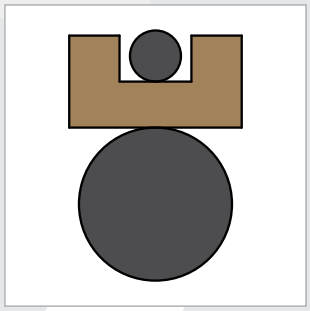


PISTON SEALS

BECA 507-508

DESCRIPTION

The BECA 507-508 profiles are double acting composite piston seals composed of a filled PTFE friction ring, static O'Ring and dynamic rubber O'Ring. They can be assembled in grooves according to standard ISO 7425/1. Option of connecting the seal to 1 or 2 back-up rings.

ADVANTAGES

Optimal sealing for separating two fluids

Low friction coefficient; no stick-slip effect

Excellent abrasion resistance

Wide temperature range and excellent chemical resistance, depending on the material selected for the O'Rings

APPLICATIONS

Mobile hydraulics

Machine tools

Presses

Hydro-pneumatic suspension systems

MATERIALS

Friction ring

Bronze-filled PTFE

Carbon-filled PTFE

Blue GL PTFE

O'Rings

NBR 70 Shore A

FKM 70 Shore A

Other grades of materials are available. Please refer to the materials table on the next page.

TECHNICAL DATA

Temperature	-30°C / +200°C
Pressure	50 MPa
Speed	2 m/s
Media	Mineral hydraulic oils Fire-resistant liquids Biocompatible fluids Water Others (contact our experts)

The figures above indicate the maximum values and may not be cumulated. They may be developed, depending on the materials used.

EXTRUSION GAPS

Radial section S	Radial gap F/2		
	10 MPa	20 MPa	40 MPa
5.50	0.25	0.15	0.10
7.75	0.30	0.20	0.15
10.50	0.30	0.20	0.15
12.25	0.30	0.20	0.15
14.00	0.45	0.30	0.25
17.50	0.55	0.40	0.35

SURFACE ROUGHNESS

Roughness	Dynamic surface area	Static surface area	Groove flanks
Ra	0.05 - 0.2 µm	≤1.6 µm	≤3.2 µm
Rz	0.4 - 1.6 µm	≤6.3 µm	≤10.0 µm
Rmax	0.63 - 2.5 µm	≤10.0 µm	≤16.0 µm

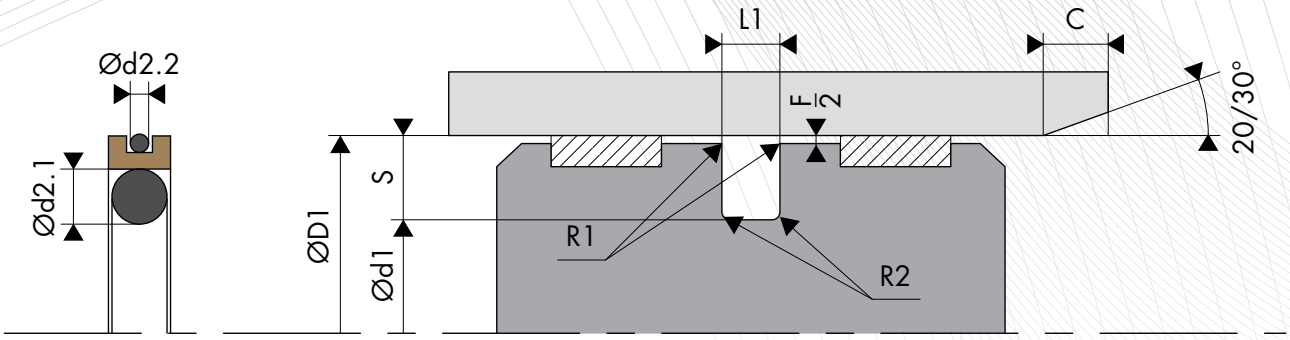
CHAMFERS AND RADIUS

Radial section S	Radius R1	Radius R2	Chamfer C
5.50	0.30	1.00	3.00
7.75	0.30	1.30	3.00
10.50	0.30	1.80	5.00
12.25	0.30	1.80	6.00
14.00	0.30	2.50	8.00
17.50	0.30	3.00	10.00

