

# O-RINGS IN POLYURETHANE & ANTIROLLING®



# O-Ring in polyurethane

## Description

Since many years O-Rings represent the most economical and efficient sealing element for a wide range of static and dynamic applications. Where outstanding extrusion resistance is a requirement, ARTIC SEALS is pleased to propose a new generation of TPU O-Rings, available in a wide range of high performing TPUs which offer extremely high extrusion resistance, hydrolysis resistance, very strong rebound resilience and excellent oil and abrasion resistance. Dedicated for static and dynamic application and more in general where O-Rings need to perform consistently, even in harsh conditions. These materials offers many outstanding physical properties including:

- High wear resistance
- Low compression set
- High extrusion resistance
- A wide temperature operating range

## Size Programme

- cross section from 2,62 [mm] up to 10 [mm];
- inside diameter from 10 [mm] up to 250 [mm].

## Working Condition

Temperature:

- from -40°C up to +90 °C material 90 Shore A
- from -35°C up to +110 °C material 94 Shore A

Pressure:

- 90 Shore A for pressure up to 250 [Bar]
- 94 Shore A for pressure up to 450 [Bar]  
with peaks up to 500 [Bar]

## Material Compatibility

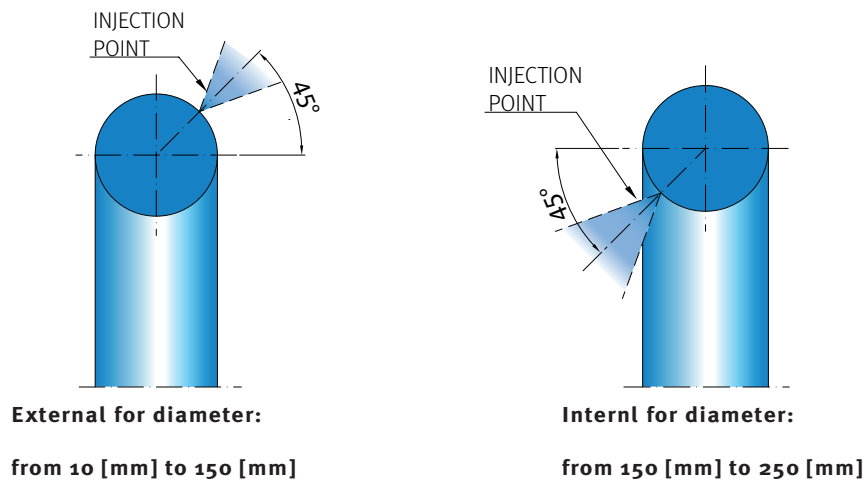
- Mineral Oils and grease
- Aliphatic hydrocarbons
- Water up to 50C° with peaks at 80°C
- Silicone oil and grease
- Oxygen, nitrogen ,ozone
- Glycol based fluids up to 50°C

