and velocity. At higher velocities the pressure is to be kept accordingly low. However, o-rings are not universal seals which can solve any sealing problem. There will always be special seals eg. lip seals, which cannot be replaced by o-rings.

Cord Rings:

Cord rings are used when no suitable o-ring dice are available or if the quantities needed are too low to justify the costs for a new one. While o-rings are specially fabricated long-run moulded parts, cord rings are made from lengths of extruded cord materials. These cords are fabricated in-house by our extruding machinery and held in stock. You can choose from a great variety of materials, for Zrunek compounds all processed elastomers in its own mixing-plant. Cords are then joined into to ring form by splicing or vulcanization.

More than 1000 ring dice are available for immediate fabrication of cord rings in any material required for your application.

Your advantage:

Our o-rings are manufactured with high precision and are available in almost any size, specification or material.

Some examples:

Type	durometer	temperature range	application
NBR 70	70 ± 5	-30 to 130	for use as static or dynamic seals in contact with oil, mineral oils, grease, LPG or natural gas
EPDM 70	70 ± 5	-50 to 150	excellent resistance to weathering, hot water, steam up to a temperature of 150°C. Good resistance to ozone.
SILICONE 60	60 ± 5	-60 to 220	Excellent resistance to hot air and heat, very good resistance to weathering and ozone, food safe
FPM 75	75 ± 5	-25 to 240	for use as static or dynamic seals in environments containing aliphatic and aromatic hydrocarbons and ozone; outstanding heat resistance and resistance to chemical media
MFQ 70	70 ± 5	-55 to 240	for use as static or dynamic seals in environments containing aliphatic and aromatic hydrocarbons and ozone; outstanding heat resistance and resistance to chemical media. Best low temperature resistance

KTW, DVGW approvals and approvals for foodstuffs applications are no problem.

We can fabricate custom **cord rings** in cord thicknesses of **3 mm to 40 mm with inner diameters of 50 mm to 3.000 mm**. We specialize in the manufacture of vulcanized cord rings, in particular rings with large dimensions made of high-quality FPM material (Viton®) using our own manufacturing methods.



CORD RINGS ZruElast® FPM 75 black

HOT vulcanized^{*)}

cord thickness quantity	2 - 3 *)			3,53 4			4,5 5			5,33/5,5/5,7/6			6,5 7			7,5 8			8,5 9			9,5 10		
	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9
id																								
100 - 124	13,5	10,6	9,1	13,9	11,1	9,6	14,4	11,5	10,2	15,2	12,4	11,0	16,1	13,2	11,7	17,2	14,3	12,8	14,0	12,1	11,1	15,2	13,3	12,4
125 - 149	13,8	11,0	9,6	14,4	11,5	10,1	15,1	12,3	10,7	16,0	13,1	11,6	17,0	14,1	12,7	18,2	15,4	13,9	15,9	13,8	12,9	17,4	15,3	14,3
150 - 174	14,3	11,4	10,0	14,9	11,9	10,6	15,6	12,8	11,3	16,7	13,8	12,5	17,9	15,1	13,6	19,3	16,5	15,1	21,1	18,1	16,7	22,7	19,9	18,5
175 - 199	14,8	11,7	10,4	15,4	12,5	11,1	16,2	13,4	11,9	17,5	14,7	13,1	18,9	16,0	14,5	20,4	17,6	16,2	22,3	19,4	18,0	24,3	21,5	20,0
200 - 224	15,1	12,3	10,9	15,9	13,0	11,5	16,9	13,9	12,6	18,1	15,3	13,9	19,8	16,9	15,4	21,6	18,8	17,3	23,7	20,8	19,3	25,9	23,1	21,6
225 - 249	15,5	12,7	11,2	16,3	13,5	12,2	17,5	14,7	13,1	19,0	16,1	14,7	20,6	17,8	16,3	22,6	19,8	18,3	24,9	22,0	20,6	27,5	24,5	23,2
250 - 274	15,9	13,0	11,6	16,8	13,9	12,6	18,0	15,2	13,7	19,6	16,8	15,4	21,6	18,8	17,3	23,8	20,9	19,5	26,3	23,4	21,9	29,0	26,2	24,6
275 - 299	16,3	13,5	11,9	17,4	14,5	13,0	18,7	15,7	14,4	20,4	17,6	16,1	22,5	19,6	18,1	24,9	22,0	20,5	27,7	24,8	23,3	30,6	27,8	26,3
300 - 324	16,7	13,8	12,5	17,8	15,0	13,6	19,3	16,5	15,0	21,2	18,2	16,9	23,4	20,5	19,1	25,9	23,1	21,7	28,9	26,1	24,6	32,1	29,2	27,9
325 - 349	17,2	14,3	12,9	18,2	15,4	14,0	19,9	17,0	15,5	21,9	19,1	17,6	24,3	21,5	20,0	27,0	24,2	22,8	30,3	27,5	25,9	33,7	30,8	29,3
350 - 374	17,6	14,8	13,2	18,9	16,0	14,5	20,4	17,6	16,2	22,6	19,8	18,3	25,3	22,4	20,9	28,2	25,4	23,9	31,5	28,7	27,4	35,3	32,5	30,9
375 - 399	17,9	15,1	13,7	19,3	16,5	15,1	21,1	18,1	16,8	23,4	20,5	19,1	26,2	23,3	21,8	29,2	26,4	25,0	32,9	30,1	28,6	36,8	34,0	32,6
400 - 424	18,3	15,5	14,0	19,8	16,9	15,5	21,7	18,9	17,4	24,1	21,3	19,9	27,0	24,2	22,7	30,4	27,6	26,2	34,3	31,4	30,0	38,4	35,5	34,1
425 - 449	18,8	15,9	14,5	20,3	17,5	16,0	22,3	19,4	17,9	24,9	22,0	20,5	28,0	25,2	23,7	31,5	28,7	27,1	35,5	32,7	31,3	40,0	37,1	35,6
450 - 474	19,2	16,3	14,9	20,8	17,9	16,6	22,8	20,0	18,7	25,6	22,7	21,4	28,9	26,1	24,5	32,6	29,7	28,3	36,9	34,1	32,6	41,5	38,6	37,2
475 - 499	19,6	16,8	15,3	21,3	18,3	17,0	23,4	20,5	19,2	26,4	23,6	22,0	29,8	26,9	25,5	33,7	30,8	29,4	38,1	35,3	34,0	43,1	40,2	38,8
500 - 524	20,0	17,2	15,7	21,8	19,0	17,5	24,1	21,3	19,8	27,0	24,2	22,8	30,7	27,9	26,4	34,8	32,0	30,5	39,5	36,7	35,2	44,6	41,7	40,3
525 - 549	20,4	17,6	16,1	22,3	19,4	17,9	24,6	21,8	20,3	27,9	25,0	23,6	31,6	28,8	27,4	35,8	33,0	31,6	40,8	37,9	36,2	46,1	43,3	41,9
550 - 574	20,8	17,9	16,6	22,7	19,9	18,5	25,3	22,4	21,1	28,7	25,7	24,3	32,6	29,7	28,2	37,0	34,2	32,8	42,1	39,3	37,9	47,8	44,9	43,4
575 - 599	21,3	18,3	16,9	23,3	20,4	19,0	25,8	23,0	21,6	29,3	26,5	25,0	33,4	30,6	29,1	38,1	35,3	33,9	43,5	40,7	39,2	49,3	46,4	45,0
600 - 624	21,7	18,9	17,4	23,8	20,9	19,4	26,5	23,7	22,1	30,2	27,4	25,8	34,4	31,5	30,1	39,2	36,4	35,0	44,7	41,9	40,6	50,8	48,0	46,6
625 - 649	22,0	19,2	17,8	24,2	21,4	20,0	27,0	24,2	22,7	30,8	28,0	26,6	35,3	32,5	30,9	40,3	37,5	36,1	46,1	43,3	41,8	52,4	49,6	48,1
650 - 674	22,5	19,6	18,1	24,8	21,9	20,4	27,7	24,8	23,4	31,6	28,8	27,4	36,3	33,3	31,9	41,5	38,6	37,1	47,4	44,5	43,2	53,9	51,0	49,7
675 - 699	22,8	20,0	18,7	25,3	22,4	20,9	28,2	25,4	24,0	32,3	29,4	28,1	37,1	34,3	32,8	42,7	39,6	38,3	48,7	45,9	44,4	55,5	52,6	51,2
700 - 724	23,3	20,4	19,0	25,7	22,8	21,5	28,9	26,1	24,5	33,1	30,3	28,8	38,0	35,2	33,7	43,6	40,8	39,4	50,2	47,3	45,8	57,1	54,3	52,8
725 - 749	23,8	20,9	19,4	26,3	23,4	21,9	29,4	26,6	25,2	33,9	30,9	29,6	39,0	36,1	34,6	44,7	41,9	40,5	51,5	48,5	47,2	58,6	55,8	54,4
750 - 774	24,1	21,3	19,9	26,7	23,9	22,4	30,1	27,1	25,8	34,6	31,8	30,3	39,8	37,0	35,5	45,9	43,0	41,6	52,8	49,9	48,4	60,2	57,3	56,0
775 - 799	24,5	21,7	20,2	27,1	24,3	23,0	30,7	27,8	26,4	35,3	32,5	31,0	40,8	37,9	36,5	47,0	44,1	42,8	54,1	51,1	49,8	61,8	58,9	57,4
800 - 824	24,9	22,0	20,6	27,8	24,9	23,4	31,3	28,4	26,9	36,1	33,2	31,8	41,7	38,9	37,3	48,1	45,3	43,7	55,4	52,5	51,0	63,3	60,5	59,1
825 - 849	25,4	22,5	21,1	28,2	25,4	23,9	31,9	29,0	27,6	36,8	34,0	32,6	42,7	39,7	38,3	49,3	46,2	44,9	56,8	53,8	52,4	64,9	62,0	60,6
850 - 874	25,8	23,0	21,5	28,7	25,8	24,4	32,5	29,6	28,2	37,6	34,7	33,2	43,5	40,7	39,2	50,3	47,4	46,0	58,1	55,1	53,8	66,4	63,6	62,1
875 - 899	26,2	23,3	21,9	29,2	26,4	24,9	33,1	30,3	28,8	38,3	35,4	34,1	44,4	41,6	40,1	51,5	48,5	47,1	59,4	56,6	55,0	68,0	65,1	63,7
900 - 924	26,6	23,8	22,3	29,7	26,8	25,4	33,7	30,8	29,3	39,1	36,3	34,7	45,4	42,4	41,0	52,5	49,7	48,2	60,7	57,8	56,4	69,6	66,8	65,2
925 - 949	26,9	24,1	22,7	30,2	27,4	25,9	34,3	31,4	30,1	39,7	36,9	35,5	46,2	43,4	41,9	53,6	50,7	49,4	62,0	59,2	57,6	71,2	68,3	66,9
950 - 974	27,5	24,5	23,1	30,7	27,8	26,4	34,8	32,0	30,6	40,6	37,7	36,3	47,2	44,3	42,9	54,7	51,9	50,4	63,3	60,5	59,1	72,6	69,8	68,4
975 - 999	27,9	24,9	23,6	31,2	28,3	26,8	35,5	32,7	31,2	41,2	38,4	37,0	48,1	45,3	43,7	55,9	53,0	51,6	64,7	61,8	60,4	74,3	71,4	69,9
1.000 - 1.024	28,2	25,4	24,0	31,6	28,8	27,5	36,1	33,2	31,8	42,0	39,2	37,7	49,0	46,1	44,6	56,9	54,1	52,6	66,0	63,2	61,7	75,9	73,0	71,5
1.025 - 1.049	28,7	25,8	24,3	32,1	29,2	27,9	36,7	33,9	32,5	42,8	39,8	38,5	49,9	47,1	45,6	58,1	55,1	53,7	67,3	64,5	63,1	77,3	74,5	73,2
1.050 - 1.074	29,0	26,2	24,8	32,7	29,8	28,3	37,2	34,4	33,0	43,5	40,7	39,2	50,8	48,0	46,5	59,2	56,3	54,8	68,6	65,8	64,3	78,9	76,1	74,6
1.075 - 1.099	29,4	26,6	25,2	33,1	30,3	28,9	37,9	35,1	33,5	44,3	41,4	40,0	51,8	48,9	47,4	60,2	57,3	56,0	69,9	67,1	65,7	80,5	77,7	76,2
1.100 - 1.124	29,8	26,9	25,6	33,5	30,7	29,3	38,5	35,6	34,2	45,0	42,1	40,7	52,6	49,8	48,3	61,3	58,5	57,0	71,3	68,4	67,0	82,1	79,1	77,8
1.125 - 1.149	30,3	27,5	26,1	34,2	31,3	29,8	39,1	36,3	34,8	45,8	43,0	41,5	53,6	50,7	49,3	62,5	59,6	58,2	72,6	69,8	68,3	83,6	80,8	79,2
1.150 - 1.174	30,7	27,9	26,4	34,6	31,8	30,4	39,6	36,8	35,4	46,5	43,6	42,2	54,5	51,7	50,2	63,5	60,7	59,3	73,9	71,1	69,7	85,2	82,4	80,9
1.175 - 1.199	31,0	28,2	26,8	35,1	32,2	30,8	40,3	37,5	35,9	47,3	44,4	43,0	55,4	52,5	51,0	64,7	61,8	60,4	75,2	72,4	70,9	86,7	83,8	82,5
1.200 - 1.224	31,5	28,7	27,1	35,6	32,8	31,3	40,9	38,0	36,6	48,0	45,2	43,7	56,3	53,4	52,0	65,8	63,0	61,4	76,5	73,7	72,3	88,3	85,4	83,9
1.225 - 1.249	31,9	29,0	27,7	36,1	33,2	31,9	41,5	38,6	37,2	48,7	45,9	44,4	57,2	54,4	52,9	66,9	63,9	62,6	77,9	75,0	73,6	89,9	86,9	85,5
1.250 - 1.274	32,3	29,4	28,0	36,6	33,7	32,3	42,0	39,2	37,8	49,5	46,6	45,3	58,2	55,3	53,8	68,0	65,1	63,6	79,1	76,3	74,9	91,4	88,6	87,2
1.275 - 1.299	32,8	30,0	28,4	37,1	34,3	32,8	42,8	39,8	38,4	50,3	47,4	45,9	59,1	56,2	54,7	69,1	66,2	64,8	80,5	77,7	76,3	93,0	90,1	88,7
1.300 - 1.324	33,1	30,3	28,9	37,6	34,7	33,2	43,3	40,5	39,0	50,9	48,1	46,7	59,9	57,1	55,6	70,1	67,3	65,9	82,0	79,0	77,6	94,4	91,6	90,2
1.325 - 1.349	33,5	30,7	29,2	38,0	35,2	33,9	43,9																	