TABLE MATERIALS

Friction ring					O'Rings			Mating surface material
Standard code	ISO code	Material	Colour	Characteristics	Code	Type of material	Service temperature	
DP	P	Virgin PTFE	White	Resistance to chemical products Impermeability Dielectric Non-stick Low friction coefficient Food industry	K6	NBR 70 Shore A	-30°C/+100°C	Steel Stainless steel Chrome steel Aluminium Bronze Cast iron Treated surface
					G6	FKM 70 Shore A	-20°C/+200°C	
					C6	EPDM 70 Shore A	-45°C/+150°C	
					F6	VMQ 70 Shore A	-60°C/+200°C	
DC	C	PTFE + 25% Carbon	Grey	**Improvements** **• Wear properties** **• Compression set** Good resistance to chemical products Thermal and electrical conductivity Anti-static High-performing in compression-based dynamic applications	K6	NBR 70 Shore A	-30°C/+100°C	
					G6	FKM 70 Shore A	-20°C/+200°C	
					C6	EPDM 70 Shore A	-45°C/+150°C	
CG	C	PTFE + 23% Carbon + 2% Graphite	Black		K6	NBR 70 Shore A	-30°C/+100°C	
					G6	FKM 70 Shore A	-20°C/+200°C	
					C6	EPDM 70 Shore A	-45°C/+150°C	
DV	V	PTFE + 25 % Glass	Blue	**Improvements** **• Wear properties** **• Mechanical strength** Slightly more abrasive, however, this is corrected by adding MOS2 Maintains its chemical and dielectric properties Well-suited to applications with rotational and simultaneous alternating movements	K6	NBR 70 Shore A	-30°C/+100°C	Steel Chrome steel Cast iron
					G6	FKM 70 Shore A	-20°C/+200°C	
VM	M	PTFE + 15 % Glass + 5% MOS2	Grey		K6	NBR 70 Shore A	-30°C/+100°C	
					G6	FKM 70 Shore A	-20°C/+200°C	
DX	X	PTFE GL Blue + Glass + Metal oxides	Turquoise blue	Resistance to compression Resistance to wear Excellent chemical stability Good thermal conductivity	K6	NBR 70 Shore A	-30°C/+100°C	
					G6	FKM 70 Shore A	-20°C/+200°C	
DG	G	PTFE + 15% Graphite	Black	**Improvements** **• Wear properties** Reduced wear on metal parts Self-lubricating Thermal and electrical conductivity Low permeability Good friction coefficient Anti-static High performing in dynamic self-lubricating applications	K6	NBR 70 Shore A	-30°C/+100°C	Steel Stainless steel Chrome steel Aluminium Bronze Cast iron Treated surface
					G6	FKM 70 Shore A	-20°C/+200°C	
					C6	EPDM 70 Shore A	-45°C/+150°C	
K1	K	PTFE + 10% Ekonol	Light brown	**Improvements** **• Better abrasion resistance** **• Better dimensional stability at high temperatures** Use up to +300°C Good friction coefficient and low permeability	K6	NBR 70 Shore A	-30°C/+100°C	
					G6	FKM 70 Shore A	-20°C/+200°C	
					C6	EPDM 70 Shore A	-45°C/+150°C	
K2	K	PTFE + 20% Ekonol	Light brown		K6	NBR 70 Shore A	-30°C/+100°C	
					G6	FKM 70 Shore A	-20°C/+200°C	
					C6	EPDM 70 Shore A	-45°C/+150°C	
DB	B	PTFE + 60% Bronze	Dark brown	**Improvements** **• Wear properties** **• Warping resistance and creep strength** **• Compression resistance** Self-lubricating Electrical and thermal conductivity Does not alter the metal parts Reduced hold with certain chemical products Used for high-compression dynamic seals and has a low level of wear	K6	NBR 70 Shore A	-30°C/+100°C	Steel Chrome steel Cast iron
					G6	FKM 70 Shore A	-20°C/+200°C	
B4	B	PTFE + 40% Bronze	Dark brown		K6	NBR 70 Shore A	-30°C/+100°C	
					G6	FKM 70 Shore A	-20°C/+200°C	

Other grades of materials are available depending on your specificities.



