

**DYNAMIC**

**OIL-IMPREGNATED**

**HIGH DEFORMABILITY**

# **Gaskets made of Vulkocell®**

**EXPERIENCE**

**PROTECTION**

**RESISTANCE**

**GASKETS FOR JOINT BEARINGS**

**DIRT GUARD**

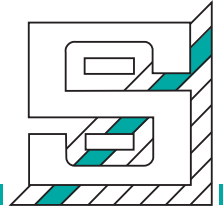
**HIGH-CAPACITY**

**MINIMAL TRANSVERSE STRAIN**

**VOLUME COMPRESSIBLE**

**CUSTOMIZED**

# Gaskets made of Vulkocell®



## Vulkocell® Gaskets

Vulkocell® is a cellular polyurethane elastomer which was developed especially for technical applications; it is particularly suitable for damping and sealing elements – above all for gaskets. Vulkocell® gaskets in square and rectangular cross section are mainly used for the sealing of bearings of various designs where they serve as dirt and dust barriers and as noise and vibration insulators. When Vulkocell® gaskets are oil impregnated they become completely self-lubricating and therefore provide life long maintenance – free service.

For special applications and installation situations we're able to create also customized solutions even with small lot sizes. Special profiles such as different densities can be adapted individually on the application. Even hydrolysis resistant seals for use in areas with high humidity or tropical climate can be realized with our materials.

## Properties

Unlike O-Rings and lip contact gaskets, which only provide a single “line” seal, Vulkocell® gaskets have a large surface area contact and very high strength, they therefore remain completely effective even under the roughest conditions, e.g. tractors and construction machinery.

Vulkocell® gaskets are compressible up to 80 % and therefore allow very large oscillating movements such as those found in universal joints and pivoting bearings.

Working tolerances – When using Vulkocell® as a seal on the apertures for cables, bearings, shafts, etc. it is possible to enlarge the tolerances considerably since the compressibility of Vulkocell® will always ensure an effective seal.

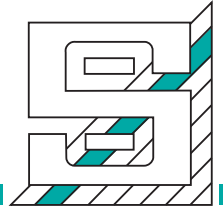
The easy deformation of Vulkocell® gaskets enables a rapid and unproblematic assembly even in the most difficult cases.

The low compression set properties of Vulkocell® guarantee a long operational life even under high deformation frequencies and this is further enhanced by its resistance to oils and greases (see details).

Oil and grease impregnated gaskets enable the automatic lubrication of the bearings and they increase the sealing power against dust etc.



# Gaskets made of Vulkocell®



The following information is given for the design, installation and construction of Vulkocell® gaskets. The installation of Vulkocell® gaskets is made in the same simple way as round cord or O-Ring gaskets. The dimension required for Vulkocell® gaskets are as follows:

## 1. Radial gaskets

Vulkocell® gaskets in this type of application should be subject to a pre-loading of 10% more than the maximum deflection of the moving parts, for this reason the diameter of the seal for shafts should be 5% smaller than the shaft diameter and the outside dimensions should be 5% larger than the gasket groove.

The maximum allows static pre-loading of Vulkocell® elements can be approx. 30% to 35% where a compression set of 6% to 10% can be expected.

Owing to the elasticity of Vulkocell® the diameter tolerance and the mismatch of the shaft diameter and the grooves may be relatively large, however, the peak to valley height of the machined surface on parts to be sealed should not exceed 0.005 mm at the tight joint.

It must be kept in mind that the impregnation of Vulkocell® gaskets with grease will reduce the friction loss by approx. 50%.

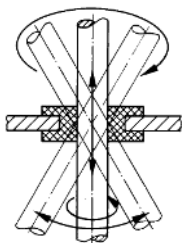
## 2. Axial gaskets

Where the Vulkocell® component is intended to seal axial movement of a shaft or other component the length of the seal must be 10% longer than the maximum pitch achievable by the moving parts. When all components are moved to their minimum pitch the compression of the Vulkocell® component must not exceed 80% as damage will result.