CORD RINGS ZruElast® FPM 75 black

HOT vulcanized

cord thickness quantity	11			12			13			14			15			16			17			18			20				
	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9		
id																													
100 - 124	18,5	16,6	15,7																										
125 - 149	21,4	19,3	18,3																										
150 - 174	27,8	24,9	23,6	37,9	35,5	34,3																							
175 - 199	30,0	27,0	25,6	44,2	41,4	40,0	47,4	44,5	43,1	50,7	47,9	46,5	56,6	53,7	52,3														
200 - 224	32,0	29,1	27,8	46,6	43,7	42,3	50,2	47,3	45,9	53,9	51,0	49,6	60,1	57,2	55,9	64,5	61,6	60,2	69,6	66,8	65,2	81,4	79,1	78,0					
225 - 249	34,2	31,3	29,8	49,2	46,2	44,7	52,9	50,0	48,6	57,0	54,2	52,8	63,6	60,8	59,3	68,4	65,6	64,0	73,9	71,1	69,6	87,5	85,2	84,0					
250 - 274	36,3	33,3	32,0	51,6	48,6	47,2	55,8	52,9	51,5	60,2	57,3	55,9	67,2	64,3	62,9	72,3	69,5	68,0	78,3	75,4	74,0	101,8	98,9	97,5					
275 - 299	38,4	35,5	34,1	53,9	51,0	49,7	58,5	55,6	54,2	63,3	60,5	58,9	70,6	67,7	66,3	76,2	73,4	71,9	82,6	79,8	78,4	107,0	104,2	102,7					
300 - 324	40,5	37,6	36,3	56,3	53,4	52,1	61,2	58,4	57,0	66,3	63,5	62,1	74,1	71,3	69,9	80,1	77,2	75,9	86,9	84,0	82,7	112,2	109,4	107,9					
325 - 349	42,7	39,7	38,3	58,8	56,0	54,5	63,9	61,1	59,7	69,6	66,8	65,2	77,7	74,8	73,4	83,9	81,1	79,8	91,4	88,5	87,1	117,6	114,7	113,2					
350 - 374	44,6	41,8	40,5	61,2	58,4	56,9	66,9	63,9	62,5	72,6	69,8	68,4	81,2	78,4	76,9	87,8	85,0	83,6	95,7	92,9	91,4	122,8	120,0	118,4					
375 - 399	46,8	44,0	42,4	63,6	60,8	59,4	69,6	66,8	65,2	75,9	73,0	71,5	84,7	81,7	80,4	91,8	89,0	87,5	100,1	97,3	95,7	128,1	125,2	123,9					
400 - 424	48,9	46,0	44,5	66,0	63,2	61,8	72,3	69,5	68,1	78,9	76,1	74,6	88,1	85,3	83,8	95,7	92,9	91,4	104,4	101,6	100,1	133,3	130,5	129,1					
425 - 449	51,0	48,1	46,7	68,5	65,7	64,2	75,0	72,2	70,8	82,1	79,1	77,8	91,7	88,9	87,4	99,6	96,7	95,3	108,8	105,8	104,5	138,5	135,7	134,4					
450 - 474	53,1	50,3	48,7	70,9	68,1	66,5	77,9	75,0	73,6	85,2	82,4	80,9	95,3	92,3	91,0	103,5	100,6	99,2	113,1	110,2	108,9	143,8	141,0	139,6					
475 - 499	55,1	52,3	50,9	73,4	70,5	69,0	80,7	77,8	76,3	88,3	85,4	84,0	98,7	95,9	94,4	107,4	104,5	103,1	117,5	114,5	113,2	149,0	146,2	144,8					
500 - 524	57,3	54,5	53,0	75,8	72,8	71,5	83,4	80,5	79,1	91,5	88,7	87,2	102,3	99,4	97,9	111,4	108,4	107,0	121,9	119,1	117,6	154,5	151,4	150,1					
525 - 549	59,4	56,6	55,1	78,2	75,2	73,9	86,1	83,3	82,0	94,6	91,7	90,3	105,7	102,9	101,4	115,3	112,5	110,9	126,2	123,3	121,9	159,7	156,9	155,3					
550 - 574	61,6	58,7	57,2	80,7	77,8	76,3	89,0	86,1	84,7	97,7	94,8	93,5	109,2	106,4	105,0	119,2	116,3	114,8	130,6	127,8	126,2	165,0	162,1	160,7					
575 - 599	63,6	60,8	59,4	83,0	80,2	78,7	91,7	88,9	87,4	100,8	98,0	96,5	112,8	109,9	108,6	123,0	120,2	118,8	134,9	132,0	130,7	170,2	167,4	165,9					
600 - 624	65,8	63,0	61,4	85,4	82,6	81,2	94,4	91,6	90,1	104,0	101,1	99,8	116,3	113,4	111,9	126,9	124,1	122,7	139,3	136,3	135,0	175,4	172,6	171,1					
625 - 649	67,8	65,0	63,6	87,8	85,0	83,6	97,3	94,3	93,0	107,1	104,3	102,8	119,8	117,0	115,5	130,8	128,0	126,6	143,6	140,7	139,4	180,7	177,8	176,4					
650 - 674	70,0	67,2	65,7	90,3	87,5	86,0	100,1	97,1	95,7	110,2	107,4	106,1	123,2	120,4	119,1	134,8	131,9	130,5	148,1	145,1	143,7	186,0	183,1	181,6					
675 - 699	72,1	69,3	67,8	92,7	89,9	88,5	102,8	100,0	98,5	112,3	110,5	109,1	126,8	124,0	122,6	138,7	135,8	134,4	152,4	149,5	148,1	191,3	188,3	187,0					
700 - 724	74,3	71,4	69,9	95,2	92,3	91,0	105,5	102,7	101,2	116,5	113,7	112,1	130,4	127,4	126,0	142,5	139,7	138,2	156,7	153,8	152,4	196,5	193,7	192,2					
725 - 749	76,3	73,5	72,1	97,6	94,7	93,4	108,3	105,4	104,1	119,6	116,7	115,4	133,8	131,0	129,5	146,4	143,6	142,2	161,1	158,2	156,7	201,7	198,9	197,5					
750 - 774	78,5	75,7	74,1	100,1	97,3	95,7	111,0	108,2	106,8	122,8	120,0	118,4	137,3	134,5	133,1	150,3	147,5	146,1	165,4	162,5	161,2	207,0	204,2	202,8					
775 - 799	80,5	77,7	76,3	102,5	99,6	98,1	113,9	111,0	109,5	125,9	123,0	121,7	140,9	138,0	136,7	154,4	151,3	150,0	169,8	166,8	165,5	212,2	209,4	208,0					
800 - 824	82,7	79,9	78,4	104,9	102,0	100,5	116,6	113,8	112,2	129,0	126,1	124,7	144,4	141,6	140,0	158,2	155,3	153,8	174,2	171,2	169,9	217,5	214,6	213,3					
825 - 849	84,8	82,0	80,5	107,3	104,4	103,0	119,4	116,5	115,2	132,2	129,3	127,9	148,0	145,0	143,6	162,1	159,2	157,7	178,6	175,6	174,2	222,9	220,0	218,5					
850 - 874	86,9	84,0	82,6	109,7	106,8	105,4	122,1	119,3	117,9	135,3	132,4	131,0	151,3	148,5	147,1	166,0	163,2	161,6	182,9	180,0	178,6	228,1	225,2	223,7					
875 - 899	89,0	86,1	84,7	112,1	109,3	107,8	124,9	122,1	120,6	138,4	135,6	134,1	154,9	152,1	150,7	169,9	167,1	165,7	187,3	184,3	182,9	233,4	230,6	229,0					
900 - 924	91,2	88,1	86,8	114,5	111,7	110,2	127,8	124,8	123,3	141,6	138,7	137,3	158,5	155,6	154,1	173,8	170,9	169,6	191,6	188,7	187,4	238,6	235,8	234,3					
925 - 949	93,2	90,3	88,9	117,0	114,1	112,8	130,5	127,6	126,2	144,6	141,8	140,4	162,0	159,1	157,6	177,7	174,9	173,4	195,9	193,0	191,7	243,9	241,0	239,6					
950 - 974	95,3	92,4	91,1	119,4	116,5	115,2	133,2	130,4	129,0	147,8	144,9	143,5	165,4	162,5	161,2	181,6	178,8	177,3	200,3	197,4	196,0	249,1	246,3	244,8					
975 - 999	97,5	94,6	93,1	121,9	119,1	117,6	136,0	133,2	131,7	150,9	148,1	146,7	168,9	166,1	164,6	185,5	182,7	181,2	204,7	201,8	200,4	254,3	251,5	250,1					
1.000 - 1.024	99,5	96,6	95,3	124,3	121,5	120,0	138,8	135,9	134,5	154,1	151,2	149,8	172,5	169,7	168,1	189,4	186,5	185,2	209,1	206,1	204,7	259,7	256,8	255,4					
1.025 - 1.049	101,7	98,8	97,4	126,7	123,9	122,4	141,6	138,7	137,3	157,2	154,4	153,0	176,1	173,0	171,7	193,3	190,4	189,1	213,4	210,5	209,1	264,9	262,0	260,6					
1.050 - 1.074	103,8	100,8	99,5	129,1	126,2	124,8	144,3	141,4	140,0	160,3	157,4	156,0	179,4	176,6	175,2	197,1	194,3	192,9	217,8	214,8	213,5	270,2	267,3	266,0					
1.075 - 1.099	105,8	103,0	101,6	131,6	128,7	127,2	147,1	144,3	142,8	163,5	160,7	159,1	183,0	180,2	178,7	201,1	198,3	196,8	222,1	219,2	217,9	275,4	272,6	271,2					
1.100 - 1.124	107,9	105,1	103,8	134,0	131,1	129,6	149,9	147,0	145,6	166,5	163,7	162,3	186,5	183,7	182,2	205,1	202,2	200,7	226,4	223,5	222,2	280,7	277,8	276,5					
1.125 - 1.149	110,1	107,3	105,7	136,3	133,5	132,0	152,6	149,8	148,3	169,8	166,8	165,4	190,0	187,1	185,7	209,0	206,0	204,6	230,9	228,0	226,5	285,9	283,1	281,7					
1.150 - 1.174	112,1	109,3	107,9	138,8	135,9	134,6	155,3	152,5	151,1	172,8	170,0	168,6	193,5	190,6	189,3	212,8	209,9	208,6	235,2	232,3	230,9	291,3	288,4	286,9					
1.175 - 1.199	114,3	111,5	110,0	141,3	138,3	137,0	158,2	155,2	153,8	176,1	173,0	171,7	197,0	194,2	192,7	216,7	213,8	212,4	239,6	236,6	235,2	296,6	293,6	292,2					
1.200 - 1.224	116,4	113,5	112,1	143,7	140,9	139,4	161,0	158,1	156,6	179,1	176,3	174,8	200,6	197,8	196,3	220,7	217,9	216,3	243,9	241,0	239,6	301,8	299,0	297,4					
1.225 - 1.249	118																												