Not good in contact with: solvents, acids , bases, alcohol, hot water and steam

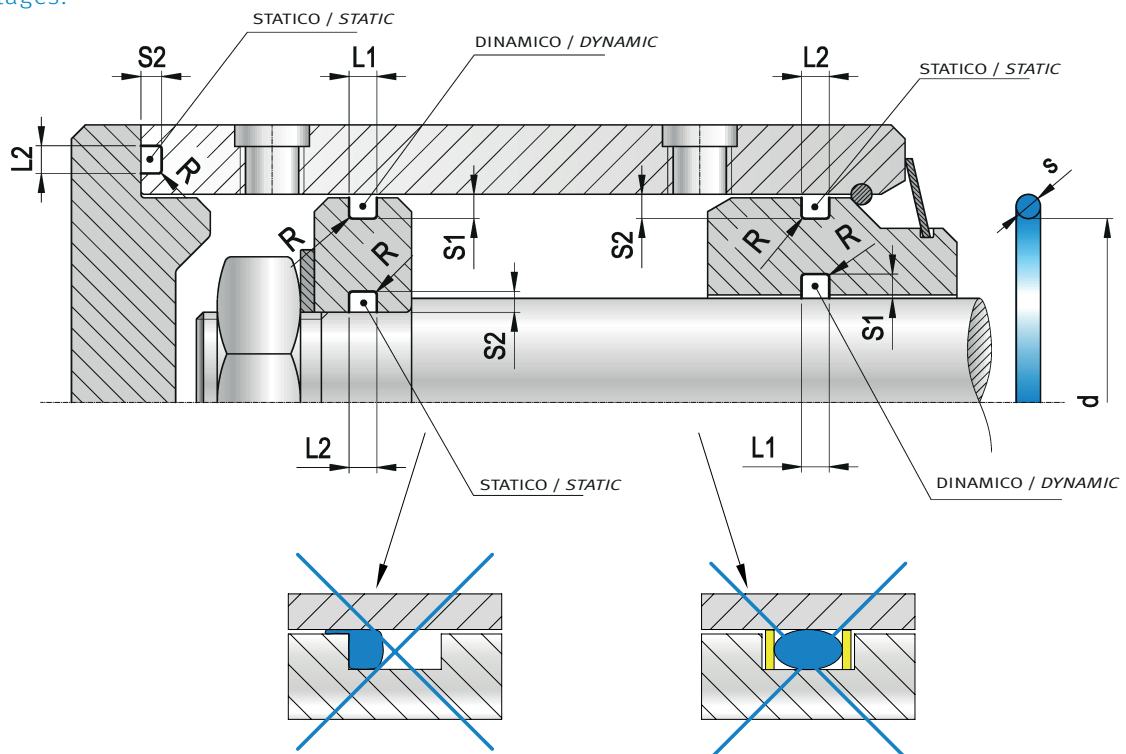
### Injection Point

In order to obtain universal O-Rings, which grant a perfect sealing effect both in static and dynamic application which means radial or axial sealing ARTIC SEALS designed O-Ring with 45° injection point position.

the injection point will be as shown here below:



### Advantages:



- Perfectly interchangeable with all standard O-Ring's dimensions groove available on the market.
- TPU O-Rings avoid the extrusion without any antiextrusion rings.
- Easier assembly and more efficient stock handling due to use only one item

# Innovative O-Ring Antirolling®

## Description

The Anti-Rolling® O-Ring is an innovative seal technology designed to avoid the spiral failure mode of the standard O-Rings in radial applications.

The addition of axial protrusions prevents the seal from twisting in the groove during installation and reciprocating movement.

Additionally, the protrusions position the sealing surface away from the damaging effects of the extrusion gap, eliminating the need for separate anti-extrusion (back-up) rings.

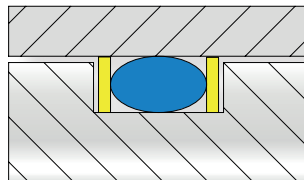
The presence of notches, positioned on both protrusions, prevents bonding of O-Ring on the walls of the groove. They also realize ventil-effect in case of residual pressure.

## Material

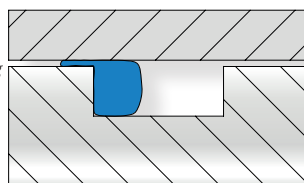
The Anti-Rolling® O-Ring could be produced in TPU, NBR, FKM, HNBR in a wide range of grades available.

Please contact our technical department to study the appropriate solution according to the specific operating

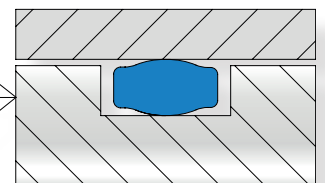
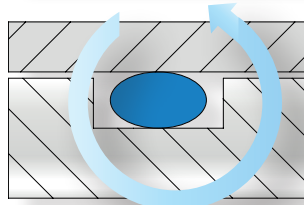
Fully interchangeable with solution O-Ring+Backup Rings, more efficient stock manage due to use only one item

