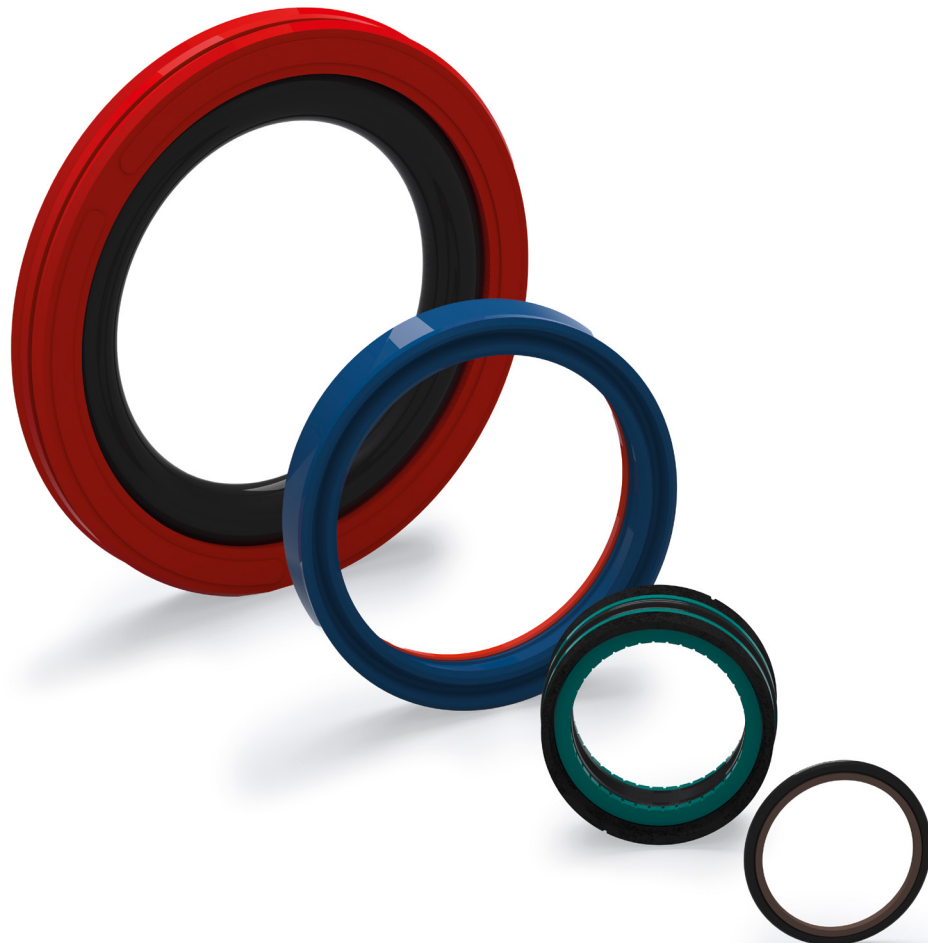




PROFILES

Seals and semi-finished products

SEALING SOLUTIONS



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For the exact application limits and technical values of the sealing types mentioned above, please refer to our main catalog or our data sheets, which you can request by calling +49 8234/9671-0. The application limits and technical values presented in the catalog are non-binding reference values, which may be exceeded or fallen short of in practical use. Liability for specific applications is excluded. We are happy to advise you on special applications.

Please note our General Terms and Conditions (GTC) at: www.sealconcept.com. These form the basis of our deliveries. Printing errors and mistakes excepted.

The information in this profile overview is based on years of experience in the manufacturing and application of sealing elements. Despite this experience, unknown factors in practical use may significantly limit the general validity of the statements.

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Piston Seals						
Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)	Description
	KKD [KGD]	NBR TPC Polyacetal	400	-40 to +110	0,5	double-acting piston seal, 5-piece
	KD2	NBR Polyester elastomer Polyacetal	700	-30 to +110	0,5	double-acting piston seal, 5-piece
	KD3	NBR Fabric Polyacetal	500	-30 to +110	0,5	double-acting piston seal, 3-piece
	KD4	NBR Fabric Polyacetal	350	-30 to +110	0,8	double-acting piston seal, 3-piece
	KD6	Polyurethane NBR Polyacetal	400	-30 to +110	0,6	compact piston seal, 4-piece
	KD8 [KHD]	PTFE Compound NBR Polyacetal	500	-40 to +120	1,5	compact piston seal, 4-piece
	NPS	PTFE Compound O-Ring NBR / FKM	800	-30 to +110 -30 to +200	15	double-acting piston seal, 2-piece
	KSO	PTFE Compound O-Ring NBR / FKM X-Ring NBR / FKM	400	-30 to +110 -30 to +200	2	double-acting piston seal, 3-piece
	KS02	PTFE Compound O-Ring NBR / FKM X-Ring NBR / FKM	600	-30 to +110 -30 to +200	3	double-acting piston seal, 4-piece
	NPR	PTFE Compound O-Ring NBR / FKM	800	-30 to +110 -30 to +200	15	single-acting piston seal, 2-piece
	NPW [KPD]	Polyurethane O-Ring NBR	400	-30 to +100	0,5	double-acting piston seal, 2-piece
	KD9 [KHT]	Polyester NBR	500	-30 to +100	0,5	double-acting piston seal, 2-piece
	NPQ [KPR]	Polyurethane Ring NBR	400	-30 to +100	0,5	double-acting piston seal, 2-piece
	KE1 [KD]	Polyurethane	400	-40 to +100	0,5	single-acting piston seal with asymmetric lip shape
	KE1/S [KDA]	Polyurethane Polyacetal	500	-40 to +110	0,5	single-acting piston seal with asymmetric lip shape and back-up ring
	KE2 [KDF]	Polyurethane Polyacetal	400	-40 to +100	0,5	single-acting piston seal with guide ring
	KE3	NBR Fabric Polyacetal Back-up Ring	700	-30 to +110	0,5	single-acting piston seal, 2-piece

Piston Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)	Description
	KE5	NBR Fabric Polyacetal Support/ Retaining and Guide Ring	450	-30 to +110	0,5	single-acting piston seal, 2-piece with support/retaining and guide ring
	KE6	NBR Fabric	700	-30 to +110	0,5	single-acting piston seal, 2-piece
	VP3	NBR-Fabric/NBR FKM-Fabric/FKM NBR-POM FKM-POM	400	-30 to +100 -30 to +140	0,5	single-acting piston seal, 3-piece, chevron-type seal
	VP4	NBR-Gewebe/NBR FKM-Gewebe/FKM NBR-POM FKM-POM	400	-30 to +100 -30 to +140	0,5	single-acting piston seal, 4-piece, chevron-type seal

Rod Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)	Description
	T1	NBR Fabric FKM	250	-30 to +100 -30 to +140	0,5	Rod seal compact design
	T2	NBR Fabric Polyacetal FKM / PGM	400	-30 to +100 -30 to +140	0,5	Rod seal compact design with anti-extrusion ring
	T3	NBR Fabric FKM	250	-30 to +100 -30 to +140	0,5	Rod seal, compact groove ring
	T4 [SGA]	NBR Fabric Polyester elastomer	700	-30 to +100	0,5	Rod seal, 2-piece with back-up ring
	VP5	NBR-Fabric/NBR FKM-Fabric/FKM NBR-POM FKM-POM	400	-30 to +100 -30 to +140	0,5	Rod seal, 5-piece with chevron-type seal
	VP6	NBR-Fabric/NBR FKM-Fabric/FKM NBR-POM FKM-POM	400	-30 to +100 -30 to +140	0,5	Rod seal, 6-piece with chevron-type seal
	VP7	NBR-Fabric/NBR FKM-Fabric/FKM NBR-POM FKM-POM	400	-30 to +100 -30 to +140	0,5	Rod seal, 7-piece with chevron-type seal
	T7 [S]	Polyurethane	400	-40 to +100	0,5	Rod seal, compact groove ring
	T7/L [SD]	Polyurethane	400	-40 to +100	0,5	Rod seal, compact groove ring with secondary lip
	T7/LS [SDA]	Polyurethane Polyacetal	700	-40 to +100	0,5	Rod seal, compact groove ring with secondary lip and anti-extrusion ring
	T10 A10	Polyurethane	400	-40 bis +100	0,5	Groov ring with asymmetric lip shape

Rod Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)	Description
	T10/L A10/L	Polyurethane	400	-40 to +100	0,5	Groove ring with asymmetric lip shape and sec. lip
	T10/LS [ADA]	Polyurethane Polyacetal	700	-40 to +100	0,5	Groove ring with asymmetric lip shape, sec. lip and back-up ring
	T11 UP	Polyurethane	400	-40 to +100	0,5	Groove ring with symmetric lip shape
	SDAN	Polyurethane O-Ring NBR Polyacetal	700	-40 to +100	0,5	Groove ring with symmetric lip shape, back-up ring and O-ring
	UPN	Polyurethane O-Ring NBR	400	-40 to +100	0,5	Groove ring with symmetric lip shape and O-ring
* 	T16	Polyurethane Polyacetal	700 250	-40 to +100	0,5	Groove ring with asymmetric lip shape and back-up ring
	NCR	PTFE Compound O-Ring NBR / FKM	800	-30 to +110 -30 to +200	15	single-acting rod seal, 2-piece
	SE9 [SHT]	Polyester O-Ring NBR	500	-30 to +100	0,5	single-acting rod seal, 2-piece
	NCS	PTFE Compound O-Ring NBR / FKM	800	-30 to +110 -30 to +200	15	double-acting rod seal, 2-piece

*T16: without back-up ring until 250 bar. With back-up ring until 700 bar.