CORD RINGS ZruElast® NBR 70 black

HOT vulcanized*)

cord thickness	2,0 - 4,5 *)			5/5,33/5,5/5,7/6			6,5 7 7,5 8			8,5 9 9,5 10			11 12			13 14			15 16			18 20			
	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	
id																									
100 - 199	14,6	12,8	10,6	14,9	13,0	10,7	15,3	13,2	11,1	16,7	14,6	11,9	18,5	16,1	13,7										
200 - 299	15,2	13,1	11,0	16,1	13,6	11,2	16,8	14,3	12,7	18,2	16,1	13,6	20,2	17,6	15,6	31,6	27,4	23,3	45,6	39,2	33,6	56,3	48,4	41,3	
300 - 399	16,2	13,8	11,5	16,6	14,3	12,5	17,7	16,1	13,6	20,0	17,5	15,1	22,2	19,4	17,0	34,4	30,2	25,8	49,7	43,0	37,3	61,5	52,9	45,9	
400 - 499	16,6	14,3	12,5	17,5	15,1	13,1	19,3	16,8	14,6	22,0	19,3	16,8	24,2	21,8	19,3	37,8	33,9	28,9	54,6	48,7	41,7	67,5	60,2	51,3	
500 - 599	17,2	15,1	13,0	18,3	16,2	13,8	20,6	17,7	15,3	23,7	21,5	18,3	26,7	24,0	21,6	41,3	37,7	32,3	59,6	53,7	46,8	73,9	66,1	57,7	
600 - 699	18,2	16,1	13,6	19,3	16,8	14,3	22,0	19,3	16,8	25,6	23,0	20,1	29,5	26,2	23,6	45,4	40,5	35,9	65,5	58,1	52,1	81,2	71,8	64,6	
700 - 799	18,5	16,5	14,2	20,1	17,5	15,1	23,2	20,6	17,6	27,4	24,2	21,8	31,5	28,8	25,6	49,4	44,3	39,4	70,5	63,7	56,7	87,1	78,7	69,9	
800 - 899	19,7	17,0	14,8	20,8	18,3	16,4	24,2	21,8	18,7	29,5	26,2	23,6	34,5	30,9	27,9	53,3	48,0	43,5	76,2	69,2	61,5	94,2	84,6	76,2	
900 - 999	20,5	17,5	15,2	22,0	19,3	16,8	25,6	23,1	20,5	31,3	28,1	24,9	36,8	33,2	30,2	57,4	51,2	46,6	82,2	73,6	66,6	100,4	90,6	82,8	
1.000 - 1.099	20,8	18,3	16,4	23,1	20,0	17,5	26,7	24,0	21,6	32,9	29,8	26,6	39,0	35,3	32,0	60,7	54,7	50,0	87,6	79,1	72,0	107,3	98,0	88,7	
1.100 - 1.199	21,8	19,3	16,6	23,7	20,9	18,3	28,2	25,2	22,4	34,7	31,5	28,3	41,2	38,0	34,6	64,8	59,0	53,6	92,7	84,5	76,3	113,8	104,5	95,0	
1.200 - 1.299	22,4	19,7	17,2	24,2	22,0	19,3	29,8	26,3	23,7	36,8	33,4	30,2	44,0	40,3	36,8	67,8	62,3	57,4	98,4	89,6	82,2	121,1	110,9	100,4	
1.300 - 1.399	23,3	20,6	17,7	25,2	23,0	20,0	30,7	27,9	24,6	38,2	34,9	31,6	45,9	42,3	38,8	72,0	65,9	60,2	103,3	95,2	86,4	127,5	117,1	106,6	
1.400 - 1.499	23,8	21,6	18,4	26,3	23,6	20,8	32,0	28,9	26,2	40,4	37,0	33,7	48,8	44,9	40,8	76,0	69,6	64,1	109,6	99,8	91,3	135,0	123,2	113,3	
1.500 - 1.599	24,2	22,0	19,3	27,4	24,2	21,7	33,4	30,2	27,4	42,1	38,3	34,9	51,1	46,8	43,5	79,4	72,9	67,1	114,5	105,2	96,6	141,3	129,9	119,5	
1.600 - 1.699	25,2	22,4	20,0	28,1	25,2	22,4	34,7	31,5	28,3	44,3	40,4	37,2	53,6	49,5	45,3	83,1	76,5	70,9	119,7	110,7	102,0	148,0	136,7	125,5	
1.700 - 1.799	26,2	23,2	20,7	28,9	26,0	23,3	35,7	32,2	29,8	45,8	42,1	38,3	56,0	51,4	47,5	87,6	80,3	73,9	125,5	115,7	106,6	154,7	142,7	131,8	
1.800 - 1.899	26,6	23,9	21,5	30,1	26,6	23,9	37,7	33,8	30,7	47,6	44,0	40,4	58,1	54,1	49,7	90,6	83,8	77,3	130,6	120,9	111,5	161,7	149,2	137,5	
1.900 - 1.999	27,8	24,4	22,0	30,7	27,9	24,6	38,2	34,9	31,6	49,6	45,7	41,5	60,7	56,4	51,9	95,0	88,1	81,3	135,9	126,6	116,6	167,7	155,7	143,7	

*) 2.0 - 2.9 mm cord thickness: clued!

Tolerances: ISO 3302-1/E1 resp. L2, Tolerance for vulcanization: refer to "Tolerances 3.1"

CORD RINGS ZruElast® NBR 90 black

HOT vulcanized

cord thickness	3 3,53 4			5 5,33 6			7 8			10			12		
	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9
id															
100 - 199	17,6	14,1	11,1	19,1	15,3	12,3	20,0	16,0	13,0	22,4	17,8	14,0	32,1	25,5	20,2
200 - 299	18,3	15,0	11,9	21,1	16,7	13,8	22,2	17,7	15,0	24,8	19,8	16,3	35,7	28,4	23,4
300 - 399	19,8	15,7	12,6	22,6	18,1	15,3	24,6	19,8	16,2	27,8	22,7	18,7	40,1	32,9	27,1
400 - 499	20,7	16,5	13,5	24,8	19,8	16,3	26,9	21,6	18,2	31,3	25,5	21,6	44,9	36,8	31,3
500 - 599	21,4	17,6	14,3	26,4	21,4	18,1	29,5	24,1	20,0	34,2	28,4	24,3	49,4	41,0	35,0
600 - 699	22,4	18,1	15,2	28,4	23,2	19,4	31,8	26,0	22,0	37,7	31,4	26,6	54,2	45,0	38,3
700 - 799	23,8	19,2	15,7	30,4	24,8	21,1	34,0	27,8	23,9	40,8	33,9	29,7	58,9	49,0	42,5
800 - 899	24,8	19,8	16,3	32,2	26,6	22,6	36,7	30,6	25,5	44,4	36,8	32,1	63,9	52,7	46,2
900 - 999	26,0	20,7	17,5	34,0	27,8	23,9	39,0	32,1	27,8	47,3	39,7	34,2	68,1	57,1	49,4
1.000 - 1.099	26,8	21,4	18,1	36,4	29,8	25,4	41,5	34,5	29,8	50,4	42,3	37,2	72,7	61,1	53,4
1.100 - 1.199	27,8	22,6	18,7	38,1	31,6	26,7	43,5	36,1	31,5	54,4	45,1	39,8	78,3	64,9	57,4
1.200 - 1.299	28,7	23,9	19,7	39,9	33,0	28,3	45,9	38,5	33,2	57,4	48,6	42,1	82,4	70,0	60,7
1.300 - 1.399	29,8	24,3	20,7	41,9	34,8	30,1	48,5	40,6	34,9	60,7	51,2	45,0	87,4	73,9	64,8
1.400 - 1.499	31,3	25,4	21,4	43,5	36,3	31,5	50,4	42,3	37,2	63,7	54,2	47,3	91,9	77,9	68,1
1.500 - 1.599	32,0	26,0	22,0	45,8	38,4	33,1	53,4	44,6	39,2	67,1	57,0	50,1	96,6	82,0	72,1
1.600 - 1.699	33,2	26,9	22,9	47,5	39,7	34,4	55,5	46,9	40,6	70,7	59,6	52,6	101,4	86,1	75,8
1.700 - 1.799	33,9	27,6	23,9	49,3	41,5	36,1	57,7	49,1	42,6	73,3	62,9	55,3	105,8	90,5	79,6
1.800 - 1.899	34,7	28,7	24,4	51,3	43,4	37,5	60,4	51,1	45,0	77,1	65,7	57,6	111,0	94,8	82,8
1.900 - 1.999	35,7	29,8	25,3	53,6	44,9	39,4	62,9	52,6	46,6	80,3	67,9	60,8	115,7	98,1	87,7

Other sizes, materials or colors upon request!