INSTALLATION DIMENSIONS

Bore diameter ØD1 H9		Groove diameter	Groove width	Radial section	O'Ring cross-section	O'Ring / X'Ring cross-section
BECA 507 Standard range	BECA 508 Light range	Ød1 h9	L1 0/+0.20	S	Ød2.1	Ød2.2
15.0 - 39.9	40.0 - 79.9	D1 - 11.00	4.20	5.50	3.53	1.78
40.0 - 79.9	80.0 - 132.9	D1 - 15.50	6.30	7.75	3.53	1.78
80.0 - 132.9	133.0 - 252.9	D1 - 21.00	8.10	10.50	6.99	2.62
133.0 - 252.9	---	D1 - 24.50	8.10	12.25	6.99	2.62
253.0 - 462.9	---	D1 - 28.00	9.50	14.00	8.40	3.53
463.0 - 700.0	---	D1 - 35.00	11.50	17.50	10.00	3.53

For special applications > 40 MPa, we recommend using an H8/f8 tolerance (bore/piston) or selecting other, more suitable materials. Please contact our experts.

EXAMPLE OF CODIFICATION

STANDARD CODIFICATION

Materials _____ : Friction ring, PTFE + 60% Bronze - Code DB
_____ : NBR 70 Shore A O'Rings - Code K6
Bore diameter ____ : ØD1 = 50.00 mm
Groove diameter __ : Ød1 + 34.50 mm
Part number_____ : 507. 050DBK6

Part number - 507. 050 DB K6

- 507. — Family
- 050 — Bore diameter
- DB — Friction ring material*
- K6 — O'Ring materials*

* The codes that define the materials are set out in the materials table on the previous page.

DIMENSIONS

Part number	Bore diameter ØD1 H9	Groove diameter Ød1 h9	Groove width L1 0/+0.2
507.015	15.00	4.00	4.20
507.016	16.00	5.00	4.20
507.018	18.00	7.00	4.20
507.020	20.00	9.00	4.20
507.022	22.00	11.00	4.20
507.025	**25.00**	**14.00**	**4.20**
507.028	28.00	17.00	4.20
507.030	30.00	19.00	4.20
507.032	**32.00**	**21.00**	**4.20**
507.035	35.00	24.00	4.20
507.038	38.00	22.50	6.30
507.040	40.00	24.50	6.30
508.040	**40.00**	**29.00**	**4.20**
507.042	42.00	26.50	6.30
508.042	42.00	31.00	4.20
507.045	45.00	29.50	6.30
508.045	45.00	34.00	4.20
507.048	48.00	32.50	6.30
508.048	48.00	37.00	4.20
507.050	**50.00**	**34.50**	**6.30**
508.050	**50.00**	**39.00**	**4.20**
507.052	52.00	36.50	6.30
508.052	52.00	41.00	4.20
507.055	55.00	39.50	6.30
508.055	55.00	44.00	4.20
507.058	58.00	42.50	6.30
508.058	58.00	47.00	4.20
507.060	60.00	44.50	6.30
508.060	60.00	49.00	4.20
507.062	62.00	46.50	6.30
508.062	62.00	51.00	4.20
507.063	**63.00**	**47.50**	**6.30**
508.063	**63.00**	**52.00**	**4.20**
507.065	65.00	49.50	6.30
508.065	65.00	54.00	4.20
507.070	70.00	54.50	6.30
508.070	70.00	59.00	4.20
507.072	72.00	56.50	6.30
508.072	72.00	61.00	4.20
507.075	75.00	59.50	6.30
508.075	75.00	64.00	4.20
507.078	78.00	62.50	6.30
508.078	78.00	67.00	4.20
507.080	80.00	59.00	8.10
508.080	**80.00**	**64.50**	**6.30**
507.082	82.00	61.00	8.10
508.082	82.00	66.50	6.30
507.085	85.00	64.00	8.10
508.085	85.00	69.50	6.30
507.090	90.00	69.00	8.10
508.090	90.00	74.50	6.30
507.095	95.00	74.00	8.10
508.095	95.00	79.50	6.30
507.100	100.00	79.00	8.10
508.100	**100.00**	**84.50**	**6.30**
507.105	105.00	84.00	8.10
508.105	105.00	89.50	6.30
507.110	110.00	89.00	8.10
508.110	110.00	94.50	6.30
507.115	115.00	94.00	8.10
508.115	115.00	99.50	6.30
507.120	120.00	99.00	8.10
508.120	120.00	104.50	6.30

