
HIGHLY RESILIENT
SUSPENSION
POWERFUL
VULKOCELL
VERSATILE
COMFORT
SAFETY
HYDROLYSIS RESISTANT
P+S
DYNAMIC
VOLUME COMPRESSIBLE
POLYURETHANE
ELASTOMERS
DEFORMABILITY
RESISTANCE
VIBRATION DECOUPLING
WEAR-FREE
VIBRATION CONTROL TECHNOLOGY

THE COMFORTABLE SUPPLEMENT

VULKOCELL®

WHEN IT COMES TO VIBRATION TECHNOLOGY

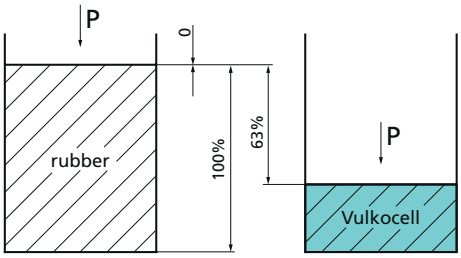
With its cellular structure Vulkocell acts as a kind of high-performance partner for compact Vulkollan. Preferably, this elastomer always is used when applications demand specific material properties. Since Vulkocell is manufactured in a volume weight between 300-700 kg/m³ (special densities on request), a much higher deformability and reduced compression hardness can be achieved compared to solid elastomers.
Vulkocell has a high volume compressibility at low transverse strain; it can be compressed as much until all the cells are compressed and a homogeneous, elastic structure is reached. This results in the big advantage that in this deformation zone only a low transverse strain occurs.

Relatively low damping and high dynamic load capacity: With this advantageous combination, solutions made of Vulkocell are used around the globe to solve vibration problems, for example for maximum safety, suspension and comfort in vehicle construction.

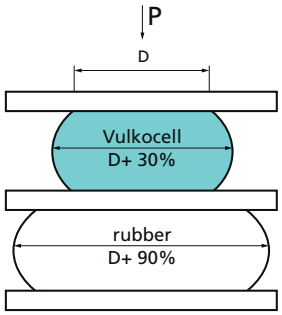
In addition, Vulkocell is characterized by its resistance to aliphatic hydrocarbons such as oils and grease, as well as to ozone and aging. In the technical field a general resistance to lubricants can be assumed. In case of lubricants containing certain additives, a test under operating conditions should be carried out. If needed, special adjustment to protect against hydrolysis can be arranged.

At a glance: the profile of properties

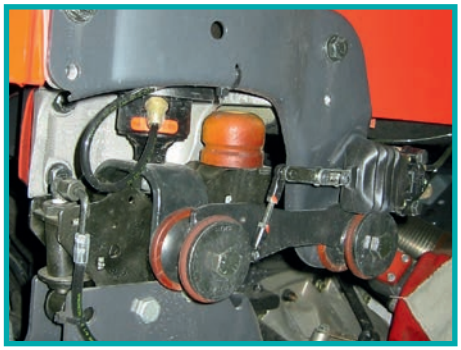
- rising force absorption with increasing density
- uniform compression behaviour
- low compression set at dynamic fatigue loading
- high volume compressibility at low transverse strain
- good resistance to mineral oils and greases
- good resistance to ozone, UV radiation and high-energy radiation
- temperature range from -30°C to + 80°C
- possible adjustment for hydrolysis resistance
- special qualities approved according to LFGB (Food, Commodities and Feed Code)