Tolerances: ISO 3302-1/E1 resp. L2, Tolerance for vulcanization: refer to "Tolerances 3.1"

Prompt fabrication in-house

Information provided is not binding, specifications are without warranty, prices are quoted in EUROS and exclude Value Added Tax

CORD RINGS ZruElast® SILICONE 60 transparent

conform to FDA

COLD vulcanized

cord thickness quantity	3			4			5			6			7			8			10			12			20		
	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	ab 10	1-4	5-9	ab 10
100 - 199	26,7	12,3	9,5	26,9	12,4	9,6	27,0	12,6	9,8	27,3	12,9	10,1	27,7	13,2	10,5	28,1	13,6	10,8	29,1	14,6	11,9	30,8	16,3	13,5	35,5	21,1	18,3
200 - 299	27,0	12,5	9,7	27,2	12,8	10,0	27,5	13,0	10,3	28,0	13,5	10,7	28,6	14,1	11,3	29,2	14,7	12,0	30,9	16,5	13,7	33,7	19,3	16,5	41,6	27,2	24,4
300 - 399	27,2	12,8	10,0	27,6	13,1	10,3	27,9	13,5	10,7	28,6	14,2	11,4	29,5	15,0	12,2	30,3	15,9	13,1	32,7	18,3	15,5	36,7	22,2	19,4	47,7	33,3	30,5
400 - 499	27,4	13,0	10,2	27,9	13,5	10,7	28,4	13,9	11,2	29,3	14,8	12,0	30,4	15,9	13,1	31,5	17,0	14,2	34,6	20,1	17,3	39,6	25,2	22,4	53,9	39,4	36,6
500 - 599	27,7	13,2	10,4	28,3	13,8	11,0	28,9	14,4	11,6	29,9	15,5	12,7	31,3	16,8	14,0	32,6	18,1	15,4	36,4	21,9	19,1	42,6	28,1	25,3	60,0	45,5	42,7
600 - 699	27,9	13,5	10,7	28,6	14,2	11,4	29,3	14,8	12,1	30,6	16,1	13,3	32,2	17,7	14,9	33,7	19,3	16,5	38,2	23,7	21,0	45,5	31,1	28,3	66,1	51,6	48,8
700 - 799	28,2	13,7	10,9	29,0	14,5	11,7	29,8	15,3	12,5	31,2	16,8	14,0	33,0	18,6	15,8	34,9	20,4	17,6	40,0	25,6	22,8	48,5	34,0	31,2	72,2	57,7	55,0
800 - 899	31,4	17,0	14,2	32,4	17,9	15,1	33,2	18,8	16,0	34,9	20,4	17,7	37,0	22,5	19,7	39,0	24,6	21,8	44,9	30,4	27,6	54,5	40,0	37,2	81,4	66,9	64,1
900 - 999	31,7	17,2	14,4	32,7	18,3	15,5	33,7	19,2	16,5	35,5	21,1	18,3	37,9	23,4	20,6	40,2	25,7	22,9	46,7	32,3	29,5	57,4	43,0	40,2	87,5	73,0	70,2
1.000 - 1.099	31,9	17,5	14,7	33,1	18,6	15,8	34,1	19,7	16,9	36,2	21,7	18,9	38,8	24,3	21,5	41,3	26,9	24,1	48,5	34,1	31,3	60,4	45,9	43,1	93,6	79,1	76,3
1.100 - 1.199	32,2	17,7	14,9	33,4	18,9	16,2	34,6	20,1	17,4	36,8	22,4	19,6	39,6	25,2	22,4	42,4	28,0	25,2	50,3	35,9	33,1	63,3	48,9	46,1	99,7	85,2	82,5
1.200 - 1.299	32,4	17,9	15,2	33,8	19,3	16,5	35,1	20,6	17,8	37,5	23,0	20,2	40,5	26,1	23,3	43,6	29,1	26,3	52,2	37,7	34,9	66,3	51,8	49,0	105,8	91,4	88,6
1.300 - 1.399	32,6	18,2	15,4	34,1	19,6	16,9	35,5	21,0	18,3	38,1	23,7	20,9	41,4	27,0	24,2	44,7	30,3	27,5	54,0	39,5	36,7	69,2	54,8	52,0	111,9	97,5	94,7
1.400 - 1.499	32,9	18,4	15,6	34,4	20,0	17,2	36,0	21,5	18,7	38,8	24,3	21,5	42,3	27,9	25,1	45,8	31,4	28,6	55,8	41,4	38,6	72,2	57,7	54,9	118,0	103,6	100,8
1.500 - 1.599	33,1	18,7	15,9	34,8	20,3	17,5	36,4	21,9	19,2	39,4	25,0	22,2	43,2	28,8	26,0	47,0	32,5	29,7	57,6	43,2	40,4	75,1	60,7	57,9	124,2	109,7	106,9
1.600 - 1.699	36,4	21,9	19,2	38,2	23,7	20,9	39,9	25,4	22,7	43,1	28,6	25,9	47,1	32,7	29,9	51,1	36,7	33,9	62,5	48,0	45,3	81,1	66,7	63,9	133,3	118,9	116,1
1.700 - 1.799	30,6	16,1	15,3	32,4	18,0	17,2	34,3	19,8	19,0	37,7	23,2	22,4	41,9	27,5	26,7	46,2	31,7	31,0	58,2	43,8	43,0	78,0	63,5	62,8	133,3	118,9	118,1
1.800 - 1.899	30,8	16,3	15,6	32,8	18,3	17,6	34,7	20,3	19,5	38,3	23,8	23,1	42,8	28,4	27,6	47,3	32,9	32,1	60,1	45,6	44,8	80,9	66,5	65,7	139,5	125,0	124,2
1.900 - 1.999	31,0	16,6	15,8	33,1	18,7	17,9	35,2	20,7	19,9	38,9	24,5	23,7	43,7	29,3	28,5	48,5	34,0	33,2	61,9	47,4	46,7	83,9	69,4	68,7	145,6	131,1	130,3

Other sizes, materials or colors upon request!

Tolerances: ISO 3302-1/E2 resp. L2!

CORD RINGS ZruElast® NR 40 gray

SPLICED

cord thickness quantity	3 4			5 6			7 8			10			12		
	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9	1-4	5-9	>9
100 - 199	13,6	9,6	6,6	14,5	9,8	6,9	15,3	10,6	7,2	16,4	11,3	8,0	18,4	12,4	9,0
200 - 299	14,9	10,6	7,2	16,2	11,1	7,7	16,8	12,3	8,9	17,9	13,2	9,8	20,1	14,2	11,0
300 - 399	16,3	11,2	8,4	17,3	13,0	9,6	18,7	13,6	10,6	20,6	14,9	12,1	22,9	16,6	13,4
400 - 499	17,3	13,0	9,7	18,7	13,6	10,7	20,6	15,5	12,3	23,2	17,1	13,6	25,5	18,7	16,1
500 - 599	18,5	13,6	10,6	20,3	15,3	12,3	22,9	16,8	13,6	25,3	18,7	16,1	28,7	21,5	17,8
600 - 699	19,5	14,6	11,2	22,4	16,5	13,2	24,4	18,5	15,3	27,8	21,0	17,6	31,8	23,9	20,3
700 - 799	20,6	16,1	13,0	23,4	17,7	14,5	25,9	20,3	16,8	30,0	23,2	19,5	34,0	26,4	22,9
800 - 899	22,4	16,8	13,6	24,7	18,7	16,1	28,5	22,4	17,9	32,4	24,8	21,4	37,4	28,8	24,8
900 - 999	23,2	17,7	14,6	25,9	20,5	17,1	30,0	23,4	20,1	34,4	26,9	23,4	40,1	31,8	27,6
1.000 - 1.099	24,3	18,7	16,1	27,8	22,4	17,9	32,1	24,8	21,4	37,0	29,3	25,3	43,0	33,6	29,8
1.100 - 1.199	25,3	20,2	16,6	29,4	23,3	19,5	33,6	26,6	23,2	39,3	31,4	26,9	46,0	36,3	32,2
1.200 - 1.299	26,4	21,3	17,6	30,6	24,4	20,6	35,6	28,6	24,6	41,3	33,1	29,3	48,8	39,0	34,0
1.300 - 1.399	27,6	22,5	18,6	32,2	25,6	22,5	37,5	30,0	25,9	43,8	35,3	31,3	52,0	41,0	36,8
1.400 - 1.499	28,7	23,4	19,5	33,5	26,9	23,4	39,3	32,0	27,8	46,6	37,0	33,0	54,7	43,5	39,2
1.500 - 1.599	30,0	24,4	20,6	35,3	28,6	24,6	41,2	33,1	29,4	48,8	39,2	34,4	57,4	46,0	41,3
1.600 - 1.699	31,3	25,5	22,0	36,8	30,0	25,8	43,0	34,7	31,3	51,2	41,0	36,8	60,6	48,7	43,7
1.700 - 1.799	32,2	26,4	22,9	38,4	31,4	26,9	45,0	36,5	32,4	53,4	43,0	39,0	63,2	50,8	46,0
1.800 - 1.899	33,1	27,6	23,9	39,6	32,8	28,6	47,0	38,4	33,7	55,7	45,4	40,5	66,5	53,4	48,5
1.900 - 1.999	34,0	28,7	24,7	41,0	33,6	29,8	48,8	39,7	35,4	57,8	47,1	42,5	69,1	55,8	50,5

Tolerances: ISO 3302-1/E2 resp. L2!

Prompt fabrication in-house



CORD RINGS ZruElast® EPDM 70 black

HOT vulcanized

cord thickness	3			3,5			3,53			4			5			6			7			8			10			12		
	quantity	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9	1-4	5-9	> 9		
id																														
100	-	199	24,1	17,3	13,9	24,3	17,8	14,5	24,9	18,3	15,2	26,2	19,6	16,3	27,7	20,9	17,5													
200	-	299	24,8	18,3	15,1	25,8	19,2	16,3	26,9	20,5	16,8	28,2	21,7	17,9	29,9	23,3	19,3													
300	-	399	25,8	19,3	16,5	27,1	20,9	17,3	29,3	22,6	18,7	30,5	24,1	20,5	32,9	25,8	22,6													
400	-	499	27,0	20,6	17,2	29,3	22,6	18,7	30,6	24,2	20,5	33,1	25,9	22,7	35,8	29,3	24,9													
500	-	599	28,6	21,8	17,9	30,5	24,1	19,8	32,8	25,8	22,5	35,1	28,8	24,8	39,0	31,9	27,4													
600	-	699	29,8	22,9	19,2	32,1	25,1	21,5	34,4	27,4	24,1	37,8	30,6	26,9	41,8	34,4	30,5													
700	-	799	30,6	24,2	20,5	33,2	26,4	22,9	36,4	29,8	25,2	40,1	33,1	29,4	44,8	37,5	33,1													
800	-	899	32,1	25,1	21,6	34,7	28,1	24,3	38,8	31,8	27,1	42,4	35,1	31,3	47,8	40,1	35,8													
900	-	999	33,1	25,9	22,7	36,4	29,8	25,2	40,1	33,1	29,4	44,9	37,7	33,2	50,0	42,8	38,8													
1.000	-	1.099	33,9	27,1	23,6	38,0	30,7	26,9	42,0	34,7	30,6	47,2	39,7	35,3	53,1	45,7	40,7													
1.100	-	1.199	35,1	28,8	24,8	39,4	32,8	28,6	43,7	36,7	32,8	49,5	42,1	37,8	56,4	48,5	43,6													
1.200	-	1.299	36,4	29,8	25,6	40,6	33,4	29,9	45,7	39,0	33,9	51,8	44,3	39,7	58,9	51,2	46,8													
1.300	-	1.399	37,8	30,6	26,4	42,1	35,1	31,2	47,9	40,3	35,8	54,7	46,8	42,0	62,0	54,6	49,1													
1.400	-	1.499	39,1	32,1	28,1	43,6	36,7	32,8	49,5	42,1	37,8	56,9	48,9	43,8	65,0	57,1	51,6													
1.500	-	1.599	40,0	33,0	29,3	45,2	38,0	33,4	51,5	43,7	39,4	58,7	51,1	46,6	68,0	59,5	54,7													
1.600	-	1.699	41,2	33,8	29,9	46,9	39,6	35,1	53,1	45,7	41,2	61,6	53,1	48,5	71,3	62,6	57,3													
1.700	-	1.799	42,1	35,1	31,2	48,3	40,7	36,4	55,4	47,9	42,8	64,0	55,7	50,1	74,1	65,0	59,5													
1.800	-	1.899	43,1	36,1	32,1	49,6	42,1	38,0	57,4	49,5	44,8	66,0	57,8	52,8	77,1	68,2	62,6													
1.900	-	1.999	44,8	37,5	33,1	51,2	43,6	39,3	58,7	51,1	46,6	68,6	60,4	55,0	79,6	71,3	65,0													

Other sizes, materials or colors upon request!

