



P+S Polyurethan-Elastomere
GmbH & Co. KG

Vulkollan

The classic choice for the highest dynamic loads

Ideal for excellent mechanical wear resistance

Vulkollan®

The impressive mechanical and dynamic material properties are distinctive features of this classic in the field of compact polyurethane elastomers – and have been synonymous with maximum performance and outstanding quality for decades. The high-quality base components, a polyester polyol and an equally high-quality diisocyanate, combined with special chain extenders, enable precise adjustment of the desired material properties – with consistently high, reproducible values.

As a licensed partner of COVESTRO DEUTSCHLAND AG, P+S is authorized to use the “Vulkollan®” trademark, process Vulkollan, and distribute components bearing the “Vulkollan” designation.

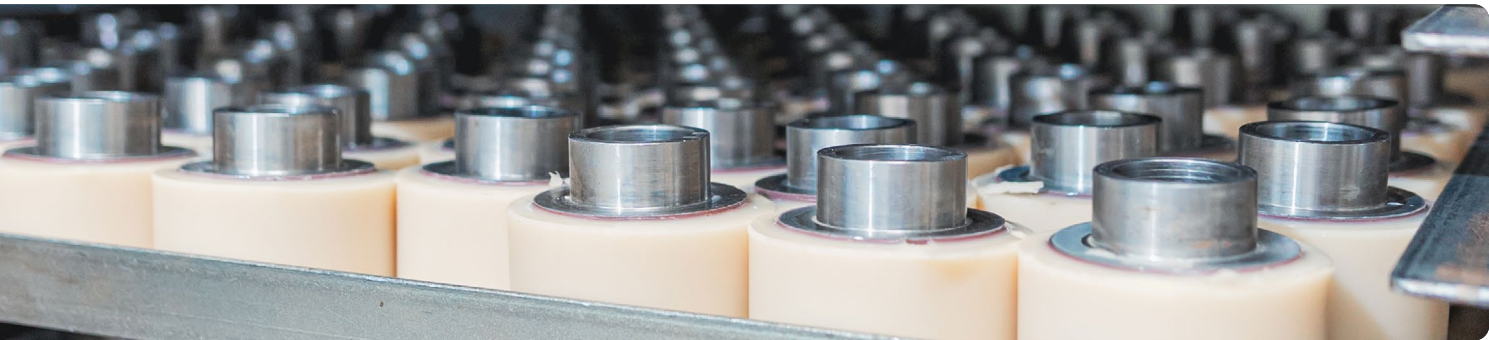
A wide range of molded parts, high-quality wheels and casters, as well as semi-finished products for further mechanical processing, are used wherever maximum wear resistance and mechanical and physical resilience are required. Vulkollan® is manufactured in accordance with the high standards of the LFGB, and we have the technical expertise to provide it with a special hydrolysis-resistant property on request to ensure exceptional durability even under extreme moisture conditions.

Property profile of Vulkollan

- Excellent mechanical wear resistance
- High impact elasticity, even with hard settings
- High tear resistance
- Low compression set
- Hardness range 80 to 97 Shore A or up to 60 Shore D
- Good resistance to mineral oils, greases, gasoline, and various solvents
- Good resistance to ozone and UV radiation
- Temperature range from -30°C to +80°C

Application-specific products

- Wheels, rollers, and casters
- Cutting strips
- Spring elements
- Bearing bushings and end stops



Vulkollan can be used between -30°C and +80°C (briefly even up to +130°C). The modulus of elasticity and thus the deformation resistance remains virtually constant from -10°C to +100°C. Very good cold-flexible types lose their rubber elasticity at around -30°C, but the material does not become brittle. Depending on hardness and temperature influence, the modulus of elasticity range for Vulkollan is between approx. 10 and 600 MPa.

The wear resistance of Vulkollan under various stress conditions is better than that of most other elastic materials. In so-called wet wear, i.e. when a lubricant such as water, oil, or another liquid is present



between the friction partners, Vulkollan can even be more wear-resistant than steel.

Vulkollan is also well suited as a construction material for damping high-frequency vibrations in vehicles and machines. Damping elements should be dimensioned so that the temperature in the inner part caused by the conversion of mechanical energy into heat does not exceed approx. 80°C in continuous operation.