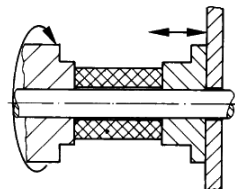
In cases where Vulkocell® is required to be compressed to a high degree (max. 80%) care should be taken to ensure that the frequency of oscillation remains low, otherwise the temperature rise within the Vulkocell® could be sufficient to burn it. There is a similar risk attached to seals on rotating shafts and in these cases lubrication should be employed.

In designing seals for universal joints the same principles should be employed, care must be taken to ensure that at maximum deflection there is still a 10% pre-loading on the one side while avoiding an 80% compression of the opposing side.

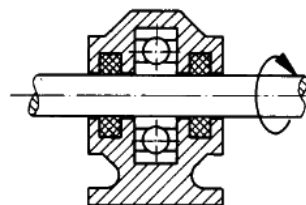
### Application examples:



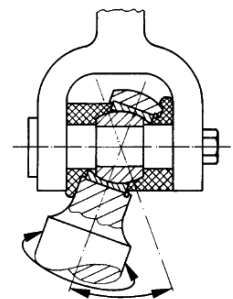
**Radial gaskets**  
for internal and external diameters Sealing, guiding, sound absorption, oscillation, damping for shafts and rods with axial and / or slowly rotating and / or oscillating movement.



**Axial gaskets**  
for sealing machine parts with reciprocating movements and / or rotating movement.

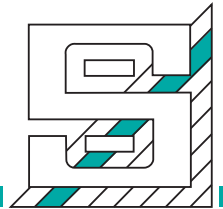


For sealing rotating shafts.

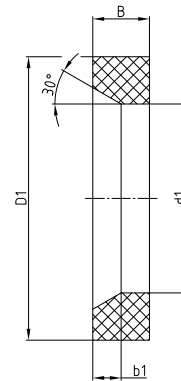
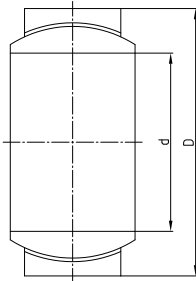


Sealing of pivoting bearings and spherical heads with rotating and / or rotating movement.

# Gaskets made of Vulkocell®



Gaskets for radial - pivoting bearings  
According to DIN ISO 12240-1 Series E



Normal size	d	D
4	4	12
5	5	14
6	6	14
8	8	16
10	10	19
12	12	22
15	15	26
17	17	30
20	20	35
25	25	42
30	30	47
35	35	55
40	40	62
45	45	68
50	50	75
60	60	90
70	70	105
80	80	120
90	90	130
100	100	150
110	110	160
120	120	180
140	140	210
160	160	230
180	180	260
200	200	290
220	220	320
240	240	340
260	260	370
280	280	400
300	300	430

D1	d1	b	b1	Item-No.
10	6,5	3	1,5	280000444
12	8	3	1,5	280000544
12	8	3	1,5	280000644
14	10,5	4	2	280000844
17	13,5	4	2	280001044
20	15	4	2	280001244
24	18,5	4	2	280001544
28	21	5	2,5	280001744
33	24,5	5	2,5	280002044
40	29,5	5	2,5	280002544
45	34,5	5	2,5	280003044
53	40	6	3	280003544
60	45	6,5	3,5	280004044
65	51	7	3,5	280004544
72	56	7,5	3,5	280005044
87	67	9	4	280006044
101	78	9	4	280007044
116	89,5	10	5	280008044
126	98	12	6	280009044
145	110	16,5	8	280010044
155	122	16,5	8	280011044
173	130	15	7,5	280012044
202	156	16	8	280014044
222	172	18	9	280016044
250	200	18	9	280018044
280	215	25	12	280020044
310	240	25	12	280022044
328	266	25	12	280024044
358	290	25	12	280026044
390	314	25	12	280028044
418	337	28	12	280030044

Density: 0,45 gr. / cm<sup>3</sup> (different densities upon request)  
Subject to technical alterations.

The above information is given in good faith, it is derived from our experience and best knowledge. There is no guarantee expressed or implied that.