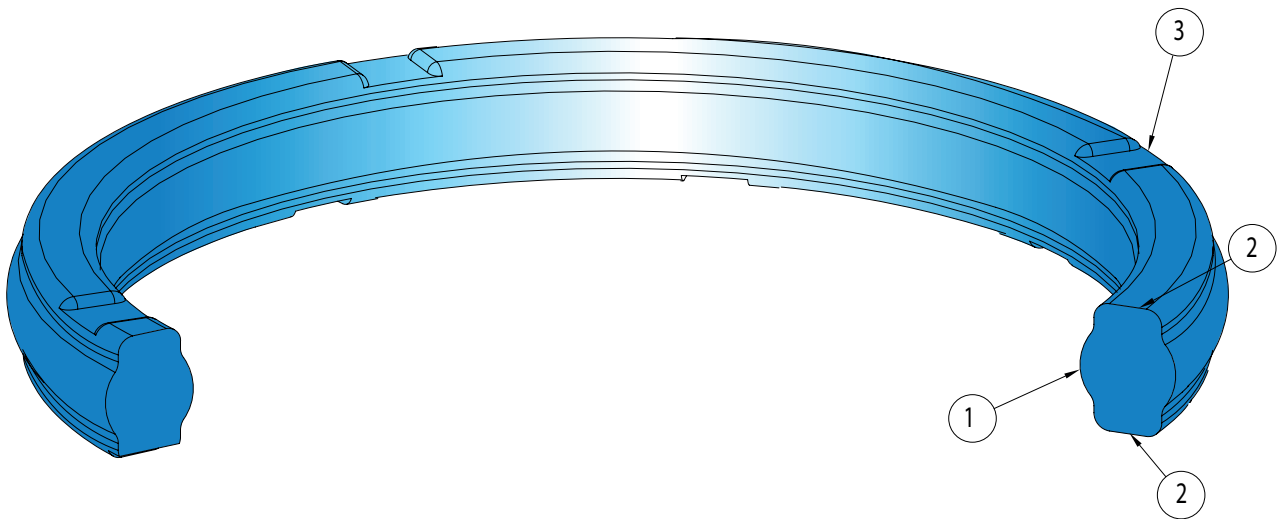
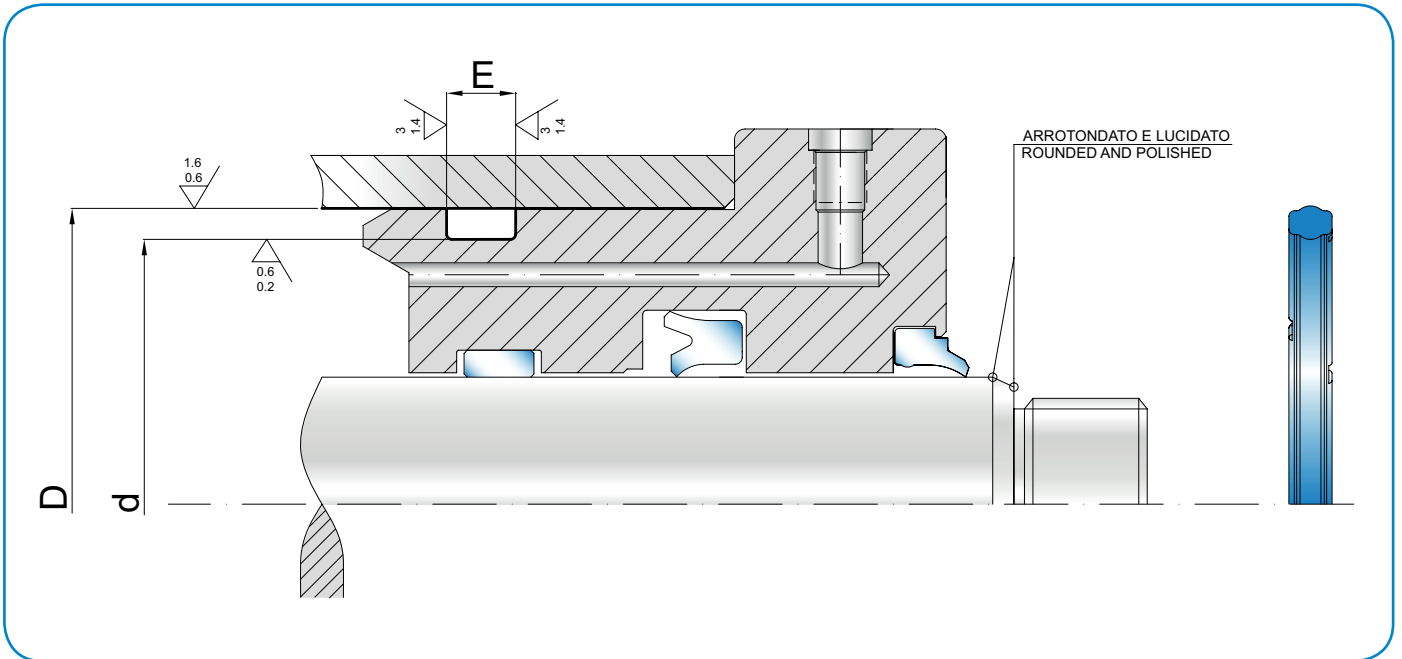