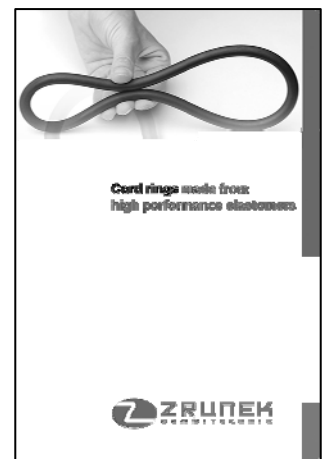
Tolerances: ISO 3302-1/E2 resp. L2, Tolerance for vulcanization: refer to "Tolerances 3.1"

Prompt fabrication in-house

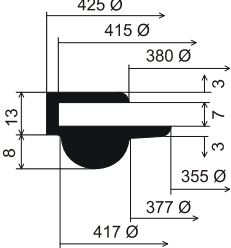
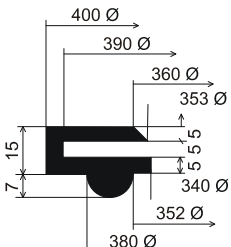
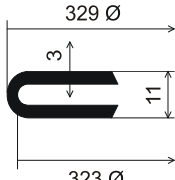
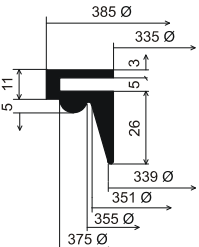
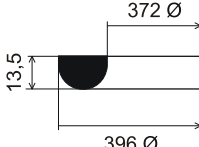
Additional information can be found in our brochure

"Cord rings made from high performance elastomers"

Brochure available to download on our website www.zrunek.at !



Manhole rings

	P/N	material	>= 1 pc.	>= 10 pc.	>= 50 pc.	>= 100 pc.
 <p>F 16124</p>	96-18-0001	NR, red	42,95	38,11	31,43	24,10
	96-18-0002	NR, para - natural	61,56	55,25	46,97	37,23
	96-18-0007	Silikon, red, food grade od = 430, id = 355, height = 23!	103,77	82,08	82,08	82,08
 <p>F 16155</p>	96-18-0003	NR, para - natural				
	96-18-0006	NR, white				
 <p>F 16046</p>	96-18-0005	NR, white				
 <p>F 16090</p>	96-18-0004	NR, para - natural				
	 <p>F 7333</p>					

We supply manhole rings in many other colors, sizes and materials (eg EPDM, NBR, FPM). If you have not seen the ring you are looking for, please contact us for further information!



SILICONE GLUE transparent

P/N	description	price per pc.	price per 10 pc.
99-13-0006	silicone glue tra 90 ccm	49,25	26,60

Ready to use, one-component and soft, paste-like silicone caoutchouc, which reacts with the humidity in the air to an elastic silicone rubber.

SC 4000 two-component adhesive

P/N	description	price per pc.	price per 10 pc.
99-13-0003	adhesive SC 4000 + hardener	101,46	80,91

Two-component adhesive for the bonding of rubber-rubber, rubber-reinforcement, rubber-metal

Metal-Primer

P/N	description	price per pc.	price per 10 pc.
99-13-0008	Metal-Primer	127,65	104,71

Metal-Primer for the bonding of rubber-metal with SC 4000

VITON two-component adhesive

P/N	description	price per pc.	price per 10 pc.
99-13-0014	VITON two-component adhesive 250 g	191,74	149,57

Two-component adhesive for the bonding of VITON/FPM articles

SPECIAL LUBRICANT FOR O-RINGS

prices per pc.

P/N		>= 1 pc.	>= 50 pc.	>= 100 pc.
99-12-0002	O-RING LUBRICANT 23 g	7,60	6,30	5,20

content 30 ml (netto 23 g)



ELASTOMER PROPERTIES

	NR	SBR	IIR	EPDM	NBR	HNBR	CR	CSM	ACM	PU	Q	MFQ	FPM
Durometer range Shore A	30-90	35-95	30-80	30-90	30-95	45-90	30-90	45-90	50-90	55-95	30-85	40-80	45-95
Tensile strength without fillers	1	5	4	5	5	4	3	5	5	2	3	3	4
Tensile strength filler-reinforced	1	2	3	3	2	1	2	3	3	1	3	3	3
Elongation at break	1	2	2	3	2	2	2	3	3	2	3	3	3
Impact resilience	2	3	5	3	3	3	3	4	5	3	3	3	5
Abrasion resistance	2	2	3	3	2	2	2	3	4	1	4	4	4
Tear-growth resistance	2	3	3	3	3	2	2	4	4	3	5	5	4
Compression set at -40° C	3	3	5	4	5	5	5	5	5	5	3	3	5
Compression set at +20° C	2	3	4	3	3	2	3	5	3	3	2	2	2
Compression set at +100° C	5	5	2	2	5	2	4	5	5	5	1	1	1
max. working temperature / 5 h use	150	150	200	200	170	200	180	200	240	170	300	300	300
max. working temperature / 100 h use	90	100	140	160	115	170	110	130	180	100	260	260	280
max. working temperature /1000 h use	70	80	110	130	80	140	90	120	150	80	200	200	200
Low temperature flexibility	2	3	2	2	3	3	3	5	5	4	1	1	5
Ageing resistance	3	3	2	1	3	1	2	2	2	2	1	1	1
Resistance to ozone	4	4	2	1	3	1	2	2	2	2	1	1	1
Resistance to gasoline	5	5	5	5	1	1	2	2	1	1	5	1	1
Oil- and grease resistance	5	5	5	5	1	1	2	2	1	1	3	1	1
Resistance to acids	3	3	2	1	4	4	2	2	5	5	5	5	1
Resistance to bases	3	3	2	2	3	3	2	2	5	5	5	5	1
Resistance to hot water	3	2	1	1	3	2	3	3	5	5	5	5	2
Gas permeability	5	4	1	4	2	2	3	3	3	1	5	5	2

1 = excellent 2 = very good 3 = good 4 = fair 5 = poor

NR Natural rubber

NBR Nitrile-butadiene rubber

ACM Polyacrylate rubber

FPM Fluoro rubber

SBR Styrene-Butadien-Kautschuk

HNBR Hydrogenated nitrile rubber

PU Polyurethane rubber

IIR Butyl rubber

CR Chloroprene rubber

Q Silicone rubber

EPDM Ethylene-propylene rubber

CSM Chlorosulfonated polyethylene

MFQ Fluorosilicone rubber

The resistance ratings and typical properties above are presented as representative of these elastomers and are provided for general information only. The actual resistance of an elastomer is affected by the concentration and/or length of time of the environmental factors to which the elastomer is exposed to: e.g. elevated temperatures, mechanical stresses, chemicals, weathering, sunlight + ozone, or other individual service conditions. Additives or other compound ingredients, depending on their nature and amount, can also affect the long-term properties of the base elastomer. Differing ratings also can arise, if the elastomer is exposed to several media or influencing factors at the same time. Therefore this technical information is offered without any guarantee. Please contact us if complex environmental or service conditions are to be expected of which you have no experience yet. We will strive to provide an individual solution exactly to your requirements.

ELASTOMER PROPERTIES

NATURAL RUBBER (NR)

- + very good resilience and mechanical properties (tensile strength, elongation at break, abrasion resistance)
 - + low permanent set after stress; very good resistance to alternating bending stress
 - fair/poor resistance to oil, heat, weathering and ozone
 - flammable
- Trade names:** SMR, Latex, smoked sheets, Para

STYRENE-BUTADIENE RUBBER (SBR)

- + better abrasion resistance and ageing resistance than NR
 - + withstands higher temperatures than NR for short periods
 - like NR, but less elastic - with the result of less rebound resilience and thus increasing temperature under dynamic stress,
 - less tear-growth resistance than NR; flammable
- Trade names:** BUNA-S[®], KER[®], EUROPRENE[®]

BUTYL RUBBER (IIR)

- + good resistance to weathering and ozone; very low permeability to air and gases; good electrical resistance
 - + good low temperature properties; highly dampening material against aperiodic oscillations
 - + good resistance to hot water and chemicals
 - low rebound resilience; no resistance to oils and greases
 - flammable
- Trade names:** BUTYL, BUCAR[®],

ETHYLENE-PROPYLENE RUBBER (EPDM)

- + excellent resistance to weathering, ageing, ozone, chemicals, hot water/steam and polar solvents such as acetone, methanol or esters; excellent electrical insulating properties
 - + very good heat resistance, good low temperature properties
 - fair resistance to aliphatic and aromatic hydrocarbons (mineral oils, gasoline, fuels)
 - flammable
- Trade names:** NORDEL[®], KELTAN[®], VISTALON[®], DUTRAL[®], BUNA EP[®],

NITRILE-BUTADIENE RUBBER (NBR)

- + very good resistance to oil and fuels; good mechanical strength; low permanent set after applied compression
 - + better heat resistance than SBR, low gas permeability
 - fair weathering resistance; flammable with formation of toxic flue gases
 - poor resistance to aromatics and polar solvents
- Trade names:** PERBUNAN[®], BUNA-N[®], HYCAR[®], EUROPRENEN[®], NIPOL[®]

HYDROGENATED NITRILE RUBBER (HNBR)

- + very good mechanical properties; very good abrasion resistance, very good heat resistance
 - + very good ageing, weathering and ozone resistance
 - + very good oil/grease resistance and resistance to fuels; very good hot water/steam resistance
 - poor resistance to aromatics and polar solvents
 - poor electrical properties; flammable with formation of toxic flues gases
- Trade names:** THERBAN[®], ZETPOL[®]

CHLOROPRENE RUBBER (CR)

- + good resistance to heat, ageing, weathering and ozone
 - + moderate resistance to oil; good mechanical properties and resilience, very good resistance to alternating bending stress
 - + not flammable (in own flame)
 - depending on CR-type more or less stiffening, crystallization tendency at low temperatures
 - poor resistance to fuels
- Trade names:** NEOPRENE[®], BAYPRENE[®], DENKA CHLOROPRENE[®]



CHLORSULFONATED POLYETHYLENE (CSM)

- + good resistance to ageing, weathering and ozone; low gas permeability
 - + good resistance to chemicals (especially to strongly oxidizing agents)
 - poor low temperature properties
 - poor resistance to fuels
- Trade names:** HYPALON®

POLYACRYLATE RUBBER (ACM)

- + very good resistance to ageing, weathering and ozone
 - + very good resistance to fuels, oils and greases
 - + good heat resistance
 - poor low temperature flexibility and poor resistance to chemicals; poor hydrolysis resistance
 - fair mechanical properties; low resilience
- Trade names:** HYCAR®, VAMAC®, CYANACRYL®

POLYURETHANE RUBBER (PU)

- + very good resistance to ageing, weathering and ozone
 - + very good abrasion resistance, high tensile strength, very good tear-growth resistance
 - + low gas permeability
 - water sensitive, especially at temperatures of more than 50° C
 - permanent set at elevated temperatures, flammable
- Trade names:** VULKOLLAN®, UREPAN®, ADIPRENE®, VIBRATHANE®

SILICONE RUBBER (Q)

- + excellent heat resistance and low temperature resistance; excellent resistance to weathering, ageing and ozone
 - + good electrical insulating properties; constant values of mechanical properties over a wide temperature range
 - + physiologically unobjectionable
 - moderate mechanical properties; moderate resistance to oil; sensitive to hot water and steam
 - poor resistance to fuels
- Trade names:** SILOPREN®, SILASTIC®

FLUROSILICONE RUBBER (MFQ)

- + very good heat and low temperature resistance; excellent resistance to weathering, ageing and ozone
 - + good electrical insulating properties; constant values of mechanical properties over a wide temperature range
 - + good resistance to oils and fuels
 - moderate mechanical properties
 - very high-priced material
- Trade names:** SILOPREN®

FLUORO RUBBER (FPM)

- + very good resistance to heat and low temperatures; excellent resistance to weathering, ageing and ozone
 - + very good resistance to chemicals; low gas permeability
 - + not flammable in own flame
 - hot water and steam sensitive; sensitive to the effect of amines, organic acids and polar solvents
 - poor low temperature flexibility
- Trade names:** VITON®, DYNEON®, TECNOFLON®, DAI-EL®

Fluoroelastomers:

Our brochure 'Designing with Fluoroelastomers' will give you detailed information about the outstanding performance of fluoroelastomers (FPM), including numerous figures and charts.

Brochure available upon request, please contact us! Brochure is also available for download on our website www.zrunek.at!

Resistance to Chemical Media:

Detailed information about resistance of elastomers to more than 1.700 different media is available in our brochure 'Elastomer Properties/Resistance'. This resistance guide is available upon request or ready for download on our website www.zrunek.at!

