

# "O" rings

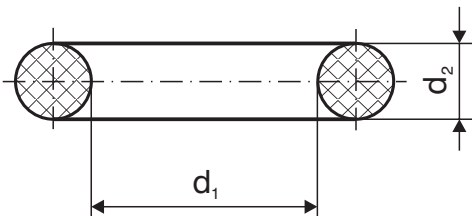


"NIKOM 65" Ltd offers more than 5000 sizes of O rings and big variety of materials and wide field of appliance. The delivery of special materials O rings for appliance in particular cases is possible.

We have in stock big quantity of standard material and sizes.

O rings are made in very precise moulds. The form, material, hardness, dimensions, tolerances and smoothness of surface are according DIN-Norm-3770 and ISO 3601.

## DESIGNATION OF "O" RINGS



$d_1$  - inside diameter mm

$d_2$  - cord diameter mm

The material hardness is either according Shore A or IRHD. Standard Shore A hardness is equal to 73 IRHD:

Hardness Shore A	60	70	80	90
Hardness IRHD	63	73	83	92
- Tolerance $\pm 5_{\pm}$				
- Testing of material according DIN 53505 and DIN 535519				

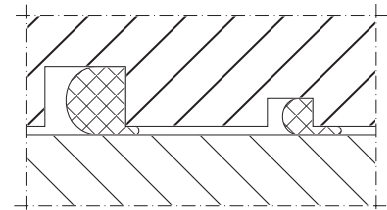
## Material indication according DIN:

- NB – Nitrile-butadiene rubber
- FP – Fluorine rubber (Viton)
- SI – Silicone rubber
- EP – Ethylene-propylene rubber
- CR – Chloroprene rubber
- NR – Natural rubber
- BU – Butadiene rubber
- PTFE – Teflon

Tolerances of "O" rings dimensions:

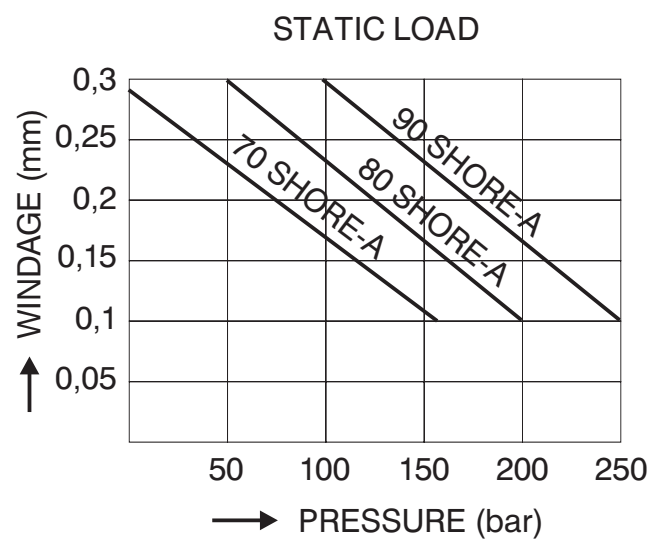
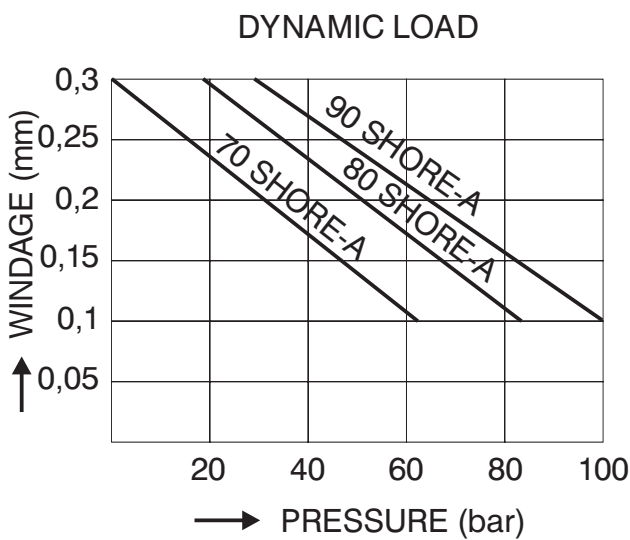
$d_1$	$\pm$ Tolerance	$d_2$	$\pm$ Tolerance
- 3	0,14	- 1,8	0,08
3 - 6	0,15	1,8 - 2,6	0,09
6 - 10	0,17	2,6 - 3,5	0,10
10 - 18	0,20	3,5 - 5,3	0,13
18 - 30	0,30	5,3 - 7,0	0,15
30 - 50	0,40	7,0 - 8,0	0,17
50 - 80	0,65	8,0 - 10,0	0,20
80 - 100	0,85	10,0 - 15,0	0,25
100 - 120	1,0		
120 - 150	1,2		
150 - 180	1,4		
180 - 250	1,8		
250 - 300	2,1		
300 - 350	2,5		
350 - 400	2,8		
400 - 500	3,4		
500 - 650	4,3		
650 - 800	6,5		

It is recommended when is possible the designers to choose “O” rings with max. diameter of cord . We can see from the figure that at the same play, the pressed volume is as lower as bigger is the cord diameter.



At equal condition the “O” rings with smaller diameter are more difficulty deformed.

For choosing correctly the play depending on pressure and hardness we can use the following diagrams:



**CHEMICAL RESISTANCE OF “O” RINGS AT DIFFERENT MEDIUM AND TEMPERATURE**

	NB	FP	SI	EP	CR	NR	BU	PTFE
OZONE	3	1	1	1	2	4	2	1
BENZINE	1	1	5	5	2	6	6	1
OIL AND GREASE	1	1	1	4	2	6	6	1
ACIDS	4	1	5	1	2	3	2	1
ALCALIES	3	1	5	2	2	3	2	1
HOT WATER	3	2	5	2	3	3	1	1
HOT AIR (°C)	+130	+220	+200	+150	+120	+90	+140	+260
COLD (°C)	-40	-25	-80	-40	-30	-50	-40	-190

- 1 - Excellent
- 2 - Very Good
- 3 - Good
- 4 - Satisfactory
- 5 - Poor
- 6 - Unsatisfactory