Wiper / Scraper Rings						
Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)	Description
	W1 [SAF]	Polyurethane Polyester elastomer NBR / FKM	-	-40 to +100 -40/-30 to +100 / +110 -30 to +200	0,8	Wiper/Scraper ring, single-acting
	W11 [SA-SAP]	Polyurethane Polyester	-	-40 to +100 -40 to +110	0,8 4,0	Wiper/Scraper ring, single-acting
	WA1 [SAA]	Polyurethane	-	-40 to +100	0,8	Outer wiper/scraper ring, single-acting
	W2 [SAG]	Polyurethane NBR FKM	-	-40 to +100 -30 to +110 -30 to +200	0,8	Wiper/Scraper ring, single-acting
	W2S [SAC]	Polyurethane	-	-40 to +100	0,8	Wiper/Scraper ring for rough conditions, single-acting
	W3 [SAB]	Polyurethane	-	-40 to +100	0,8	Wiper/Scraper ring, double-acting
	W9 SAD	Polyurethane NBR FKM	-	-40 to +100 -30 to +110 -30 to +200	0,8	Wiper/Scraper ring, double-acting
	W3M	Polyurethane Metal cage	-	-30 to +100	1	Wiper/Scraper ring, double-acting with metal cage
	W4	Polyurethane NBR / FKM Metal cage	-	-30 to +110 -30 to +200	1	Wiper/Scraper ring, single-acting with metal cage
	W4K	Polyurethane Metal cage	-	-30 to +100	1	Wiper/Scraper ring, single-acting with metal cage
	W5	NBR FKM Metal reinforcement	-	-30 to +110 -30 to +200	1	Wiper/Scraper ring, single-acting with integral metal reinforcement
	W6	PTFE Compound O-Ring NBR / FKM	-	-30 to +110 -30 to +200	15	Wiper/Scraper ring, double-acting
	W7	PTFE Compound O-Ring NBR / FKM	-	-30 to +110 -30 to +200	15	Wiper/Scraper ring, single-acting
	W8	PTFE Compound O-Ring NBR / FKM	-	-30 to +110 -30 to +200	15	Wiper/Scraper ring, double-acting
	W10	PTFE Compound Metal wiper rings Metal cage	-	-60 to +200	15	Metal/ice wiper/scraper ring with metal cage, metal wiper rings and support ring
	W12 [SAW]	Polyamide	-	-40 to +100	0,8	Wiper/Scraper ring, single-acting

Guide Bands / Guide Rings

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)	Description
	FR	Polyacetal with glass fiber	20–40	-40 to +110	1,0	Guide ring for piston and rod
	FRS	Polyacetal with glass fiber	20–40	-40 to +110	0,8	Guide ring for piston, rod and plunger cylinder
	FHG	Cotton fabric Phenolic resin	310	-40 to +130	1,0	Guide ring for piston and rod
	FHM	Synthetic fiber and epoxy resin	340	-40 to +130	1,0	Guide ring modified for piston and rod
	FIL	Polyacetal with glass fiber	20–40	-40 to +110	1,0	Guide ring for rod
	FIT	Polyacetal with glass fiber	20–40	-40 to +110	1,0	Guide ring for rod
	FB	PTFE Compound PTFE Carbon PTFE Bronze	5–25	-80 to +200	15	PTFE guide band for piston and rod, cut to length
	FHCB FHOB	Synthetic fiber Polyester resin	345	-50 to +130	1	Fabric guide band for piston and rod, cut to length

Rotary Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)	Description
	NPG	PTFE Compound O-Ring NBR / FKM	300	-30 to +110 -30 to +200	2	External rotary seal, double-acting
	NCG	PTFE Compound O-Ring NBR / FKM	300	-30 to +110 -30 to +200	2	Internal rotary seal, double-acting
	VA	NBR FKM	-	-30 to +110 -30 to +200	12	V-rings, axially acting for shaft and bearing
	VS	NBR FKM	-	-30 to +110 -30 to +200	12	V-rings, axially acting for shaft and bearing
	VL	NBR FKM	-	-30 to +110 -30 to +200	12	V-rings, axially acting for shaft and bearing
	DV	Polyurethane	-	-40 to +100	-	V-ring
	A	NBR FKM	0,5	-30 to +100 -30 to +200	12	Rotary shaft seal, standard shape A, DIN 3760

Rotary Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)	Description
	AV	NBR FKM Metal	8	-30 to +100 -30 to +200	12	Rotary shaft seal, standard shape A, DIN 3760
	AS	NBR FKM Metal	0,5	-30 to +100 -30 to +200	12	Rotary shaft seal, standard shape A, DIN 3760 with dust lip
	ASV	NBR FKM Metal	8	-30 to +100 -30 to +200	12	Rotary shaft seal, standard shape A, DIN 3760 with dust lip
	B	NBR FKM Metal	0,5	-30 to +100 -30 to +200	12	Rotary shaft seal, standard shape B, DIN 3760
	BS	NBR FKM Metal	0,5	-30 to +100 -30 to +200	12	Rotary shaft seal, standard shape B, DIN 3760 with dust lip
	C	NBR FKM Metal	0,5	-30 to +100 -30 to +200	12	Rotary shaft seal, standard shape C, DIN 3760
	CS	NBR FKM Metal	0,5	-30 to +100 -30 to +200	12	Rotary shaft seal, standard shape C, DIN 3760 with dust lip

Static Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)	Description
	OP	Polyurethane	500	-40 to +100	static	Alternative to combinations of O-rings/ back-up rings available in 3 versions
	PFS	Polyurethane	500	-40 to +100	static	Flange seal for SAE flanges

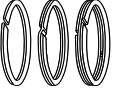
O-Rings / X-Rings / Profile Rings

Profile	Standard Material	Profile	Standard Material
	NBR 70 / 80 / 90° Shore A FKM / EPDM / Silicone / Polyurethane		Round cord yard goods NBR/ FKM / EPDM / Silicone
	PTFE O-rings		O-rings, FDA approved
	NBR 60 / 70 / 80° Shore A FKM / Polyurethane / PTFE		NBR 80° Shore A FKM / EPDM / Silicone coated

Back-up Rings

Profile	Type	Standard Material	Version
	BRE	Polyester elastomer Polyurethane PTFE	endless for metric/inch size O-rings
	BRK	NBR	concave, endless/split
	BRG	PTFE	split

Special Parts

Profile	Standard Material	Profile	Standard Material
	Screw packing NBR / FKM		Piston and rod seal PTFE compound with metal spring
	Screw packing, self-centering NBR / FKM		Single-acting shaft seal PTFE compound with metal spring
	Spring steel metal rings gap seal 15-1300 mm		machined seals and special seals from our own fabrication

Tools

	An overview of the individual tools can be found on page	24
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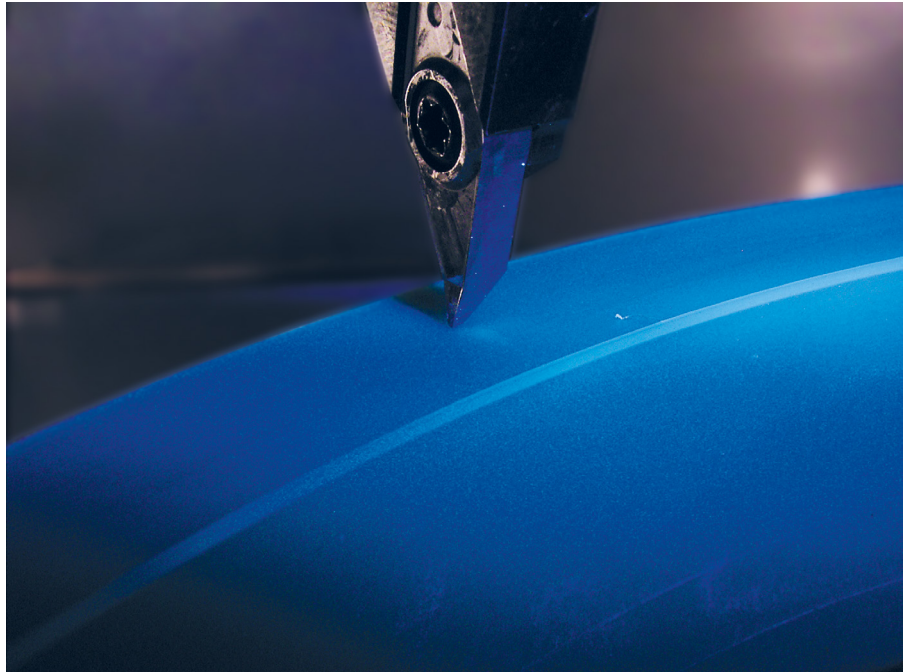
Construction Parts / Semi-finished Products

Plastic construction and profile parts, elastomer shapes, D-rings according to ISO 2852, SMS and clamp seals as well as further sealing elements according to drawings and samples are available on request.

Nearly all sealing types made of conventional materials are also available as machined/turned parts within short lead-times (pages 12-23).