upsetting in closed space



compression between two plates



THE COMFORTABLE SUPPLEMENT

VULKOCELL®

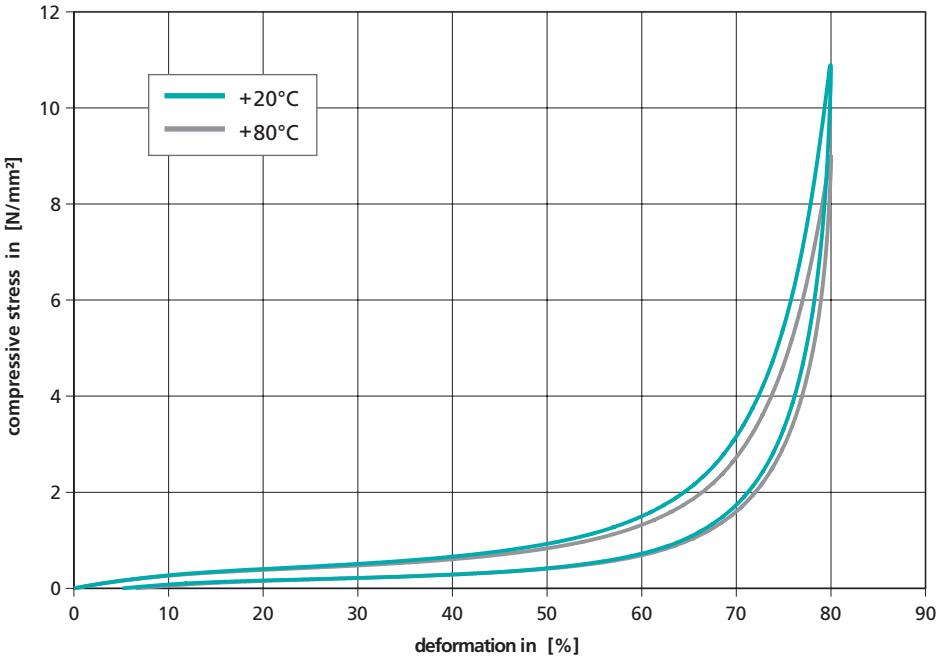
THE VERSATILE HELPER

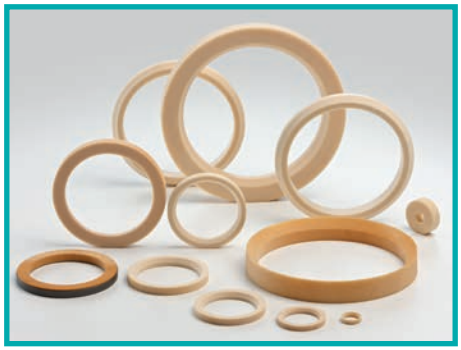
Applications overview

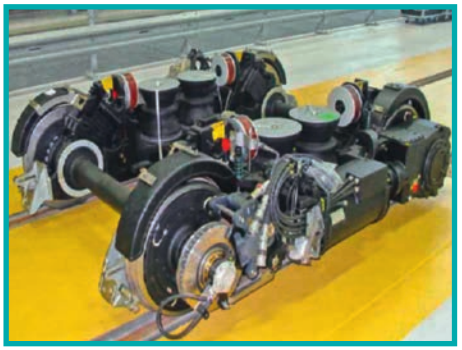
- vehicle construction
- general engineering
- rail vehicles
- agricultural vehicles
- lift technology
- printing techology
- orthopaedic and prosthetic
- construction machinery
- beverage industry
- metrology and wireless industry
- port technology
- special vehicles

The shear modulus of Vulkocell is almost constant from -10°C to + 120°C. Its deformation behaviour remains equal in varying temperatures - which is often a decisive criteria for the material selection. Another advantage is the good flexibility even at low temperature: only below -30°C a hardening occurs.
The permissible operating temperature of heat is 80°C. Short term temperature up to + 120°C is possible. Under dynamic long-term stress Vulkocell changes its properties only gradually: Whether at room temperature or at 80°C - the spring characteristic is always in the same order. Even after a million compressions, the permanent deformation is low.