Areas of application for Vulkollan

- Elevator technology
- Automotive engineering
- Transportation and conveyor technology
- Municipal engineering
- Crane system construction
- Printing and paper industry
- Recreational facilities
- Cutting technology
- Beverage industry
- Coupling technology
- Textile industry
- Gear technology
- Food industry

Mechanical and physical properties

Vulkollan® materials and associated special formulations

Material: Vulkollan*

Property	Test basis	Unit of measure	Measured values					
Designation	-	-	70 80 00	70 85 00	70 90 00	70 92 00	70 95 00	
Hardness	DIN 53 505 ISO 48-4	Shore A	80	85	90	92	95	
Density	DIN 53 479 ISO 1183	g/cm³	1,17	1,20	1,24	1,25	1,26	
Impact elasticity	DIN 53 512 DIN 4662	%	60	58	56	56	56	
Abrasion loss	DIN 53516 ISO 4649	mm³	37	35	28	30	26	
Compression set	DIN 53 572	70 h - 23°C	%	8,0	9,0	11,0	11,0	14,0
	ISO 1856	24 h - 70°C	%	18,0	20,0	20,0	20,0	21,0

Property	Test basis	Unit of measure	Measured values				
Designation	-	-	70 80 00	70 85 00	70 90 00	70 92 00	70 95 00
Stress at 100% elongation	DIN 53 504 ISO 37	Mpa	4,30	5,00	8,00	9,00	10,00
Stress at 300% elongation	DIN 53 504 ISO 37	Mpa	7,80	9,00	12,00	14,00	15,00
Tensile strength	DIN 53 504 ISO 37	Mpa	49,7	51,0	52,0	51,0	42,0
Elongation at break	DIN 53 504 ISO 37	%	660	670	740	740	780
Tear resistance (Graves)	DIN 53 515 ISO 34-1	kN/m	30	33	53	53	65

Temperature range

- 30 to + 80 °C

Color

Light beige to dark brown
(change due to UV exposure)

Special features:

/

Einsatzbereich:

Spring, wear protection,
roller lining, seal

Material: special formula H 70

Property	Test basis	Unit of measure	Measured values					
Designation	-	-	H 70 80 00	H 70 85 00	H 70 90 00	H 70 93 00	H 70 95 00	H 70 98 00
Hardness	DIN 53 505	Shore A	80	85	90	93	95	98
	ISO 48-4	Shore D	30	34	39	40	41	45
Density	DIN 53 479	g/cm³	1,04	1,04	1,05	1,05	1,05	1,05
	ISO 1183							
Impact elasticity	DIN 53 512	%	78	78	76	75	73	70
	DIN 4662							
Abrasion loss	DIN 53516	mm³	31	31	30	28	31	35
	ISO 4649							
Compression set	DIN 53 572	%	14,4	14,0	14,0	16,0	16,0	16,0
	ISO 1856	%	19,0	20,0	22,0	25,0	25,0	25,0
	70 h - 23°C							
	24 h - 70°C							

Property	Test basis	Unit of measure	Measured values					
Designation	-	-	H 70 80 00	H 70 85 00	H 70 90 00	H 70 93 00	H 70 95 00	H 70 98 00
Stress at 100% elongation	DIN 53 504 ISO 37	Mpa	4,30	5,60	8,00	9,40	11,00	13,00
Stress at 300% elongation	DIN 53 504 ISO 37	Mpa	7,70	9,00	13,00	13,00	15,00	18,00
Tensile strength	DIN 53 504 ISO 37	Mpa	20,0	22,0	25,0	28,0	25,0	30,0
Elongation at break	DIN 53 504 ISO 37	%	500	520	550	610	610	600
Tear resistance (Graves)	DIN 53 515 ISO 34-1	kN/m	19	25	35	45	50	55

Temperature range:

- 60 to + 80 °C

Color:

Light beige to dark brown
(change due to UV exposure)

Special features:

Hydrolysis-resistant and
seawater-resistant, low-
temperature applications

Area of application:

Spring, wear protection,
roller lining, seal

Material: special formulations 70...20 and Vulkollan 70CA

Property	Test basis	Unit of measure	Measured values					
Designation	-	-	70 80 20	70 90 20	70 95 25 CA	70 95 30 CA	70 97 40 CA	70 98 50 CA
Hardness	DIN 53 505	Shore A	80	90	95	95	97	98
	ISO 48-4	Shore D	-	-	42	43	50	55
Density	DIN 53 479 ISO 1183	g/cm³	1,17	1,17	1,27	1,27	1,27	1,27
Impact elasticity	DIN 53 512 DIN 4662	%	45	50	55	55	53	52
Abrasion loss	DIN 53516 ISO 4649	mm³	50	40	50	50	50	50
Compression set	DIN 53 572	70 h - 23°C	%	15,0	15,0	19,0	20,0	22,0
	ISO 1856	24 h - 70°C	%	25,0	25,0	25,0	26,0	29,0

Property	Test basis	Unit of measure	Measured values					
Designation	-	-	70 80 20	70 90 20	70 95 25 CA	70 95 30 CA	70 97 40 CA	70 98 50 CA
Stress at 100% elongation	DIN 53 504 ISO 37	Mpa	4,90	7,80	10,00	11,00	15,00	18,00
Stress at 300% elongation	DIN 53 504 ISO 37	Mpa	-	-	20,00	22,00	27,00	28,00
Tensile strength	DIN 53 504 ISO 37	Mpa	39,0	44,0	35,0	38,0	45,0	50,0
Elongation at break	DIN 53 504 ISO 37	%	300	300	480	500	520	530
Tear resistance (Graves)	DIN 53 515 ISO 34-1	kN/m	20	24	52	54	60	65

Temperature range:

- 30 to + 120 °C (70 ... 20)

- 30 to + 100 °C (70 ... CA)

Color:

Light beige to dark brown
(change due to UV exposure)

Special features:

high-temperature applications

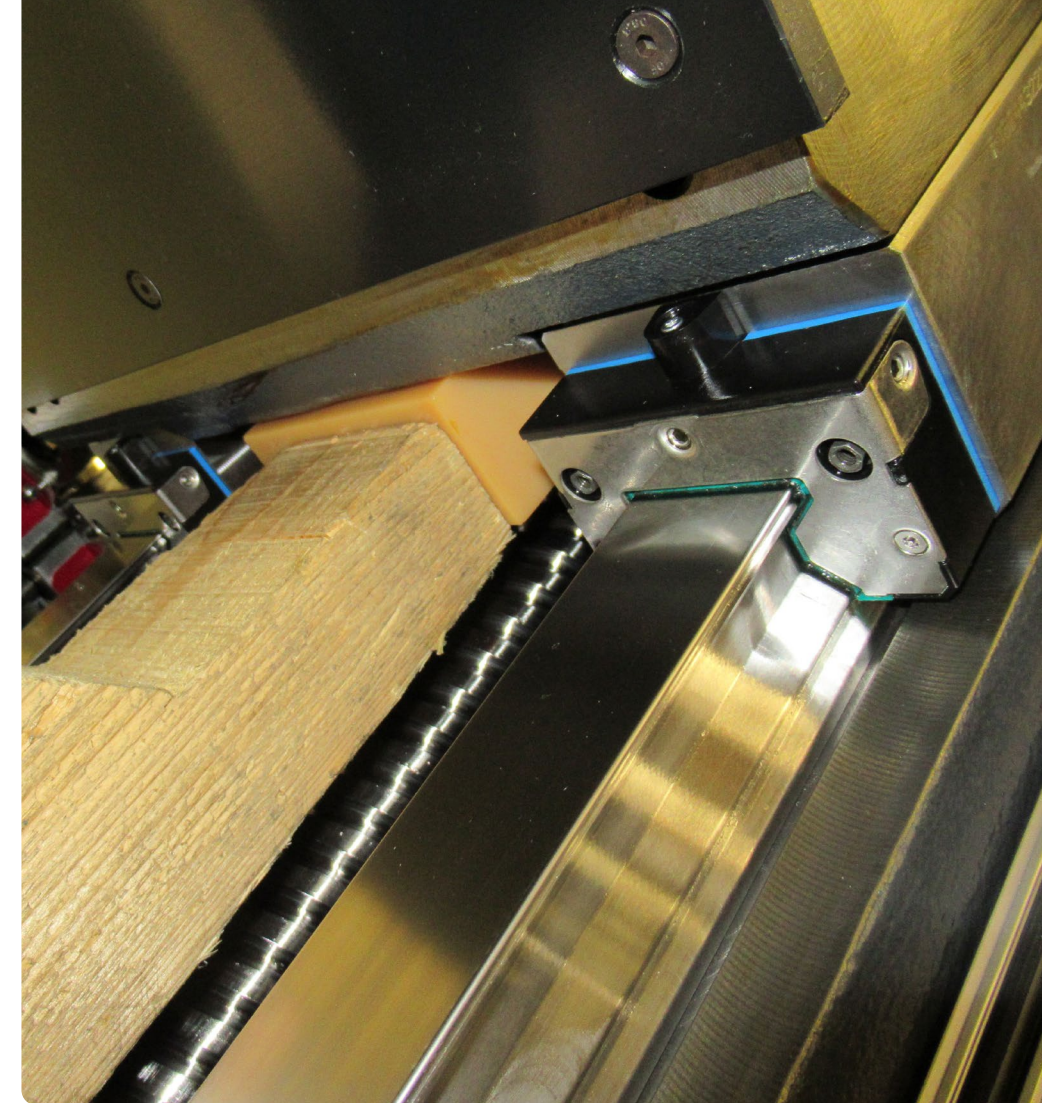
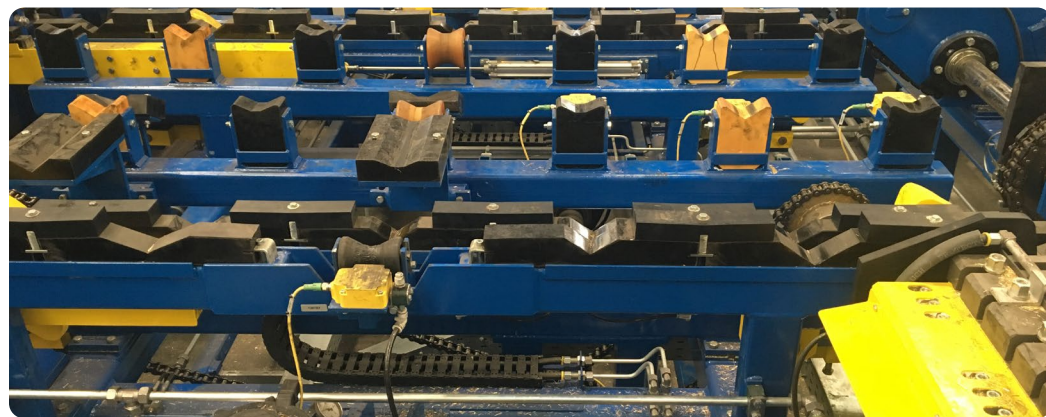
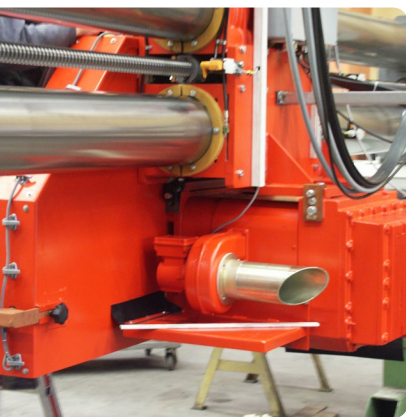
Area of application:

Spring, wear protection,
roller lining, seal

* Vulkollan = registered trademark of Covestro AG

Application examples for Vulkollan at a glance

- Solid tires
- Clutch elements
- Drive rollers
- Pressure rollers
- Pressure and cutting strips
- Pallet truck rollers
- End position dampers
- Springs
- Vibration dampers
- Drive bearings
- Scrapers
- Roller coatings
- Friction dampers
- As well as semi-finished products for individual further processing





P+S Polyurethan-Elastomere GmbH & Co. KG

Kielweg 17
49356 Diepholz

Tel.: 05441 - 5980-0

E-Mail: info@pus-polyurethan.de

Website: www.pus-polyurethan.de