Semi-finished products of PTFE, NBR, FKM, MVQ, EPDM, polyurethane, POM, PA, glass/MoS₂ filled materials, FDA qualities as well as bronze and carbon filled PTFE materials are available on request.

As problem solvers in the sealing industry, we take matters into our own hands and "turn" the right solution for you.



- Machined Seals
- Individual Solutions
- Construction Parts
- Installation Tools
- Material Overview / Material Guide

The sealing geometries included in the profile overview are standard profiles. Thanks to our specialized manufacturing technology we can quickly provide you with a customized sealing solution, even for exceptional applications.

All seals up to an outer diameter of 720 mm are available at short notice. Larger dimensions up to a diameter of 2.000 mm are available upon request.

All profiles can be further adapted to meet your specific operating conditions. If you have any questions please contact our application engineers.

Note:

The specified application parameters represent the maximum values of individual material combinations. These should not be utilized simultaneously.

Piston Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	PS01	PU NBR FKM	400 160 160	-30 to +105 -25 to +100 -20 to +210	0,5
	PS01A	PU NBR FKM	25	-30 to +105 -25 to +100 -20 to +210	0,5
	PS01B	PU NBR FKM	400 160 160	-30 to +105 -25 to +100 -20 to +210	0,5
	PS01C	PU NBR FKM	400 160 160	-30 to +105 -25 to +100 -20 to +210	0,5
	PS02	PU/POM NBR/POM FKM/PGM	700 250 250	-30 to +100 -25 to +100 -20 to +210	0,5
	PS02A	PU/POM NBR/POM FKM/PGM	700 250 250	-30 to +100 -25 to +100 -20 to +210	0,5
	PS03	PU/NBR	400	-25 to +100	0,5
	PS04	PU/NBR/POM	700	-25 to +100	0,5
	PS05	NBR	25	-25 to +100	1
	PS05A	PU NBR FKM	25	-30 to +105 -25 to +100 -20 to +210	1,3
	PS08	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 15
	PS08A	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 15
	PS08B	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 15
	PS08C	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	2
	PS08D	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	3
	PS08E	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 10
	PS08F	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 10

Piston Seals					
Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	PS81	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 10
	PS81B	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 10
	PS81C	PU/NBR	400	-25 to +100	0,6
	PS09	PU/NBR/POM	400	-25 to +100	0,5
	PS09A	NBR/POM	400	-25 to +100	0,5
	PS16	NBR	160	-25 to +100	0,5
	PS16A	NBR	160	-25 to +100	0,5
	PS17	PU/POM NBR/POM	400 250	-25 to +100	0,5
	PS17A	PU/POM NBR/POM	400 250	-25 to +100	0,5
	PS17B	PU/POM NBR/POM	400 250	-25 to +100	0,5
	PS19	PGM / 1.4310	160	-200 to +260	15
	PS19A	PGM / 1.4310	160	-200 to +260	15
	PS20	PU/POM NBR/POM	700	-25 to +100	0,5
	PS23	PU/NBR/POM	400	-25 to +100	0,5
	PS35	PU NBR	400	-30 to +105 -25 to +100	0,4
	PS35A	PU NBR	400	-30 to +105 -25 to +100	0,4

Rod Seals					
Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	RS01	PU NBR FKM	400 160 160	-30 to +105 -25 to +100 -20 to +210	0,5
	RS01A	PU NBR FKM	160	-30 to +105 -25 to +100 -20 to +210	0,5
	RS01B	PU NBR FKM	400 160 160	-30 to +105 -25 to +100 -20 to +210	0,5
	RS01C	PU NBR FKM	400 160 160	-30 to +105 -25 to +100 -20 to +210	0,5
	RS02	PU/POM NBR/POM FKM/PGM	700 250 250	-30 to +100 -25 to +100 -20 to +210	0,5
	RS02A	PU/POM NBR/POM FKM/PGM	700 250 250	-30 to +100 -25 to +100 -20 to +210	0,5
	RS02B	PU/POM NBR/POM FKM/PGM	700 250 250	-30 to +100 -25 to +100 -20 to +210	0,5
	RS03	PU/NBR	400	-25 to +100	0,5
	RS04	PU/NBR/POM	700	-25 to +100	0,5
	RS05	PU NBR FKM	400 160 160	-30 to +105 -25 to +100 -20 to +210	0,5
	RS05A	PU NBR FKM	400 160 160	-30 to +105 -25 to +100 -20 to +210	0,5
	RS08	PU NBR	400 160	-30 to +105 -25 to +100	0,5
	RS09	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 10
	RS09A	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 10
	RS09B	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 10
	RS91	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 10
	RS91B	PU/NBR PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	400 800 800	-25 to +100 -25 to +100 -20 to +210	1 10

Rod Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	RS16	NBR	160	-25 to +100	0,5
	RS17	PU	400	-30 to +105	0,5
	RS17A	PU/POM	700	-30 to +100	0,5
	RS17B	PU/NBR	400	-25 to +100	0,5
	RS17C	PU/NBR/POM	700	-25 to +100	0,5
	RS17D	PU NBR	400 160	-30 to +105 -25 to +100	0,3
	RS17E	PU/POM	700	-25 to +100	0,3
	RS19	PGM / 1.4310	160	-200 to +260	15
	RS19A	PGM / 1.4310	150	-200 to +260	2
	RS20	PU/POM NBR/POM	700	-25 to +100	0,5
	RS31	PU/POM	500	-25 to +100	0,5
	RS35	PU	400	-30 to +105	0,4
	RS35A	PU	400	-30 to +105	0,4

Symmetric Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	PRS06	PU NBR	400 160	-30 to +105 -25 to +100	0,5
	PRS06A	PU NBR	400 160	-30 to +105 -25 to +100	0,5

Symmetric Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	PRS06B	PU NBR	400 160	-30 to +105 -25 to +100	0,5
	PRS06C	PU NBR	400 160	-30 to +105 -25 to +100	0,5
	PRS06D	PU NBR	400 160	-30 to +105 -25 to +100	0,5
	PRS06E	PU NBR	400 160	-30 to +105 -25 to +100	0,5
	PRS07	PU/NBR	400	-25 to +100	0,5
	PRS10-12	PU/POM NBR/POM FKM/PGM	500 250 250	-30 to +100 -25 to +100 -20 to +210	0,5
	PRS 10 SP	POM PGM		-50 to +100 -200 to +260	
	PRS-11 SP	PU NBR FKM		-30 to +105 -25 to +100 -20 to +210	
	PRS-12 SP	POM PGM		-50 to +100 -200 to +260	
	PRS13-15	PU/POM NBR/POM FKM/PGM	500 250 250	-30 to +100 -25 to +100 -20 to +210	0,5
	PRS13	POM PGM		-50 to +100 -200 to +260	
	PRS14	PU NBR FKM		-30 to +105 -25 to +100 -20 to +210	
	PRS15	POM PGM		-50 to +100 -200 to +210	
	PRS18	PU/NBR	400	-25 to +100	0,5
	PRS19	PGM/1.4310	160	-200 to +260	5
	PRS19B	PGM/1.4310	160	-200 to +260	5
	PRS19C	PGM/1.4310	160	-200 to +260	5

Symmetric Seals

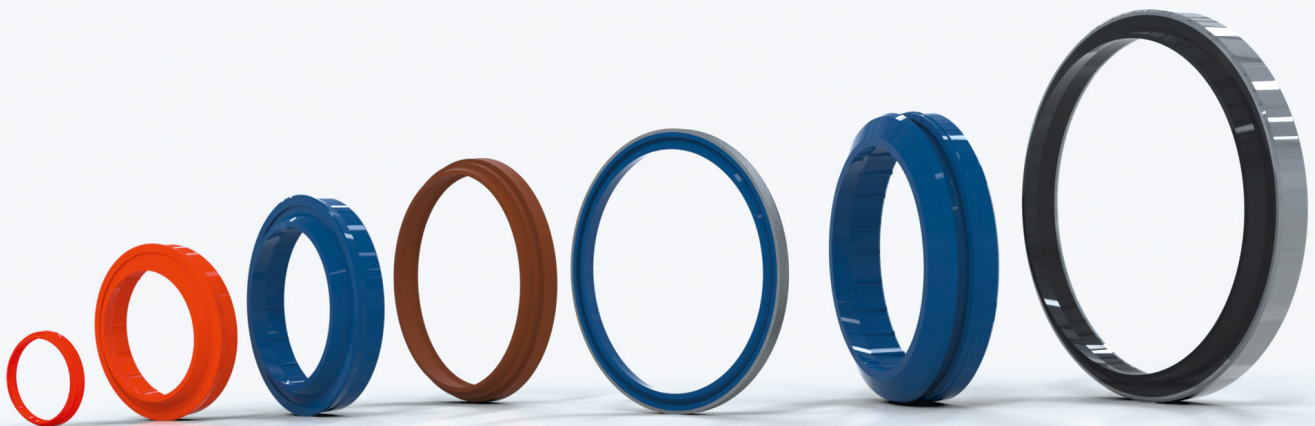
Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	PRS19D	PGM/1.4310	160	-200 to +260	5
	PRS22	PU/POM NBR/POM FKM/PGM	400 160 160	-30 to +100 -25 to +100 -20 to +210	0,5

Wiper / Scraper Rings

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	WR01	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR01A	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR02	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR02A	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR02B	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR02C	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR03	PU/POM NBR/POM FKM/PGM	-	-30 to +100 -25 to +100 -20 to +210	4
	WR04	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR05	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR05A	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR05B	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR07	PU POM	-	-30 to +105 -50 to +100	1