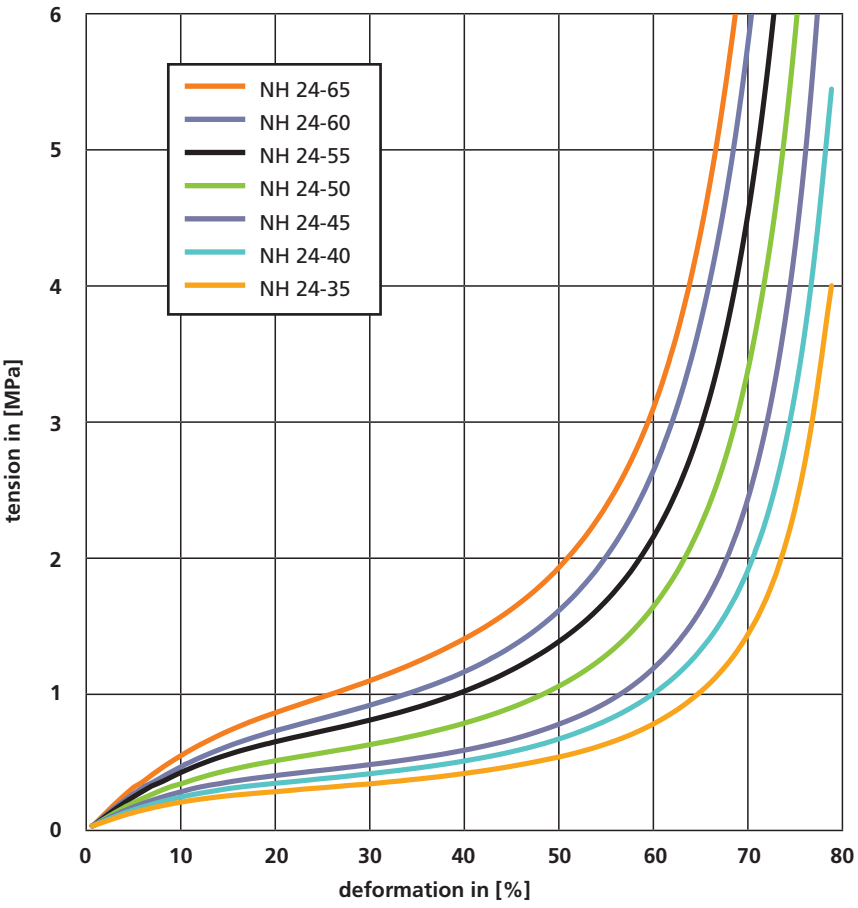
Vulkocell NH 24-50
compressive stress at different temperatures







compression stress diagramm Vulkocell NH 24-...



Pressure-strain diagram of Vulkocell, considering a spring with Ø 50mm x height 50mm, strain rate 100mm/min.

physical properties and data

test	test specification	Maß-einheit	NH 24-35	NH 24-40	NH 24-45	NH 24-50	NH 24-55	NH 24-60	NH 24-65
density	DIN 53420 ISO 845	g/cm³	0,35	0,4	0,45	0,5	0,55	0,6	0,65
tensile strength	DIN 53571 ISO 1798	N/mm²	4	4,5	5,5	6,5	7,5	8	8,5
elongation at break	DIN 53571 ISO 1798	%	390	405	425	450	460	470	480
tear propagation resistance	DIN 53515 ISO 34	kN/m	8	10	12	14	18	20	22
rebound resilience	DIN 53512	%	60	60	60	60	60	60	60
compression set*	DIN 53572 ISO 1856	%	2,5	3	3,5	3,5	3,5	4	4
compression set**	DIN 53572 ISO 1856	%	5	5,5	6	7	7,5	8	8,5

* 22°C 70 hours ** 70°C 24 hours

Medium compressive stress

density kg/m³	compression strength (N/mm²) at a strain of:					
	20%	30%	40%	50%	60%	70%
350	0,26	0,32	0,40	0,52	0,77	1,50
400	0,32	0,40	0,49	0,65	1,00	1,99
450	0,38	0,46	0,56	0,76	1,19	2,46
500	0,50	0,60	0,77	1,05	1,68	3,56
550	0,63	0,79	1,00	1,36	2,15	4,56
600	0,71	0,89	1,14	1,93	2,71	5,82
650	0,85	1,08	1,39	2,35	3,09	6,93

Reserve technical changes!

Product overview

- joint & plain bearing seals
- auxiliary springs
- pressure bars
- cable spring buffers for elevator
- shock absorber
- spring elements in vehicles
- roller coating
- scraper rings
- chair springs
- stop buffer
- transport and grinding rollers
- bottle plates
- plungers
- wristbands
- shirring
- as well as plates and blanks for individual further processing

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