Part number	Bore diameter ØD1 H9	Groove diameter Ød1 h9	Groove width L1 0/+0.2
507.125	**125.00**	**104.00**	**8.10**
508.125	**125.00**	**109.50**	**6.30**
507.130	130.00	109.00	8.10
508.130	130.00	114.50	6.30
507.135	135.00	110.50	8.10
508.135	135.00	114.00	8.10
507.140	140.00	115.50	8.10
508.140	140.00	119.00	8.10
507.145	145.00	120.50	8.10
508.145	145.00	124.00	8.10
507.150	150.00	125.50	8.10
508.150	150.00	129.00	8.10
507.155	155.00	130.50	8.10
508.155	155.00	134.00	8.10
507.160	160.00	135.50	8.10
508.160	**160.00**	**139.00**	**8.10**
507.165	165.00	140.50	8.10
508.165	165.00	144.00	8.10
507.170	170.00	145.50	8.10
508.170	170.00	149.00	8.10
507.175	175.00	150.50	8.10
508.175	175.00	154.00	8.10
507.180	180.00	155.50	8.10
508.180	180.00	159.00	8.10
507.190	190.00	165.50	8.10
508.190	190.00	169.00	8.10
507.200	200.00	175.50	8.10
508.200	**200.00**	**179.00**	**8.10**
507.210	210.00	185.50	8.10
508.210	210.00	189.00	8.10
507.220	220.00	195.50	8.10
508.220	220.00	199.00	8.10
507.230	230.00	205.50	8.10
508.230	230.00	209.00	8.10
507.240	240.00	215.50	8.10
508.240	240.00	219.00	8.10
507.250	**250.00**	**225.50**	**8.10**
508.250	**250.00**	**229.00**	**8.10**
507.260	260.00	232.00	9.50
507.270	270.00	242.00	9.50
507.280	280.00	252.00	9.50
507.290	290.00	262.00	9.50
507.300	300.00	272.00	9.50
507.310	310.00	282.00	9.50
507.320	320.00	292.00	9.50
507.330	330.00	302.00	9.50
507.340	340.00	312.00	9.50
507.350	350.00	322.00	9.50
507.360	360.00	332.00	9.50
507.370	370.00	342.00	9.50
507.380	380.00	352.00	9.50
507.390	390.00	362.00	9.50
507.400	400.00	372.00	9.50
507.410	410.00	382.00	9.50
507.420	420.00	392.00	9.50
507.430	430.00	402.00	9.50
507.440	440.00	412.00	9.50
507.450	450.00	422.00	9.50
507.460	460.00	432.00	9.50
507.470	470.00	435.00	11.50
507.480	480.00	445.00	11.50
507.490	490.00	455.00	11.50
507.500	500.00	465.00	11.50

The figures highlighted in bold correspond to the dimensions for standard ISO 7425/1, with the bore diameters in line with standard ISO 3320. Other intermediate sizes can be provided.

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