Wiper / Scraper Rings

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	WR05C	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR08	PU POM	-	-30 to +105 -50 to +100	1
	WR11	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	1
	WR12	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	1
	WR13	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	-	-25 to +100 -20 to +210	15
	WR13E2	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	-	-25 to +100 -20 to +210	15
	WR14	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	-	-25 to +100 -20 to +210	15
	WR15	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	-	-25 to +100 -20 to +210	15
	WR16	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	-	-25 to +100 -20 to +210	1
	WR17	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4
	WR18	PU NBR FKM	-	-30 to +105 -25 to +100 -20 to +210	4



O-Rings / X-Rings and Flange Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	OR	PU NBR FKM	600 160 160	-30 to +105 -25 to +100 -20 to +210	-
	OR-H	PU NBR FKM	600 160 160	-30 to +105 -25 to +100 -20 to +210	-
	OR-V	PU NBR FKM	600 160 160	-30 to +105 -25 to +100 -20 to +210	-
	QR01	PU NBR FKM	600 160 160	-30 to +105 -25 to +100 -20 to +210	-
	QR02	PU NBR FKM	600 160 160	-30 to +105 -25 to +100 -20 to +210	-
	FL01A	PU FKM EPDM	400 250 250	-30 to +105 -20 to +210 -50 to +130	-
	FL02B	PU FKM EPDM	400 250 250	-30 to +105 -20 to +210 -50 to +130	-
	FL03	PU FKM EPDM	400 250 250	-30 to +105 -20 to +210 -50 to +130	-
	FL06	PGM/1.4310	160	-200 to +260	5
	FL07	PGM/1.4310	160	-200 to +260	5
	FL08	PGM/1.4310	160	-200 to +260	5
	SCOP	PU	500	-30 to +105	-

Rotary Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	OS01A	PU/POM/ 1.4310 NBR/POM/ 1.4310 FKM/PGM/ 1.4310	0,5 0,5 0,5	-30 to +100 -25 to +100 -20 to +210	5 10 15
	OS02A	PU/POM/ 1.4310 NBR/POM/ 1.4310 FKM/PGM/ 1.4310	0,5 0,5 0,5	-30 to +100 -25 to +100 -20 to +210	5 10 15
	OS03A	PU/ 1.4310 NBR/ 1.4310 FKM/ 1.4310	0,5 0,5 0,5	-30 to +100 -25 to +100 -20 to +210	5 10 15
	OS08	PU NBR	-	-30 to +105 -25 to +100	5 10

Rotary Seals					
Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	OS08A	PU NBR	-	-30 to +105 -25 to +100	5 10
	R03	PU/POM NBR/POM	400 250	-30 to +100 -25 to +100	0,2 0,2
	R04	PU NBR	160 100	-30 to +105 -25 to +100	0,2 0,2
	R04A	PU NBR	160 100	-30 to +105 -25 to +100	0,2 0,2
	R05	PU NBR	160 100	-30 to +105 -25 to +100	0,2 0,2
	R05A	PU NBR	160 100	-30 to +105 -25 to +100	0,2 0,2
	VR06	NBR FKM	-	-25 to +100 -20 to +210	25
	VR07	NBR FKM	-	-25 to +100 -20 to +210	25
	R08	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	350	-25 to +100 -20 to +210	0.4 to +2 Depending on the material
	R08D	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	350	-25 to +100 -20 to +210	0.4 to +2 Depending on the material
	R09	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	350	-25 to +100 -20 to +210	0.4 to +2 Depending on the material
	R09A	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	350	-25 to +100 -20 to +210	0.4 to +2 Depending on the material
	R10	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	350	-25 to +100 -20 to +210	0.4 to +2 Depending on the material
	R10A	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	350	-25 to +100 -20 to +210	0.4 to +2 Depending on the material
	R11	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	350	-25 to +100 -20 to +210	0.4 to +2 Depending on the material
	R11D	PB, PK, PGM, PT, PEK/NBR PB, PK, PGM, PT, PEK/FKM	350	-25 to +100 -20 to +210	0.4 to +2 Depending on the material
	R35A*	PU	400	-30 to +105	0,5
	R35B*	PU	400	-30 to +105	0,5

Rotary Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	R33	PTFE/TFM Compounds	6,0	-60 to +200	25
	R33A	PTFE/TFM Compounds	6,0	-60 to +200	25
	R33B	PTFE/TFM Compounds	6,0	-60 to +200	25
	R33C	PTFE/TFM Compounds	6,0	-60 to +200	25
	R33D	PTFE/TFM Compounds	6,0	-60 to +200	25
	R33E	PTFE/TFM Compounds	6,0	-60 to +200	25
	R33F	PTFE/TFM Compounds	6,0	-60 to +200	25
	R33G	PTFE/TFM Compounds	30	-60 to +200	25

*Specifically dependent on the material combination of the sealing components.

*R33A: Sealing on the inside, R33B: Sealing on the outside.

Back-up Rings / Guide Rings

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	BUR08	PU POM PTFE	-	-30 to +105 -50 to +100 -200 to +260	-
	BUR09	PU POM PTFE	-	-30 to +105 -50 to +100 -200 to +260	-
	BUR10	PU POM PTFE	-	-30 to +105 -50 to +100 -200 to +260	-
	BUR11	PU POM PTFE	-	-30 to +105 -50 to +100 -200 to +260	-
	BUR12	PU POM PTFE	-	-30 to +105 -50 to +100 -200 to +260	-
	BUR13	PU POM PTFE	-	-30 to +105 -50 to +100 -200 to +260	-

Back-up Rings / Guide Rings

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	BWR01	POM PGM	-	-50 to +100 -200 to +260	4
	BWR01A	POM PGM	-	-50 to +100 -200 to +260	4
	BWR01C	POM PGM	-	-50 to +100 -200 to +260	4
	BWR03	POM PGM	-	-50 to +100 -200 to +260	4
	BWR04	POM PGM	-	-50 to +100 -200 to +260	4
	BWR05	POM PGM	-	-50 to +100 -200 to +260	4
	BWR06	POM PGM	-	-50 to +100 -200 to +260	4
	BWR07	POM PGM	-	-50 to +100 -200 to +260	4
	BWR08	POM PGM	-	-50 to +100 -200 to +260	4

Mining Seals

Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	P50	PU/POM	dyn. 400 stat. 1500	-30 to +100	dyn. 0,5
	P50A	PU/POM	dyn. 400 stat. 1500	-30 to +100	dyn. 0,5
	BWR01 P PS	POM PTFE	-	-50 to +100 -200 to +260	4
	BWR01 P RS	POM PTFE	-	-50 to +100 -200 to +260	4

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Mining Seals					
Profile	Type	Standard Material	Pressure (bar)	Temperature (°C)	Sliding Speed (m/sec)
	P51	PU/NBR/POM	dyn. 400 stat. 1500	-25 to +100	dyn. 0,5
	P51A	PU/NBR/POM	dyn. 400 stat. 1500	-25 to +100	dyn. 0,5
	P51G	PU/NBR/POM	dyn. 400 stat. 1500	-25 to +100	dyn. 0,5
	P52	PU/POM	dyn. 700 stat. 1500	-30 to +100	dyn. 0,5
	P53	PU/NBR/POM	dyn. 700 stat. 1500	-25 to +100	dyn. 0,5
	P54	PU/NBR/POM	400	-25 to +100	0,5
	P54A	PU/NBR/POM	400	-25 to +100	0,5
	P58	PU	400	-30 to +105	0,3
	R50	PU/NBR/POM	700	-25 to +100	0,5
	R50A	PU/POM	700	-30 to +100	0,5
	R51	PU/NBR	400	-25 to +100	0,5
	R52	PU/POM	700	-30 to +100	0,5
	R53	PU	400	-30 to +105	0,5
	W50	PU	-	-30 to +105	2
	W51	PU	-	-30 to +105	2
	W53	PU/POM	-	-30 to +100	2
	W54	PU	-	-30 to +100	2

Special Seals and Constructional Parts					

In addition to the standard profiles listed above, we supply custom profiles and turned parts based on customer drawings or specific requirements of our specially developed geometries.