The particular geometry ensures the complete absence of extrusion, because the the protrusions position the sealing surface away from the damaging effects of the extrusion gap.

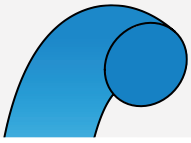


The lateral protusion leaned to the central toric section, realize the Anti-Rolling effect, they prevent any twisting both during intallation and exercise.





- 1- Central cross section
- 2- Lateral Anti-Rolling protrusion
- 3- Notches Ventil-Effect and anti-bonding

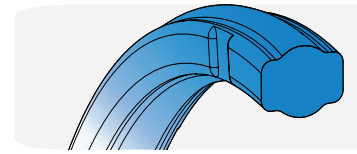


## O-Ring in polyurethane

Polyurethane O-Ring	
Diameter[mm]	Toric Section [mm]
7,60	2,62
15,08	2,62
20,29	2,62
28,24	2,62
32,99	2,62
55,25	2,62
60,00	2,62
21,28	3,53
23,40	3,53
26,00	3,53
28,00	3,53
32,00	3,53
33,60	3,53
34,52	3,53
36,60	3,53
39,69	3,53
41,28	3,53
44,45	3,53
47,22	3,53
49,21	3,53
101,50	3,53
34,20	5,70
39,20	5,70
44,20	5,70
47,20	5,70
49,20	5,70
54,20	5,70
59,20	5,70

Polyurethane O-Ring	
Diameter[mm]	Toric Section [mm]
64,20	5,70
69,30	5,70
74,20	5,70
79,20	5,70
84,10	5,70
89,10	5,70
94,10	5,70
99,10	5,70
104,10	5,70
109,10	5,70
114,30	5,70
119,30	5,70
124,30	5,70
129,30	5,70
134,30	5,70
139,30	5,70
144,30	5,70
149,30	5,70
154,30	5,70
159,30	5,70
164,30	5,70
169,30	5,70
174,30	5,70
179,30	5,70
184,30	5,70
189,30	5,70
199,30	5,70
209,30	5,70

## O-Ring Antirolling®



O-Ring Antirolling in TPU		
Groove d [mm]	groove D [mm]	Groove H [mm]
18,10	22,00	3,70
24,70	28,00	2,40
45,70	49,00	2,40
40,00	43,60	2,80
62,00	65,60	2,80
71,00	76,20	5,40
94,84	101,90	4,20
109,80	115,00	5,40
155,00	159,30	3,50
158,00	162,30	3,50
222,00	227,80	4,50
254,20	260,00	4,50
235,00	240,80	4,50
300,00	306,2	4,50
318,80	325,00	4,50
340,00	346,20	4,50
370,00	363,80	4,50

O-Ring Antirolling in FKM90 Black	
Diameter[mm]	Section [mm]
126,20	3,53
158,34	3,53

O-Ring Antirolling in NBR80	
Diameter[mm]	Section [mm]
42,85	3,53
76,70	3,53
80,14	3,53
91,50	3,53
102,90	3,53
115,50	3,53
126,20	3,53
142,47	3,53
153,40	3,53
158,34	3,53
163,80	3,53
179,40	3,53
197,80	3,53

O-Ring Antirolling in FKM90 Brown	
Diameter[mm]	Section [mm]
76,70	3,53
115,50	3,53
126,20	3,53
142,47	3,53
153,40	3,53
158,34	3,53
197,80	3,53

O-Ring Antirolling in HNBR80 black	
Diameter[mm]	Section [mm]
41,50	1,50

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