TOLERANCES for MOLDED PARTS - rubber

acc. to ISO 3302-1

nominal dimension (mm)	tolerance class M1		tolerance class M2		tolerance class M3		tolerance class M4	
	mold-dependant dimensions	dimensions with overflow	mold-dependant dimensions	dimensions with overflow	mold-dependant dimensions	dimensions with overflow	mold-dependant dimensions	dimensions with overflow
	tolerances - in mm, ±		tolerances - in mm, ±		tolerances - in mm, ±		tolerances - in mm, ±	
0 - 4	0,08	0,10	0,10	0,15	0,25	0,40	0,50	0,50
> 4 - 6,3	0,10	0,12	0,15	0,20	0,25	0,40	0,50	0,50
> 6,3 - 10	0,10	0,15	0,20	0,20	0,30	0,50	0,70	0,70
> 10 - 16	0,15	0,20	0,20	0,25	0,40	0,60	0,80	0,80
> 16 - 25	0,20	0,20	0,25	0,35	0,50	0,80	1,00	1,00
> 25 - 40	0,20	0,25	0,35	0,40	0,60	1,00	1,30	1,30
> 40 - 63	0,25	0,35	0,40	0,50	0,80	1,30	1,60	1,60
> 63 - 100	0,35	0,40	0,50	0,70	1,00	1,60	2,00	2,00
> 100 - 160	0,40	0,50	0,70	0,80	1,30	2,00	2,50	2,50
	tolerances - in %, ±		tolerances - in %, ±		tolerances - in %, ±		tolerances - in %, ±	
> 160	0,3%	0,4%	0,5%	0,7%	0,8%	1,3%	1,5%	1,5%

TOLERANCES for PROFILES, CORDS and HOSES (without reinforcement)

acc. to ISO 3302-1

nominal dimension (mm)	tolerance class E1	tolerance class E2	tolerance class E3
	tolerances - in mm, ±		
0 bis 1,5	± 0,15	± 0,25	± 0,40
> 1,5 - 2,5	± 0,20	± 0,35	± 0,50
> 2,5 - 4,0	± 0,25	± 0,40	± 0,70
> 4,0 - 6,3	± 0,35	± 0,50	± 0,80
> 6,3 - 10,0	± 0,40	± 0,70	± 1,00
> 10,0 - 16,0	± 0,50	± 0,80	± 1,30
> 16,0 - 25,0	± 0,70	± 1,00	± 1,60
> 25,0 - 40,0	± 0,80	± 1,30	± 2,00
> 40,0 - 63,0	± 1,00	± 1,60	± 2,50
> 63,0 - 100,0	± 1,30	± 2,00	± 3,20
> 100,0	± 1,3 %	± 2,0 %	± 3,2 %

TOLERANCES for SHEETS, CUT-TO-SIZE PARTS, DIE-CUT PARTS

acc. to DIN 7715 Teil 5

nominal dimension (mm)	tolerance class P1	tolerance class P2	tolerance class P3
	tolerances - in mm, ±		
bis 1,6	± 0,20	± 0,20	± 0,40
> 1,6 - 4	± 0,20	± 0,30	± 0,40
> 4 - 6,3	± 0,20	± 0,40	± 0,50
> 6,3 - 10	± 0,30	± 0,50	± 0,60
> 10 - 25	± 0,30	± 0,60	± 0,80
> 25 - 40	± 0,40	± 0,80	± 1,00
> 40 - 63	± 0,50	± 1,00	± 1,50
> 63 - 100	± 0,60	± 1,20	± 2,00
> 100 - 160	± 0,80	± 1,40	± 2,50
> 160 - 250	± 1,00	± 1,60	± 3,00
> 250 - 400	± 1,60	± 2,50	± 5,00
	tolerances - in %, ±		
> 400	0,5%	0,8%	1,5%

TOLERANCES for CORD RINGS and EXTRUDED RINGS

acc. to ISO 3302-1

cord thickness
length, i.d.

see

 "TOLERANCES for CUT-TO-LENGTH EXTRUSIONS"
 class L2

nominal dimension (mm)		tolerance class E2 tolerances - in mm, ±
0 bis	1,5	± 0,25
>	1,5 - 2,5	± 0,35
>	2,5 - 4	± 0,40
>	4 - 6,3	± 0,50
>	6,3 - 10	± 0,70
>	10 - 16	± 0,80
>	16 - 25	± 1,00
>	25 - 40	± 1,30
>	40 - 63	± 1,60
>	63 - 100	± 2,00

TOLERANCES for CUT-TO-LENGTH EXTRUSIONS (profiles)

acc. to ISO 3302-1

cuts, lengths

nominal dimension (mm)		tolerance class L1 tolerances - in mm, ±	tolerance class L2 tolerances - in mm, ±	tolerance class L3 tolerances - in mm, ±
0 bis	40	± 0,7	± 1,0	± 1,6
>	40 - 63	± 0,8	± 1,3	± 2,0
>	63 - 100	± 1,0	± 1,6	± 2,5
>	100 - 160	± 1,3	± 2,0	± 3,2
>	160 - 250	± 1,6	± 2,5	± 4,0
>	250 - 400	± 2,0	± 3,2	± 5,0
>	400 - 630	± 2,5	± 4,0	± 6,3
>	630 - 1000	± 3,2	± 5,0	± 10,0
>	1000 - 1600	± 4,0	± 6,3	± 12,5
>	1600 - 2500	± 5,0	± 10,0	± 16,0
>	2500 - 4000	± 6,3	± 12,5	± 20,0
tolerances - in %, ±				
>	4000	± 0,16	± 0,32	± 0,50

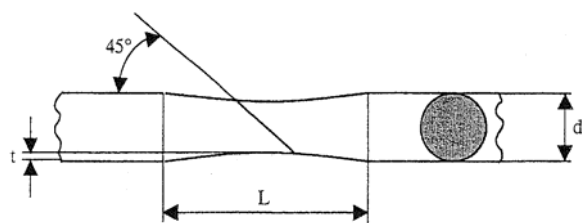
This table in general is valid for lengths of profiles, where thickness is relatively large compared with cross-section (lengths of hoses, tubes)

Tolerance for vulcanization position of cord rings

 For deviations from the cord strength **d**, the tolerances listed below are valid:

 They are permitted when the notch **t** changes seamlessly to the cross section diameter **d** and the tolerance for the length **L** is not exceeded.

Cord diameter d [mm]		Tolerances [mm]	
from	to	t	L 0,1 x id ^{*)}
	1,8	max. 0,08	max. 7,2
1,8	2,65	max. 0,09	max. 10,6
2,65	3,55	max. 0,10	max. 14,2
3,55	5,3	max. 0,13	max. 21,2
5,3	7	max. 0,15	max. 28,0
7	8	max. 0,18	max. 32,0
8	10	max. 0,21	max. 40,0
10	12	max. 0,25	max. 48,0
12	15	max. 0,30	max. 60,0
15	20	max. 0,40	max. 80,0
20	30	max. 0,50	max. 100,0
30	40	max. 0,60	max. 120,0

Zrunek norm: 91-01

^{*)} the lower value is permitted

TOLERANCES for SPONGE RUBBER

acc. to ISO 3302-1

nominal dimension (mm)	tolerance class E1	tolerance class E2	tolerance class E3
	tolerances - in mm, ±	tolerances - in mm, ±	tolerances - in mm, ±
0 bis 1,5	± 0,15	± 0,25	± 0,40
> 1,5 - 2,5	± 0,20	± 0,35	± 0,50
> 2,5 - 4	± 0,25	± 0,40	± 0,70
> 4 - 6,3	± 0,35	± 0,50	± 0,80
> 6,3 - 10	± 0,40	± 0,70	± 1,00
> 10 - 16	± 0,50	± 0,80	± 1,30
> 16 - 25	± 0,70	± 1,00	± 1,60
> 25 - 40	± 0,80	± 1,30	± 2,00
> 40 - 63	± 1,00	± 1,60	± 2,50
> 63 - 100	± 1,30	± 2,00	± 3,20



TOLERANCES for LATHE-CUT RINGS

acc. to ISO 3302-1

mandrel dependent internal dimensions

nominal dimension (mm)	tolerance class EN1	tolerance class EN2	tolerance class EN3
	tolerances - in mm, ±		
0 bis 4	± 0,20	± 0,20	± 0,35
> 4 - 6,3	± 0,20	± 0,25	± 0,40
> 6,3 - 10	± 0,25	± 0,35	± 0,50
> 10 - 16	± 0,35	± 0,40	± 0,70
> 16 - 25	± 0,40	± 0,50	± 0,80
> 25 - 40	± 0,50	± 0,70	± 1,00
> 40 - 63	± 0,70	± 0,80	± 1,30
> 63 - 100	± 0,80	± 1,00	± 1,60
> 100 - 160	± 1,00	± 1,30	± 2,00
tolerances - in %, ±			
> 160	± 0,6	± 0,8	± 1,2

acc. to ISO 3302-1

outside dimensions, grinded

nominal dimension (mm)	tolerance class EG1	tolerance class EG2
	tolerances - in mm, ±	
0 bis 10	± 0,15	± 0,25
> 10 - 16	± 0,20	± 0,35
> 16 - 25	± 0,20	± 0,40
> 25 - 40	± 0,25	± 0,50
> 40 - 63	± 0,35	± 0,70
> 63 - 100	± 0,40	± 0,80
> 100 - 160	± 0,50	± 1,00
tolerances - in %, ±		
> 160	± 0,3	± 0,6

acc. to ISO 3302-1

wall thicknesses, grinded

nominal dimension (mm)	tolerance class EW1	tolerance class EW2
	tolerances - in mm, ±	
0 bis 4	± 0,10	± 0,20
> 4 - 6,3	± 0,15	± 0,20
> 6,3 - 10	± 0,20	± 0,25
> 10 - 16	± 0,20	± 0,35
> 16 - 25	± 0,25	± 0,40

acc. to ISO 3302-1

cuts, lengths - thicknesses

nominal dimension (mm)	tolerance class EC1	tolerance class EC2	tolerance class EC3
	tolerances - in mm, ±		
0,63 bis 1	± 0,10	± 0,15	± 0,20
> 1 - 1,6	± 0,10	± 0,20	± 0,25
> 1,6 - 2,5	± 0,15	± 0,20	± 0,35
> 2,5 - 4	± 0,20	± 0,25	± 0,40
> 4 - 6,3	± 0,20	± 0,35	± 0,50
> 6,3 - 10	± 0,25	± 0,40	± 0,70
> 10 - 16	± 0,35	± 0,50	± 0,80
> 16 - 25	± 0,40	± 0,70	± 1,00

This table in general is valid for lengths of profiles, where thickness is relatively small compared with cross-section (rings, discs)

Tolerances for elastomer O-rings

Tolerances according to ISO 3601-1 class B

tolerances of the cord dm **d2** of O-rings:

d2	Tolerance
≤ 2,25	± 0,08
> 2,25	± 0,09
> 3,15	± 0,10
> 4,50	± 0,13
> 6,30	± 0,15
> 8,40	± 0,21
> 10,00	± 0,25
> 12,00	upon request

inner diameter (id)

The calculation is carried out according to the following formula:

$$\Delta \text{id} = (\text{id}^{0,95} \times 0,009) + 0,11 \text{ [mm]}$$



Minimum amount per item: 30 EUR
Minimum order amount: 100 EUR Foreign shipments: 150 EUR
For orders below minimum order amount we add a handling charge:
Inside Austria: 75 EUR
Foreign shipments: 75 EUR

Minimum order amount for custom-made orders: 500 EUR

General Terms and Conditions of Sale of ZRUNEK Gummiwarengesellschaft m.b.H. Vienna
(hereinafter referred to as ZRUNEK)

1. Contract

- 1.1. These General conditions of sale (in the respectively applicable version) apply to all (including future) transactions between ZRUNEK and their Customers who are not consumers within the meaning of Section 1 Para. 1 lit 2 Consumer Protection Act (KSchG) for goods which are produced or traded by ZRUNEK. Any divergent terms and conditions, in particular any sales-, delivery- or payment conditions, provided by the Customer are only binding in the case of written acknowledgement by ZRUNEK.
1.2. Offers by ZRUNEK be it also in the communication of advertising material and price lists, are not binding unless such offers are explicitly designated as binding.
1.3. Oral statements or declarations via telephone as well as agreements with employees and representatives of ZRUNEK are binding on ZRUNEK only and insofar as confirmed in writing by ZRUNEK. Statements via e-commerce are deemed to have been received 12 hours after receipt on the local ZRUNEK mail server respectively earliest at the beginning of official ZRUNEK business hours on the next following working day.
1.4. Only written order confirmations with signature or order confirmations with ZRUNEK's validity notation are valid. The content of the agreement shall be binding and acceptance (order and confirmation of order), the goods stated therein, the therefrom resulting price, the designated ZRUNEK quality description and these General Terms and Conditions of Sale. Any changes and/or amendments of this content of contract shall require the written agreement of the parties.
1.5. These General Terms and Conditions of Sale in the respectively applicable version shall be deemed acknowledged by the Customer with the placing of the order, at the latest, however, with acceptance of first delivery of the goods and shall be also with binding effect on all future contracts.
1.6. Insofar as the parties have concluded framework-contracts, these prevail. Insofar as such framework-contracts do not contain more specific regulations, they are supplemented by these General Terms and Conditions of Sale. Any changes, amendments or side-agreements are valid only if confirmed in writing by ZRUNEK.
1.7. The respective actual applicable version of the General Terms and Conditions of Sale of ZRUNEK are available on the website of ZRUNEK (www.zrunek.at).