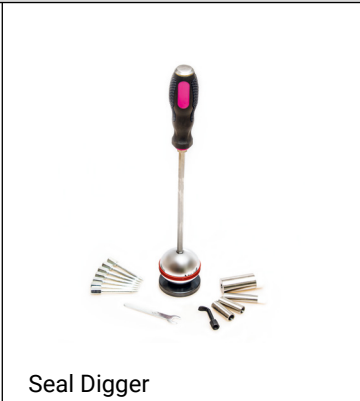
Installation Tools



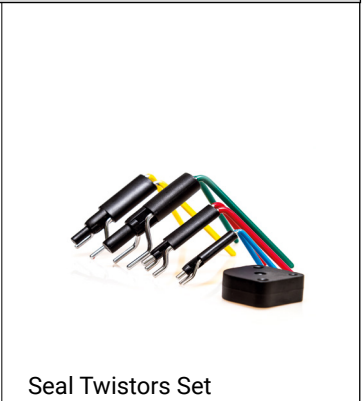
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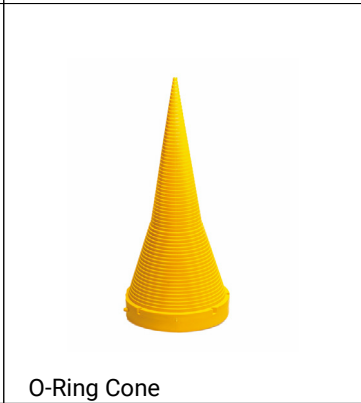
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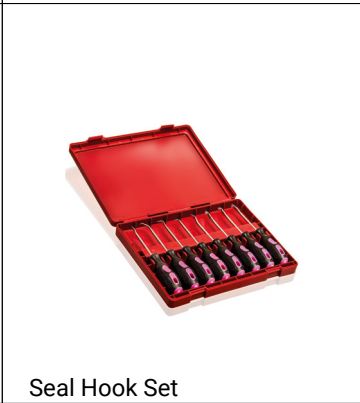
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Seal Concept's installation tool



to simplify the assembly and disassembly.



assembly of various seal types



Methods and materials

Seal Concepts' installation tools simplify the assembly and disassembly of various seal types and materials. Even demanding installations can be carried out more efficiently and easily with the right tools.

The values listed in this profile overview are for reference only and may be exceeded or fallen short of in practice. Liability for specific applications is excluded. We are happy to provide individual consultation for special applications.

Please note our General Terms and Conditions (GTC) at: www.sealconcept.com. These form the basis of our deliveries.
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SEALING MATERIAL GUIDE

Seal Concept – Material Guide – CNC-Machined Seals

With the Material Guide we aim to provide our customers with a practical tool to better understand, categorize and independently assess the sealing materials we use and specify. We consider this essential as our sealing concepts are based on the information provided or known to us. However, the final verification of suitability under actual operating conditions is the responsibility of the customer.

Material Structure and Material Designation of Sealing Materials

As part of our quality management system and the ERP system "Microsoft Dynamics NAV," Seal Concept GmbH began years ago to structure and standardize the materials used in its sealing concepts across all business areas.

This approach aims to increase transparency at both internal and external interfaces, providing all stakeholders with a better understanding of their specific conditions and requirements.

For the production of seals Seal Concept GmbH primarily uses two material groups: elastomers and thermoplastic plastics which ensure the desired properties for each sealing application. The abbreviations of the corresponding materials are standardized according to international standards: DIN EN ISO 1629 for elastomers and DIN EN ISO 1043-1 for plastics.

Our material designations are therefore largely based on these standardized abbreviations. To ensure clear identification the respective running identification number from Seal Concept GmbH's internal material database is also used.

Example: NBR930

Raw Material	Acrylonitrile-Butadien-Rubber
Abbreviation DIN EN ISO 1629	NBR
SC-Database-ID	930

The SC Database ID is both the direct and unique reference to all material-related external documents of Seal Concept GmbH, such as material data sheets or certificates of conformity. It is printed separately on these documents. The previously valid internal material designations will be discontinued and replaced by the new designations. In the following material tables, the "old" designations will still be temporarily listed for reference.

Material Overview of Sealing Materials – Elastomers

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
EPDM	112	EPDM		85 ShA	-50 to +130	RoHS, REACH, POP, TSCA
	113	EPDM/W/FDA		85 ShA	-50 to +100	RoHS, REACH, POP, TSCA, EU, FDA, 3AS, CP65, GMP EU
	422	EPDMD		85 ShA	-45 to +130	RoHS, REACH
	691	EPDM/B/FDA		81 ShA	-30 to +130	RoHS, REACH, EU, FDA, GMP EU
	706	EPDM/FDA		85 ShA	-45 to +130	RoHS, REACH, EU, FDA, 3AS, GMP EU
	775	EPDM/B/MDx		81 ShA	-30 to +135	RoHS, REACH, EU, FDA, 3AS, GMP EU detectable

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
FEPM	114	AFL		85 ShA	-15 to +210	RoHS, REACH, POP, TSCA

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
HNBR	118	HNBR		83 ShA	-25 to +150	RoHS, REACH, POP, TSCA
	552	HNBR90		90 ShA	-20 to +150	RoHS, REACH, FDA, 3AS
	557	HNBR/ED		83 ShA	-15 to +150	RoHS, REACH
	813	HNBRD/G		85 ShA	-20 to +150	
	880	HNBRD73		73 ShA	-20 to +150	

[illegible]

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
NBR	930	NBR/FDA		85 ShA	-22 to +100	RoHS, REACH, POP, TSCA, EU, FDA, GMP EU
	120	NBR		85 ShA	-25 to +100	RoHS, REACH, POP, TSCA
	121	NBR95		95 ShA	-25 to +100	RoHS, REACH, POP, TSCA
	285	NBR-T		80 ShA	-50 to +110	RoHS, REACH
	411	NBRD		85 ShA	-30 to +110	RoHS, REACH
	571	NBR73		75 ShA	-30 to +90	RoHS, REACH
	754	NBR/B/FDA		80 ShA	-30 to +100	RoHS, REACH, EU, FDA, GMP EU
	878	NBR/B/DTx		85 ShA	-30 to +100	RoHS, REACH, POP, TSCA, CP65, EU, FDA, GMP, EU detectable

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
VMQ	138	SIL		85 ShA	-55 to +210	RoHS, POP, TSCA, EU, FDA, GMP EU
	139	SILBL		85 ShA	-55 to +180	RoHS, POP, TSCA, EU, FDA, GMP EU
	597	SILTR		85 ShA	-60 to +200	RoHS, EU, FDA, GMP EU, BfR
	692	SILW		85 ShA	-60 to +200	RoHS, EU, FDA

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DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
HPU	111	HPU72D		70 ShD	-20 to +110	RoHS, REACH
	132	HPUG		95 ShA	-30 to +105	RoHS, REACH, POP, TSCA
	364	HPUD		95 ShA	-20 to +115	RoHS, REACH, EU, EU, FDA, GMP EU, CP65, 3AS
	498	HPU58E		58 ShD	-20 to +130	
	480	PUSLD		96 ShA	-20 to +110	RoHS, REACH
	555	HPUTD		96 ShA	-55 to +110	RoHS, REACH
	580	HPU		95 ShA	-30 to +125	RoHS, REACH, POP, TSCA, EU, EU, FDA, GMP EU, CP65, 3AS
	583	HPUT		95 ShA	-50 to +105	RoHS, REACH, POP, TSCA, EU, EU, FDA, GMP EU, CP65, 3AS
	585	HPU		95 ShA	-30 to +125	RoHS, REACH, POP, TSCA, CP65
	606	HPU72E		72 ShD	-30 to +130	
	684	HPUV		95 ShA	-30 to +115	RoHS, REACH, POP, TSCA, EU, EU, FDA, GMP EU, 3AS
	690	HPUDB		95 ShA	-20 to +115	RoHS, REACH, POP, TSCA, EU, EU, FDA, GMP EU, CP65, 3AS
	693	HPUDN		95 ShA	-20 to +115	RoHS, REACH, POP, TSCA, EU, EU, FDA, GMP EU, CP65, 3AS
	776	HPU/B/MDx		95 ShA	-20 to +90	RoHS, REACH, EU, FDA, GMP EU, detectable
	914	PUH914		57 ShD	-30 to +125	RoHS, REACH, POP, TSCA, EU, EU, FDA, GMP EU, CP65, 3AS
	915	PUHMOS2		57 ShD	-30 to +125	RoHS, REACH, POP, TSCA, CP65
	812	HPUSS		79 ShA	-25 to +100	TSCA
	862	HPUB2		95 ShA	-30 to +125	GMP EU, FDA, EU, EU, TSCA
	581	HPUSS		90 ShA	-30 to +115	RoHS, TSCA
	582	HPUHT		96 ShA	-30 to +135	RoHS, TSCA
	875	HPUDSS		85 ShA	-20 to +100	
RSP	351	RSP		95 ShA	-50 to +120	REACH, POP, TSCA
TPE	614	TPE		54 ShD	-30 to +120	

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
PA6	122	PA		165 MPa	-30 to +100	RoHS, REACH, POP, TSCA, FDA

PA12	283	LAUB		76 ShD	-40 to +120	RoHS, REACH, POP, TSCA, FDA CP65
	694	LAUF		76 ShD	-40 to +120	RoHS, REACH, POP, TSCA, CP65, FDA, EU, EU, GMP EU, USP C VI

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
PEEK	245	PEEK		190 MPa	-50 to +250	RoHS, REACH, POP, TSCA, EU, EU, FDA, GMP EU
	609	PEEK		90 ShD	-40 to +260	RoHS, FDA
	751	PEEK		210 Mpa	-50 to +250	RoHS, REACH, POP, TSCA, EU, EU, FDA, GMP EU
	790	PEEK/B/MD		106 HRM	-50 to +250	RoHS, EU, FDA detectable

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
POM	127	POM		140 MPa	-50 to +105	RoHS, REACH, POP, TSCA, EU, EU, FDA, GMP EU
	610	POMS		81 ShD	-50 to +100	RoHS, TSCA
	792	POM/B/MD		155 Mpa	-30 to +105	RoHS, REACH, EU, EU, FDA, GMP EU, detectable



DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
PVDF	176	PVDF		80 MPa	-30 to +150	REACH, EU, EU, GMP EU

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
PE-UHMW	368	PE1000		61 ShD	-265 to +80 (100)	RoHS, EU, EU, GMP EU
	608	PE1000G		63 ShD	-250 to +80	
	681	PE1000S		61 ShD	-250 to +80	REACH, EU, FDA
	791	PE/B/MD		62 ShD	-200 to +80	RoHS, REACH, EU, EU, FDA, GMP EU, detectable

Material Overviews of Sealing Materials Plastics

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
PTFE	128	P		≥ 51 ShD	-200 to +260	RoHS, REACH, POP, TSCA, EU, EU, FDA, GMP EU
PB	123	PB		62...67 ShD	-200 to +260	RoHS, REACH, POP, TSCA
	48	PB60		34 MPa	-200 to +260	RoHS, REACH, POP, TSCA, CP65
	570	PB46		63 ShD	-200 to +260	RoHS, REACH
PEKO	56	PEK		57 ShD	-200 to +260	RoHS, REACH, POP, TSCA, CP65, EU, FDA, GMP EU

DIN Short	ID Number	Material Desig.	Color	Hardness	Temperature [°C]	Approvals
PG	46	PG		59 ShD	-200 to +260	RoHS, REACH, POP, TSCA, CP65, EU, FDA, GMP EU, BfR
	125	PGM		55...60 ShD	-200 to +260	RoHS, REACH, POP, TSCA
	568	PGD		58 ShD	-200 to +260	RoHS, REACH, EU, EU, 3AS, USP C VI
PK	126	PK		62...67 ShD	-200 to +260	RoHS, REACH, POP, TSCA
	393	PKE		65 ShD	-200 to +260	RoHS, REACH
	670	PKE25		63 ShD	-200 to +260	RoHS, REACH, POP, TSCA, CP65, EU, EU, FDA, GMP EU
	671	PKE15		34 MPa	-200 to +260	RoHS, REACH, POP, TSCA, CP65
PKF	282	PKF15		37 MPa	-150 to +250	RoHS, REACH, POP, TSCA, CP65

RSP	=	Branding „Red Super Polymer“
PA6	=	Polyamide with 6 carbon atoms in the basic molecule
PA12	=	Polyamide with 12 carbon atoms in the basic molecule
PB	=	PTFE modified with bronze additive
PEKO	=	PTFE modified with ekonol additive
PG	=	PTFE modified with glass/glass fiber additive
PK	=	PTFE modified with graphite additive
PKF	=	PTFE modified with graphite fiber additive
PM	=	PTFE modified with other specific additives

[illegible]

Acronym according DIN 1629/ DIN 1043-1	Chemical designation	Properties (extract)
FKM	Fluororubber	• very good resistance to oil and chemicals • wide range of application • low gas permeability • usable in high temperatures
HNBR	Hydrogenated Nitrile-Butadiene Rubber	• very good mechanical properties • high resistance to wear • good ozone and weather resistance • good resistance to mineral oils, hot water and refrigerants
NBR	Acrylonitrile-Butadiene-Rubber	• good mechanical properties • resistant to mineral oils and greases, without flavoring or chlorine additives • restricted ozone and light resistance
VMQ	Vinyl-Methyl-Polysiloxane-Rubber	• good behavior at high and low temperatures • average mechanical properties • good ozone and weather resistance • very good elasticity • not resistant to mineral oils

Shelf Life of Sealing Materials

Definition of the maximum storage period of products as a function of their material composition

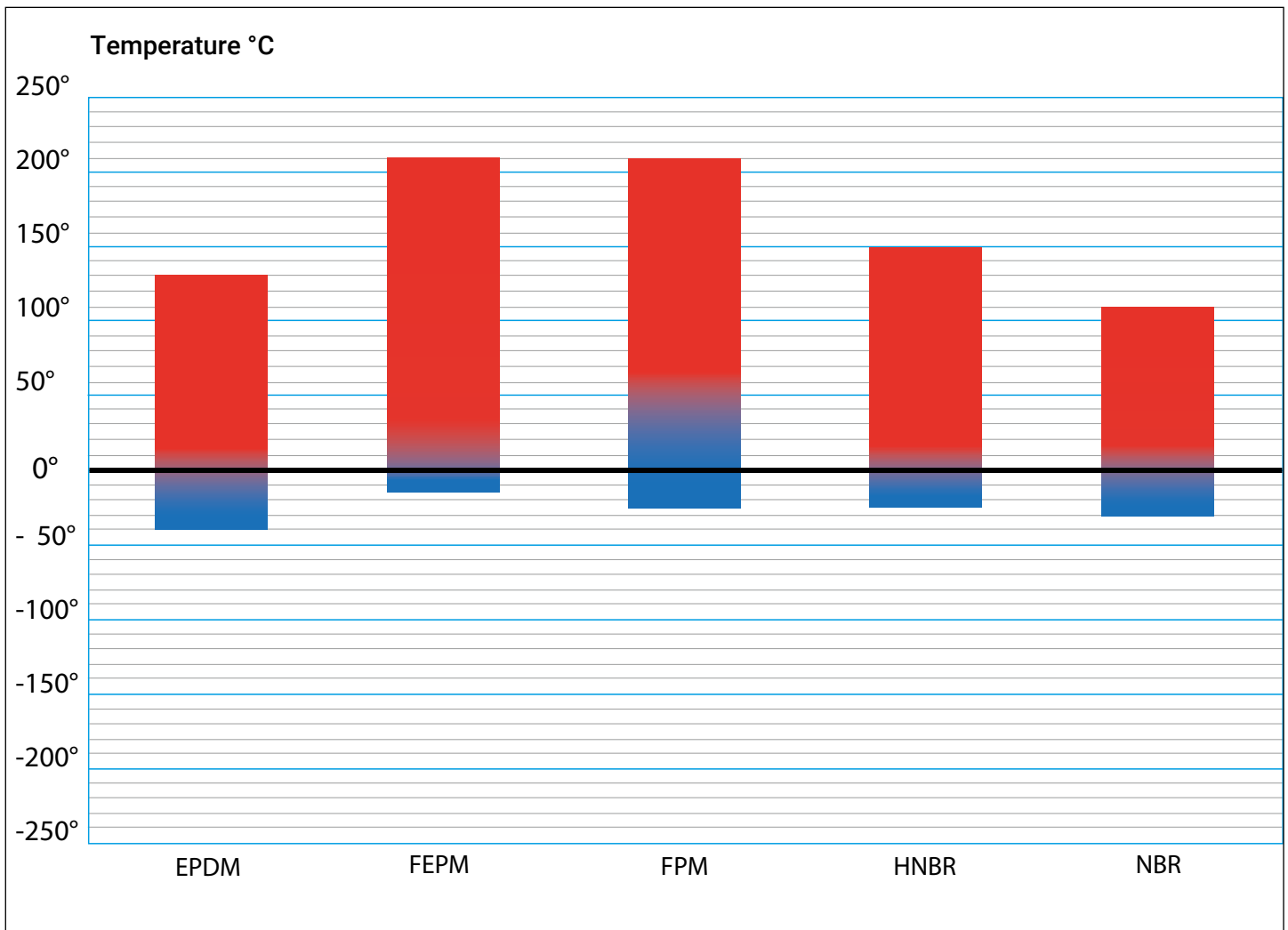
The materials primarily used in Seal Concept's products undergo a natural aging process under storage conditions, which affects their qualitative durability, meaning the state in which they should maintain their technically guaranteed properties as specified by the manufacturer. As a result, these properties can no longer be guaranteed by Seal Concept after a certain period. However, in order to assure our customers of these material properties within the legally guaranteed warranty period, the company establishes the following summarized maximum storage times for items based on their material composition. This is based on industry-standard material lifespans, assuming that...

- the actual manufacturing date of the item, if not precisely indicated by the manufacturer or supplier, should not exceed 1 year from the storage date at Seal Concept. This is specified to suppliers within the framework of the specific supplier agreements.
- the items have been stored under optimal storage conditions (cool, dry, dust-free, moderately ventilated, no direct sunlight or metal contact, free of stress, temperature +12...+25°C, briefly above this, relative humidity 65%) at Seal Concept GmbH.