2. Goods

- 2.1. Goods are supplied according to the agreed specifications, in the case of lack of such specifications; goods shall be supplied according to the quality customary in trade. ZRUNEK is entitled also after conclusion of the contract to make changes which are reasonable for the Customer. The ingredients of the gum mixtures, in order to achieve qualities such as for example light permeability, permeability to the weather or to oil, shall meet, in the absence of definite specifications of the Customer, the customary recommended standards given in technical literature. Upon request of the Customer, ZRUNEK shall send copies of data sheets as far as such are available. Regarding admissible deviations in limits and measures the standards set by the relevant european industrial norms with regard to the applicable article, in particular DIN 7715 and ISO-3302 -1 in their respectively applicable versions, namely, the maximum admissible deviations in measure and limits, shall apply insofar as there are no specific indications in the relevant industrial norms. The quantity of ordered goods which are produced according to the specifications of the Customer may include a variable of plus or minus 10%.
2.2. Orders placed according to specimen ("laut Muster") shall be placed with a written specification of the Customer of the desired composition of the goods and the dimensions.
2.3. The Customer shall store the goods in the appropriate way according to the relevant required storage, cleaning and maintenance requirements within the meaning of the applicable DIN for the article concerned, in particular those of DIN 7716, or the relevant succeeding norm in the respectively applicable version. The burden of proof that the requirements for appropriate storage have been met lies with the Customer.
2.4. The goods are not intended to be built into non-regular, abnormal (extraordinary) facilities and are not intended for non foreseeable or non-customary use or operations, in particular may they not be used for parts, fittings, accessories, furnishings or equipments in or for aircraft or other aerial vehicle. The responsibility and liability for the choice, for fitness and suitability for the intended use and/or the appropriateness for applications or operations of the goods and for the achievement of intended results lies exclusively with the Customer. Insofar as the Customer intends to use the goods in a third country market outside the EU, the Customer is obliged to inquire himself about the relevant quality- and/or production norms of the relevant market and that such relevant quality and/or production norms are fulfilled and that the goods fulfil such requirements. The Customer shall indemnify ZRUNEK for and against any and all damages resulting from a breach of this obligation.

3. Price

- 3.1. The agreed price applies net ex-works and/or ex-supply warehouse ZRUNEK, without packaging, exclusive of VAT, albeit without costs for packaging, loading, transport and insurance costs ex-works.
3.2. The packaging in wooden boxes, crates, pallets and other repositories will be billed at cost price. The cost of packaging material returned shall not be refunded. Transport packaging and outer-packaging respectively additional packaging ("Umverpackungen") within the meaning of the "Verpackungsverordnung" in the respectively applicable version shall be returned to the factory or the warehouse of ZRUNEK. The Customer's obligation to return is deemed to be an obligation to be performed at ZRUNEK's place of business. The Customer agrees that a return made outside the factory or warehouse of ZRUNEK shall be prepaid.
3.3. Variations from Para 3.1 and 3.2 may only be agreed with separate and explicit written confirmation by ZRUNEK. A reference to trade terms like FOB, CIF, etc is not to be considered or construed as variation or exclusion of Para 3.1. and 3.2.

4. Conditions of payment

- 4.1. ZRUNEK's prices are non-binding and fixed prices; all offers and invoices are quoted in EUROS unless otherwise agreed in writing.
4.2. In the case that payment is agreed in foreign currency, ZRUNEK is entitled to demand payment either at the Euro exchange rate (foreign notes purchase rate) at due date or at the Euro exchange rate (foreign notes purchase rate) on date of payment.
4.3. The amounts billed are due within 30 days from the date of invoicing and are payable postage free and without any deduction. Rebates granted, special conditions, prompt-payment discounts, respites and times allowed for payment shall be deemed to have been revoked in the case of filing a request of commencement of insolvency proceedings, of opening of insolvency proceedings or of the rejection of an application for opening an insolvency proceeding due to lack of funds. Employees and representatives of ZRUNEK shall only be entitled to accept payments if they possess a power of attorney for receipt of payment.
4.4. Advance payments do not carry any interest.
4.5. Payments shall be made by the Customer at its own risk and expense to a bank account designated by ZRUNEK. The place of performance for the Customer shall be Vienna. Money obligations are deemed to be an obligation to be performed and discharged at ZRUNEK's place of business.
4.6. The retention of payments or a setting-off, compensation (netting) by the Customer in case of alleged counter-claims or in case of alleged incomplete or deficient delivery is explicitly excluded with the exemption of counterclaims of Customer which have been explicitly and with legally binding effect been acknowledged by ZRUNEK or which have been adjudicated by binding and enforceable judgment.
4.7. In case of delayed payment by the Customer or if ZRUNEK becomes aware of facts which raise doubts as to his liquidity, ZRUNEK has the right to immediately set off outstanding amounts due and/or demand pre-payment or security for future performance and supplies. In case the Customer does not meet this request, ZRUNEK is entitled to rescind the contract and/or demand damages due to non-performance. Furthermore, in case of delayed payment by the Customer ZRUNEK is entitled to demand payment of interest rates in the amount of 9.2 % above the applicable reference rate, as published by the Austrian National Bank ("Österreichische Nationalbank") respectively the applicable statutory interest rate for late payments in a B2B-relationship, whereby the basis interest rate published for the last calendar day of a half-year shall apply to the following calendar half-year. This late payment interest rate shall apply to any and all claims of ZRUNEK against the Customer. The right to demand increased costs for obtaining credit lines is reserved. Any Customer in delay shall bear all costs of reminders for outstanding invoices and all costs incurred for adequate measures of pursuit of claims, expenses and costs for collection, inquiries or requests for information, court costs including lawyers' costs for the pursuit of claims out of court or in court.

5. Delivery

- 5.1. Deadlines of supply or dates of delivery are only binding if they are designated as such expressly in writing. Deadlines of supply or dates of delivery are only binding if they are designated and confirmed as such explicitly in writing by ZRUNEK. Periods of delivery start with the acceptance of the order (date of the confirmation of order) insofar as there are no obligations of pre-performance of the Customer. In this case, the delivery periods only start with the timely performance of the pre-performance obligation (such as the obligation for supply of further specifications or drawing up of designs and production material, the issuing of letters of credit and bank guarantees, the payment of down-payments, etc.) of the Customer. This provision applies equally to any performance requirements of the Customer during the production. If ZRUNEK does not receive in due time indications or specifications from Customer which are required for the execution of the order, delivery periods of ZRUNEK are accordingly adequately prolonged.