Maximum storage period of products as a function of their material composition

Acronym	Storage period of finished parts	Storage period of semi-finished products/ raw material
NBR, PF	7 years	5 years
PU, PUR	7 years	8-12 years
H-NBR	7 years	8 years
FKM, FFKM, VMQ, POM, PA, EP	10 years	10 years
EPDM	10 years	8 years
PTFE, PEEK	12 years	12 years

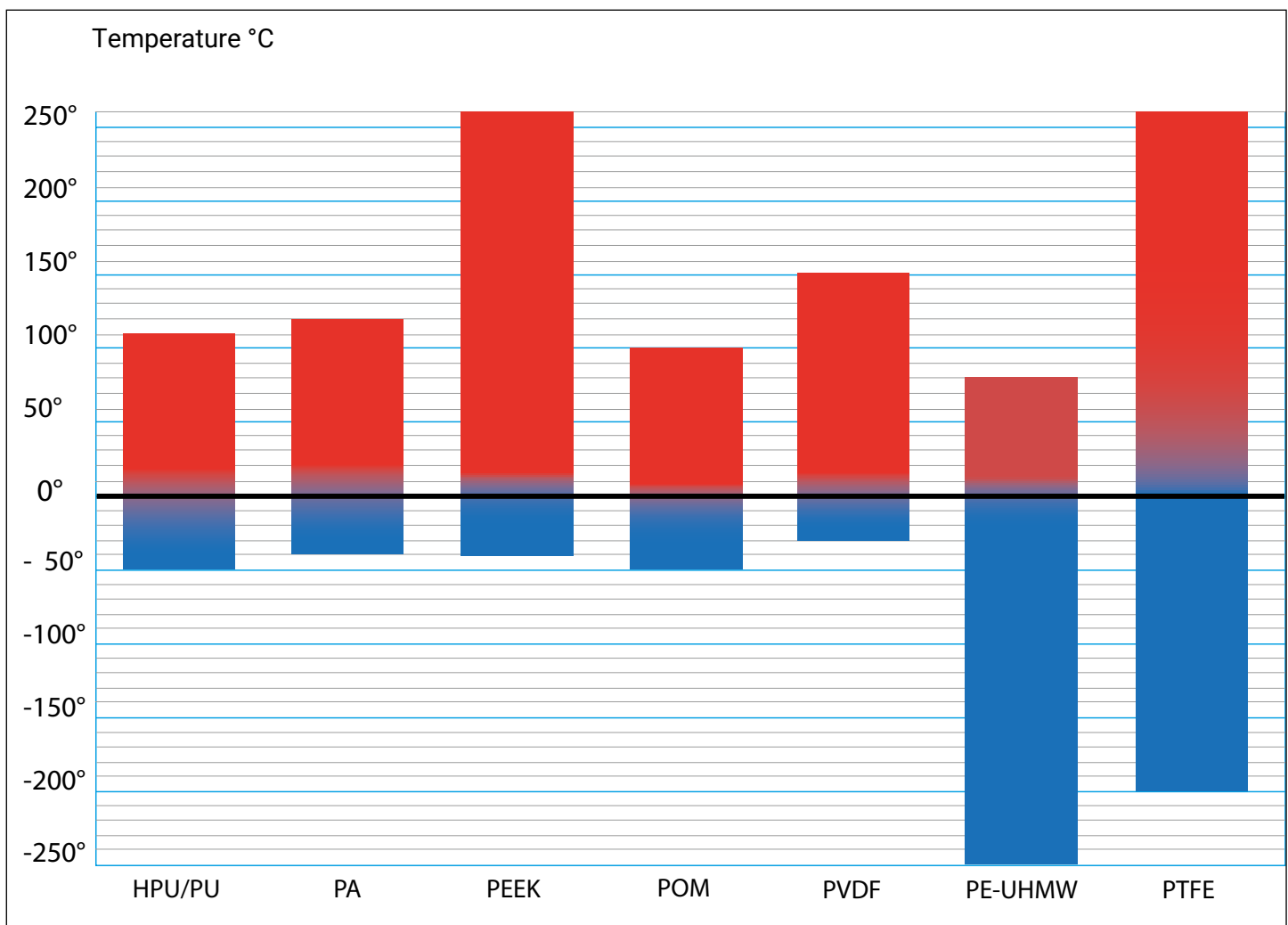
The actual storage period of the articles is established once a year at the end of the business year by a monitoring run of the inventory management system. Articles that have exceeded the specified storage period will be scrapped.



General Material Information on Plastics

Acronym according DIN 1629/ DIN 1043-1	Chemical designation	Properties (extract)
HPU	Hydrolysis-Resistant Polyurethane	• good abrasion resistance • high extrusion resistance • good media resistance (mineral oils, greases) • good resistance to ozone and aging
PU	Polyurethane	
PA	Polyamide	• high mechanical resistance • high resistance to wear • high dimensional stability • high buffering capacity
PEEK	Polyetheretherketone	• very good mechanical properties • high resistance to deformation under heat • high resistance to hydrolysis • high resistance to chemicals
POM	Polyacetal (Polyoxymethylene)	• high toughness, even at low temperatures • dimensional stability at good elasticity • low water absorption • favorable sliding/wear behavior

Acronym according DIN 1629/ DIN 1043-1	Chemical designation	Properties (extract)
PVDF	Polyvinylidenefluoride	• good behavior at high and low temperatures • average mechanical properties • good ozone and weather resistance • very good elasticity
PE-UHMW	Ultra-High Molecular weight Polyethylene	• very favorable frictional behavior • high resistance to wear • very low water absorption
PTFE	Polytetrafluor Ethylene	• very good chemical resistance • low coefficient of friction • adaptable with additives • usable in high temperatures



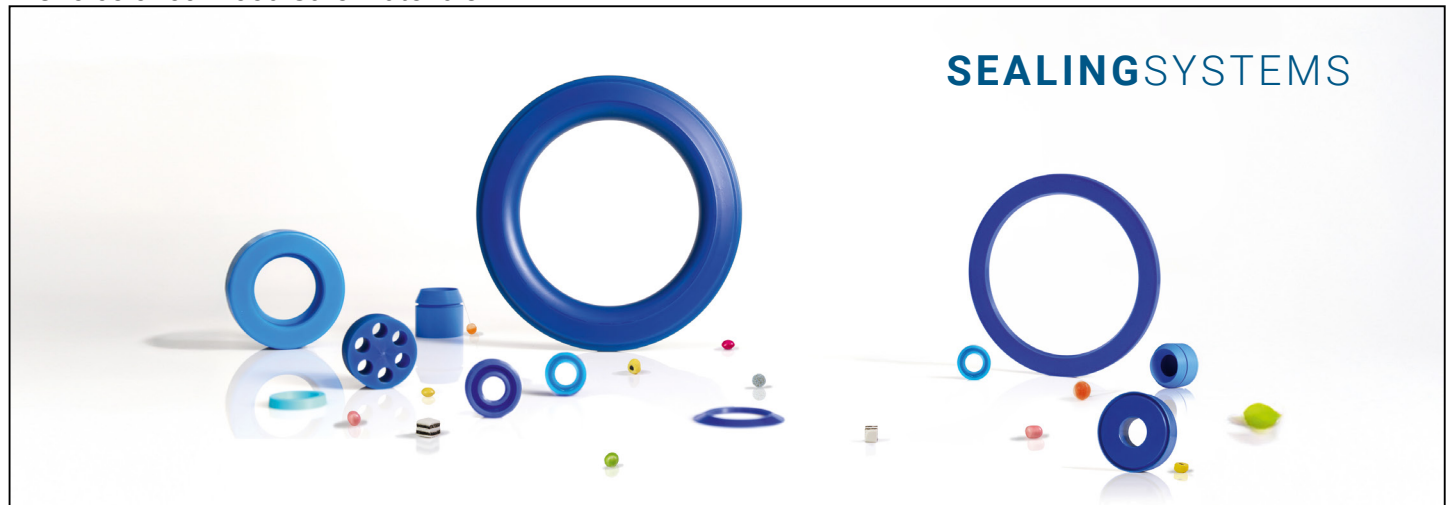
Overall material overview in ascending ID number order

DIN Short	ID Number	„old name“	Color	Basis
PF	18	PF		Plastic
PG	46	PG		Plastic
PB	48	PB60		Plastic
PEKO	56	PEK		Plastic
EP	109	EP		Plastic
HPU	111	HPU72D		Plastic
EPDM	112	EPDM		Elastomer
EPDM	113	EPDM/W/FDA		Elastomer
FFKM	114	AFL		Elastomer
FKM	115	FPM		Elastomer
FKM	116	FPM/S		Elastomer
FKM	117	FPM/FDA		Elastomer
HNBR	118	HNBR		Elastomer
NBR	930	NBR/FDA		Elastomer
NBR	120	NBR		Elastomer
NBR	121	NBR95		Elastomer
PA6	122	PA		Plastic
PB	123	PB		Plastic
PG	125	PGM		Plastic
PK	126	PK		Plastic
POM	127	POM		Plastic
PTFE	128	P		Plastic
HPU	132	HPUG		Plastic
VMQ	138	SIL		Elastomer
VMQ	139	SILBL		Elastomer
PVDF	176	PVDF		Plastic
PKF	282	PKF15		Plastic
PEEK	245	PEEK		Plastic

DIN Short	ID Number	„old name“	Color	Basis
PA12	607	PA12		Plastic
NBR	285	NBR-T		Elastomer
PM	322	PT/FDA		Plastic
RSP	351	RSP		Plastic
HPU	364	HPUD		Plastic
UHMW	368	PE1000		Plastic
PA12	378	LAUF		Plastic
PK	393	PKE		Plastic
NBR	411	NBRD		Elastomer
EPDM	422	EPDMD		Elastomer
PU	480	PUSLD		Plastic
HPU	498	HPU58E		Plastic
HNBR	552	HNBR90D		Elastomer
HPU	555	HPUTD		Plastic
HNBR	557	HNBR/ED		Elastomer
PG	567	PGD		Plastic
PB	570	PB46		Plastic
NBR	571	NBR73		Elastomer
PM	574	TFM/M2		Plastic
PM	575	P/PEEK		Plastic
PM	576	TFM/M1		Plastic
HPU	580	HPU		Plastic
HPU	583	HPUT		Plastic
HPU	581	HPUSS		Plastic
HPU	582	HPUHT		Plastic
PU	585	PUMOS2		Plastic
PM	590	TFM/M3		Plastic
VMQ	597	SILTR		Elastomer
HPU	606	HPU72E		Plastic

DIN Short	ID Number	„old name“	Color	Basis
PE-UHMW	608	PE1000G		Plastic
PEEK	609	PEEK		Plastic
POM	610	POMS		Plastic
PM	613	TFM/M4		Plastic
TPE	614	TPE		Plastic
PK	670	PKE25		Plastic
PF	668	KRÜTEX200		Plastic
PF	676	KRÜTEX100		Plastic
PK	671	PKE15		Plastic
PE-UHMW	681	PE1000S		Plastic
HPU	684	HPUV		Plastic
FKM	687	FPM/ED		Elastomer
FKM	689	FPM/B/FDA		Elastomer
HPU	690	HPUDB		Plastic
EPDM	691	EPDMDB		Elastomer
VMQ	692	SILW		Elastomer
HPU	693	HPUDN		Plastic
PA12	694	LAUF		Plastic
EPDM	706	EPDM/FDA		Elastomer
HPU	812	HPUSS		Plastic
HNBR	813	HNBRD/G		Elastomer
FKM	818	FPM73		Elastomer
EPDM	844	EPDMDS		Elastomer
HPU	862	HPUB2		Plastic
HPU	875	HPUDSS		Plastic
PUH	914	PUH		Plastic
HNBR	880	HNBRD73		Elastomer
HPU	915	PUHMOS2		Plastic

A Choice of our Food-Safe Materials



Description	Material Designation	Color	Datasheet no.	Hardness	°C Service Temperature	GMP EU 2023/2006	FDA conformity	VO (EU) 1935/2004	VO (EU) 10/2011	BSE/TSE-free	BfR Recommendation	3A Sanitary
HPU	HPU580	red	580	95±2 ShA	-30 to +125 °C	x	x	x	x	x		x
HPUD	HPU364	red	364	95±2 ShA	-20 to +115 °C	x	x	x	x	x		x
HPUV	HPU684	violet	684	95±2 ShA	-30 to +115 °C	x	x	x	x	x		x
HPUT	HPU583	blue	583	95±2 ShA	-50 to +105 °C	x	x	x	x	x		
HPUDB	HPU690	blue	690	95±2 ShA	-20 to +115 °C	x	x	x	x	x		x
HPUDN	HPU693	nature	693	95±2 ShA	-20 to +115 °C	x	x	x	x	x		
PUH	HPU914	blue	914	57±3 ShD	-30 to +125 °C		x	x	x			x
HPUB2	HPU862	blue	862	95±2 ShA	-30 to +125 °C	x	x	x	x	x		x
NBR/FDA	NBR930	white	930	85±5 ShA	-22 to +100 °C	x	x	x		x		
NBR/B/FDA	NBR754	blue	754	80±5 ShA	-30 to +100 °C	x	x	x		x		
HNBR90	HNBR552	black	552	90±5 ShA	-20 to +150 °C		x			x		x
EPDM/W/FDA	EPDM113	white	113	85±5 ShA	-50 to +100 °C	x	x	x		x		x
EPDM/FDA	EPDM706	black	706	85±5 ShA	-45 to +130 °C	x	x	x		x		x
EPDM/B/FDA	EPDM691	blue	691	81±5 ShA	-30 to +130 °C	x	x	x		x		
FPM/FDA/braun	FKM117	brown	117	85±5 ShA	-25 to +210 °C	x	x	x		x		x
FPM/B/FDA	FKM689	blue	689	80±5 ShA	-17 to +200 °C	x	x	x		x		x
SIL	VMQ138	red	138	85±5 ShA	-55 to +210 °C	x	x	x		x		x
SILB	VMQ139	blue	139	85±5 ShA	-55 to +180 °C	x	x	x		x		
SILW	VMQ692	white	692	85±5 ShA	-60 to +200 °C		x			x		
SILTR	VMQ597	transp.	597	85±5 ShA	-60 to +200 °C	x	x	x		x	x	
PTFE Virginal	PTFE128	white	128	≤ 51 ShD	-200 to +260 °C	x	x	x	x	x		
PTFE 25% Glas	PG046	gray	46	59 ShD	-200 to +260 °C	x	x	x	x	x		

A Choice of our Food-Safe Materials

Description	Material Designation	Color		Datasheet no.	Hardness	°C Service Temperature	GMP EU 2023/2006	FDA conformity	VO (EU) 1935/2004	VO (EU) 10/2011	BSE/TSE-free	BfR Recommendation	3A Sanitary
PTFE 25% Glas	PG568	grau		568	58 ShD	-200 to 260 °C		x	x	x	x		x
PTFE türkis	PT322	turquoise		322	56 ShD	-200 to 260 °C	x	x	x	x	x		
PTFE+PEEK	PM575	beige		575	32 Mpa	-200 to 260 °C	x	x	x	x	x		x
PTFE+EkonoI	PM056	beige		56	57 ShD	-200 to 260 °C	x	x	x	x	x		
TFM/M1	PM576	brown		576	31 Mpa	-200 to 230 °C	x	x	x	x	x		
TFM/M4	PM613	brown		613	32 Mpa	-200 to 230 °C	x	x	x	x	x		x
Polyamid	PA122	white		122	165 Mpa	-30 to 100 °C		x			x		
POM	POM127	white		127	140 Mpa	-50 to 105 °C	x	x	x	x			
PEEK	PEEK245	gray		245	190 Mpa	-50 to 250 °C	x	x	x	x	x		
PVDF	PVDF176	beige		176	80 Mpa	-30 to 150 °C	x		x	x			
PE-UHMW	PE-UHMW681	black		681	61 ShD	-200 to 80 °C		x	x	x			
PE-UHMW	PE-UHMW368	white		368	61 ShD	-265 to 80 °C	x	x	x	x	x		
PA12G	PA694	beige		694	76 ShD	-40 to 120 °C		x	x	x	x		

Our Detectable Materials

Description	Material Designation	Color		Datasheet no.	Hardness	°C Service Temperature	GMP EU 2023/2006	FDA conformity	VO (EU) 1935/2004	VO (EU) 10/2011	BSE/TSE-free	BfR Recommendation	3A Sanitary	USP Class VI	Detectable
HPU/B/MDx	HPU776	blue		776	95 ShA	-20 to +90 °C	x	x	x	x	x				x
EPDM/B/MDx	EPDM775	blue		775	81±5 Sh	-30 to +135 °C	x	x	x		x		x		x
FPM/B/MDx	FKM777	blue		777	80±5 Sh	-15 to +200 °C	x	x	x		x		x		x
POM/B/MD	POM792	blue		792	155 Mpa	-30 to +105 °C	x	x	x	x					x
PEEK/B/MD	PEEK790	blue		790	106 HRM	-50 to +250 °C	x	x	x	x					x
PE/B/MD	PE791	blue		791	62 ShD	-150 to +80 °C	x	x	x	x					x
NBR/B/DTx	NBR878	blue		878	85±5 Sh	-30 to +100 °C	x	x	x						x



Blue color as visual detection because this dye in natural foods and the nature rare occurs



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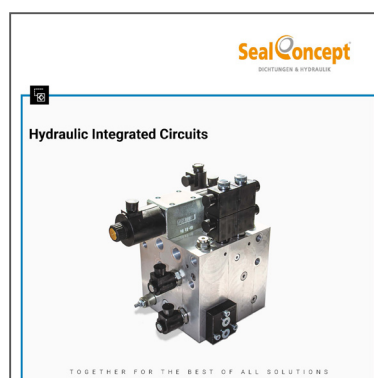
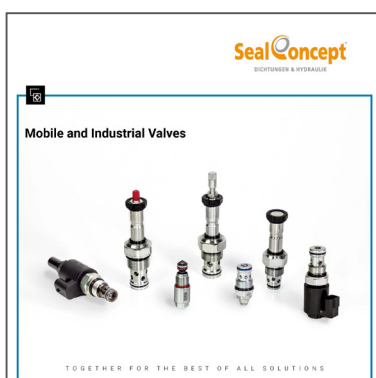
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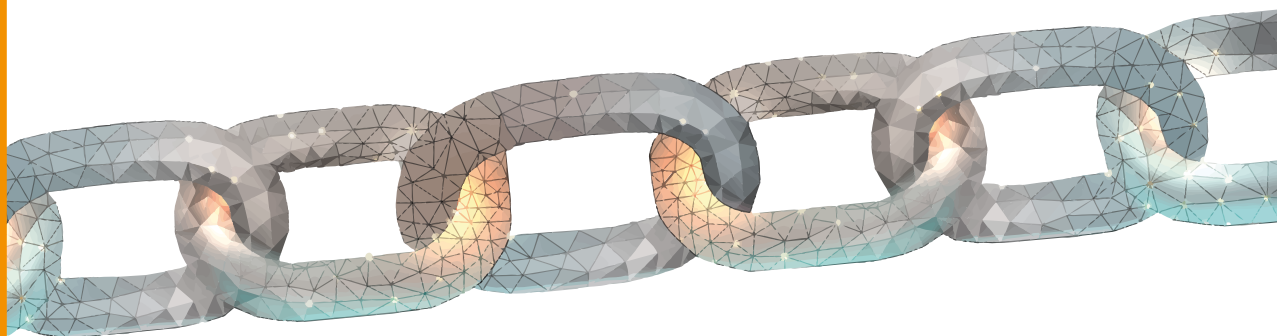


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