- 5.2. The supply is made ex-works or warehouse ZRUNEK; part deliveries and the rendering of accounts for part deliveries shall be admissible.
5.3. Should ZRUNEK be in delay with a delivery, the Customer shall in writing grant ZRUNEK an adequate extension of time of at least another period of 4 weeks for performance. Should ZRUNEK not deliver within the period, the Customer may rescind the contract by written statement.
5.4. Delivery periods and dates shall be prolonged and/or deferred in circumstances beyond the control of ZRUNEK, in particular in events of force majeure such as measures by authorities, legislative acts, strikes, boycott, riots, war, lock-outs, damages to machinery, lack of energy or resources and utilities, external attacks on IT-systems, and any other disruptions in production, in transport, and elementary events as well as delays of delivery on the part of suppliers for the duration of such hindrance. In case the duration of such hindrance is longer than four (4) weeks, ZRUNEK or the Customer for whom the further performance of the contract is unreasonable may rescind the contract. There will be entitlement for damages. The party struck by an event of force majeure will inform the other party about the occurrence and the end of such event. Should in case of an event in the meaning of Para 5.4. the quantity of goods at disposition for ZRUNEK not be sufficient to meet the demands of all customers, ZRUNEK is entitled to respective cutbacks with regard to all delivery obligations.
5.5. In case of conclusion of a framework supply agreement, the quantity promised by ZRUNEK shall be accepted by the Customer at the latest within a year after conclusion of the framework agreement unless otherwise agreed. The prices agreed in a framework supply agreement, in the absence of any other agreement, shall apply for a year. Following the end of this period, the respective actual ZRUNEK list prices shall apply.
6. Transfer of risk
6.1. The handing over of the goods to the Customer shall be made in the factory or at the delivery warehouse of ZRUNEK. In case delivery to a different venue is agreed, the transfer of goods is effected by the handing over to the forwarding agent or carrier, who, should there be no more detailed designation by the Customer, shall be commissioned by ZRUNEK without any liability for the choice of the carrier and on the account and costs of the Customer placing the order.
6.2. With the handing over of the goods the total risk (delivery and payment), in particular the risk of accidental destruction, perishing or loss and risk of transport, is transferred to the Customer. With the lapse of the agreed collection date the goods are stored at risk and expense of the Customer.
6.3. On taking over the goods, and in case of dispatch by delivery by a forwarding agent, a carrier or by the post, the Customer shall without delay investigate and examine the goods and notify immediately in writing providing a detailed description of any obvious defects or defects which can be identified by proper inspection; failing this ZRUNEK's guarantee obligation is precluded. This notification of defects shall be made vis-à-vis ZRUNEK as well as vis-à-vis the forwarding agent, carrier or the post, so that damages and defects which occurred in the course of the transport, and for which ZRUNEK is not liable, may be ascertained immediately.
6.4. Should the Customer not accept the goods within the period and on the conditions as agreed, the risk for the goods passes on to Customer latest at this moment of default of acceptance. ZRUNEK is entitled to request immediate due payment of the full purchase price notwithstanding any eventually agreed payment periods. ZRUNEK is furthermore entitled to request from Customer the compensation of any and all costs and damages incurred by the default of acceptance, in particular costs for storage and transport, to store the goods at cost and risk of the Customer and/or to dispose of the goods after the lapse of an adequately extended period set to the Customer.
6.5. Notwithstanding all this, ZRUNEK is entitled to rescind the contract under the legal conditions and/or to demand payment of damages for non-performance.
7. Property in production utilities and reserved retention of title
7.1. Forms, production utilities and other equipment which serve the production are the property of ZRUNEK even if the Customer has paid a contribution to the costs for the form and the proposals and designs for the article to be produced were made by the Customer. In the event of insolvency ZRUNEK should any of these forms, production utilities and equipment which were produced or used according to proposals and designs of the Customer infringe intellectual property or rights of third persons. The costs for the replacement, recoupment and/or repair of such forms, production utilities and other equipment which were damaged or destroyed as a result of force majeure or of other circumstances which are not within the sphere of responsibility of ZRUNEK are to be borne by the Customer. The same applies for such costs or expenses which ZRUNEK incurs because such forms, production utilities or other equipment have to be repaired, substituted or reproduced due to wear and tear, abrasion or to other reasons which restrict, impair or exclude their usability. In case of damage or destruction of such forms, production utilities and other equipment, which due to a separate agreement are the property of the Customer, during the storage at ZRUNEK any liability of ZRUNEK is excluded as far as legally admissible. If such forms, utilities or other equipment which are the property of the Customer are not collected by the Customer despite a respective request within two years after the last utilisation for the Customer, ZRUNEK is entitled to scrap them at the cost and expense of the Customer notwithstanding its right to claim storage costs.
7.2. ZRUNEK retains the proprietary title in the goods supplied on the basis of this contract until any and all claims of ZRUNEK resulting from the contract concluded are fully satisfied. In case of payment by cheque or bills of exchange, the retention of title is only lost with final honouring of the amounts of the bills of exchange or cheque (after encashment or discounting) provided to ZRUNEK.
7.3. In case of processing, combining or mixing of goods with goods which are not the property of ZRUNEK so that the goods cannot be separated any more without substantial impairment or without disproportionate work or expenses, the retention of proprietary title in favour of ZRUNEK pertains to the whole of the goods processed, connected or mixed together. ZRUNEK acquires co-ownership pro rata of the invoice value of the goods in relation to the value of the intermediate or final product. In case the Customer should due to legal reasons acquire sole ownership or be considered to have sole ownership with regard to the new combined or mixed object (goods), the Customer has to treat and place ZRUNEK as in a position as if pro rata co-ownership would have been acquired respectively has to procure respective co-ownership rights to ZRUNEK until full payment of goods. In such a case the Customer is considered as trustee-custodian of the produced combination respectively mix of goods. The purchaser is entitled to sell goods for which the proprietary title is retained. In case of sale, the Customer shall assign any claims thereon arising to him vis-à-vis his contractual partner to ZRUNEK without any consideration whether or not these goods shall be resold with or without processing, connection or mixing, and whether they shall be resold to one or more purchasers. ZRUNEK herewith accepts such assignments of claims already now. In case of resale, the Customer is obliged to inform his contractual partner of the retention of proprietary title in favour of ZRUNEK and to provide for the relevant act of publicity of the assignment (notice of assignment) in its books and on its invoices as well as to secure both assignment and retention of proprietary title by a legally binding form and to keep ZRUNEK informed of sales and further developments. The consent for re-sale, processing, combining or mixing in the regular course of business according the conditions of above para 7.4. is revoked and ceases to exist as soon as insolvency proceedings are instituted or opened regarding the funds of the Customer.
7.6. Until the retention of proprietary title extinguishes, the Customer has to treat the goods carefully and shall insure the goods sufficiently, in particular against fire and theft, and furthermore assigns his claims against the insurer in case of the occurrence of an insured event in the amount of the value of the goods to ZRUNEK. The Customer will make apparent the assignment by appropriate entry in its books and will immediately notify ZRUNEK of the occurrence of an event insured against.
7.7. Until the retention of proprietary title extinguishes, the transfer of property by way of security respectively for security purposes or the pledge of the goods (mortgage chattel) shall be precluded. In third parties should pursue any foreclosure or debt enforcement measures with regard to goods for which proprietary title is retained, the Customer shall inform about the proprietary title of ZRUNEK and shall inform ZRUNEK without any delay together with the handing over of all relevant documents necessary for intervention.
8. Representations and Warranties
8.1. ZRUNEK shall for the duration of 6 months from the delivery of goods (hand over) in accordance with above Point 6. respectively from recognisability of a defect, at longest however for a duration of 12 months from the date of delivery, warrant that the goods sold to the Customer are in accordance with the specifications in the order confirmation and free of production or material defects. ZRUNEK does not warrant and is not liable for suitability or fitness for use, for applications or processing of the goods, which has to be examined and verified exclusively within Customer's liability. Eventual indications or information by ZRUNEK are non-binding and do not relieve the Customer from his own examination duties. The Customer shall immediately investigate the goods after receipt as to whether or not they are complete and free of defects. Any claims and right to damages are forfeited and barred if obvious defects are not immediately, hidden defects not immediately after their recognisability notified to ZRUNEK in writing with a detailed description to ZRUNEK. In case Customer has inspected the goods prior to collection (pick up) or to transport and has not notified of any defects, any complaints following thereafter concerning recognizable defects are precluded.
8.2. Goods which have been objected as having a defect have to be retained and stored free of charge in the condition and state as they were when the defect was identified for inspection by ZRUNEK. If the Customer proves that he has stored the goods properly (Point 2.3), ZRUNEK will at its discretion either cure the defects or supply default-free goods instead of the faulty goods. Beyond that and as far as legally possible no further warranty claim shall exist. Several improvements or substitute supplies are admissible. Goods replaced become the property of ZRUNEK.
8.3. The return of the faulty goods replaced shall be made at the expense of the Customer. Warranty claims for deliveries at specially negotiated conditions or for goods free of costs or complementary goods are excluded as far as legally possible.
8.4. In the case of goods which are built into exceptional, non-regular, out of the ordinary equipment or facilities or are used for non-customary or not foreseeable applications or operations, in all for parts, fittings, accessories, furnishings or equipment in or for aircraft or other aerial vehicle, any and all warranties, as far as legally admissible, are excluded.
8.5. In the case of goods which according to order "according to specimen" ("laut Muster") have been produced without the written information on the specifically desired composition (mixture) and dimensions or volume, the warranty for the composition (mixture) and dimensions or volume is, as far as legally admissible, excluded.
9. Damages

- 9.1. ZRUNEK is liable for its own and its auxiliary persons at performance of the contract negligence, however, not for slight negligence. There is no liability whatsoever and is precluded to the extent permissible by law for loss of profit due to delayed or faulty delivery, for any detriment suffered by disruption in production, for costs of transport, for damages occurring in connection with the replacement of faulty goods by fault-free goods, for costs of removal and re-installing, for the custody, care and damages through or by processing of goods which are at ZRUNEK for being processed, and for any damages claimed by the customer of Customer or against the Customer.
- 9.2. Liability of ZRUNEK for damages vis-à-vis the purchasers of its Customer placing the order is excluded in the same extent as against the Customer. The Customer of ZRUNEK is furthermore obliged to similarly restrict possible claims of his purchasers in case of resale.
- 9.3. Liability of ZRUNEK for damages according to the Product Liability Act or based on product liability for property damage of an enterprise are excluded as far as legally possible irrespective of any negligence. The same exclusion applies for costs of legal defence and representation, for testing costs, costs for examinations, costs for removal, dismantling or installation, eventual recall-costs and other expenses or costs for the handling of the liquidation of property damages. Should ZRUNEK be liable jointly and severally with the Customer or the Customer's purchaser and/or its successor in rights or contract partner according to the terms of the Product Liability Act or for grounds of product liability, ZRUNEK is entitled to full recourse to any one of them – Customer, Customer's purchaser, successor in rights or contract partner - unless the party held liable for recourse proves that the defect of the product giving rise to product liability was already in existence before ZRUNEK put the product into commerce. Customer is obliged to take out at his own expense a product liability insurance which includes in the coverage – insofar as insurable – the risk of product recalls and which corresponds as a minimum in scope and duration to the maximum of liability thresholds according Austrian law. Existence of such product liability insurance has to be proven to ZRUNEK upon request.
- 9.4. ZRUNEK is not liable for any specific fitness or suitability for use, nor for possibility for use, application, installation, processing or manufacturing, whereby the duty to check all of the foregoing lies exclusively with the Customer, and is not liable for any damages resulting from any such non-fitness or non-suitability. Customer resigns and waives any claims for damages against ZRUNEK based on a claim of eventual breach of warning duty unless he has notified the specific purpose of use or application of the goods to be supplied in detail in writing and unless ZRUNEK has confirmed to him such fitness for use or suitability in the order confirmation.
- 9.5. In case of export of goods to countries outside the EU, any damage and other liability claims are insofar as legally admissible excluded unless ZRUNEK consented to the export to the country of designation in writing.
- 10. Choice of law, forum**
- 10.1. The legal relations between ZRUNEK and the Customer are exclusively governed by the substantive laws of Austria, excluding international private law provisions and the Vienna Convention on Sales of Goods.
- 10.2. It is agreed to submit, insofar as admissible all legal disputes arising out of these legal relations to the exclusive competence of the Courts in Commercial Matters for the First District of Vienna. ZRUNEK is further entitled to submit legal disputes against the Customer before the competent local courts at the Customer's main seat or at any branch office of the Customer.
- 11. Data protection provisions**
- 11.1. The data in connection with the business relationship, in particular name, address, telephone and fax number, e-mail addresses, addresses of order, supply and bill, dates of order, ordered and supplied goods or services, numbers, price, dates of delivery, data of reminder and payment, etc., are stored and processed in ZRUNEK's computer server respectively on data carriers or data storage media. The Customer empowers and authorizes ZRUNEK explicitly to all data processing which is necessary or relevant for an orderly and adequate business relationship, to automatically collect, record, process and also forward data in the frame of legal obligations, and to gain or obtain information about him, in particular his financial situation, from or with third parties (for example banks and creditor protection associations) and to process these data with automated processes. The Customer will at any time upon request waive or release his rights to banking secrecy or eventual obligations of confidentiality with third parties.
- 11.2. The Customer expressly declares its consent that any data concerning it or an undertaking connected to its inner group of companies (including balance sheet data), may be forwarded to insurance companies insofar as this is necessary for insuring claims against the Customer, to creditor protection associations for the purposes of keeping, connecting and forwarding data for protection of creditor interests, as well as to ZRUNEK's banking relations for assessment of claims and other risk. The Customer empowers ZRUNEK expressly to forward data of address, telephone, telefax, e-mail and other data of the firm (seat, Commercial Registry No., etc.), as well as statistics about the orders to third parties, specifically the insurance companies, creditor protection associations and banks mentioned above.
- 11.3. The Customer agrees that its business name and other trader's names (logos, etc) may be used by ZRUNEK for advertising purposes, specifically for reference lists, customer lists and other correct references to ZRUNEK's customers. ZRUNEK is also entitled to do so if the business name and other trader's names are protected by trade mark laws or any other intellectual property laws.
- 11.4. The Privacy Policy of ZRUNEK is available on the website of ZRUNEK (www.zrunek.at).
- 12. Electronic commerce**
- 12.1. Information and non-binding offers given by ZRUNEK by way of network supported or electronic data processing information and non-binding offers given by ZRUNEK by way of network supported or electronic data processing are made by ZRUNEK on the basis of the existing assortment and availability in storage as well as the applicable pricing list, etc. are as up-to-date as possible, but shall not be binding.
- 12.2. Orders and any other legal statements of the Customer may be sent validly by using our electronic forms, as well as via e-mail, however, in order to be valid require the faultless receipt on ZRUNEK's server according Point 1.3.. Defects of transmission are at the risk of the Customer.
- 12.3. The content of the order and of the confirmation of order and receipt sent by ZRUNEK, possibly also electronically, and any other statements, shall be checked by the Customer, who will immediately warn of deviations from the statement sent to it. Otherwise, the transaction as confirmed by ZRUNEK shall be deemed concluded. The text of agreements will be recorded and saved by ZRUNEK.
- 12.4. ZRUNEK reserves the right to revoke the validity of a particular statement or statements made during a certain period due to a possible malfunction of the data processing equipment, without delay and by appropriate means, (individual notice, notification on the ZRUNEK website, etc.) and shall effect another valid transmission of such statements, and/or solicit such transmission.
- 13. Confidentiality**
- 13.1. The Customer is obliged to keep confidential also beyond and after the end of the business relationship all business or technical information or operation procedures which are not in the public domain of which he becomes aware in the course of the business relationship. The customer is obliged to submit and impose this same secrecy obligation with legally binding effect on his employees, sub-suppliers, sub-contractors and other agents or representatives

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