

MARYLAND METRICS Technical Data Chart

O-ring hardness:

The table below summarizes O-ring hardness in relation to the pressure and the structural gap to be sealed. If the existing design has a greater gap than desired, this problem may be solved by the use of backup rings.

Maximum gap:

Hardness °shore (A)	Pressure [bar]	Cord Diameter [mm]				
		1.78	2.62	3.53	5.33	6.99
60	20	0.18	0.23	0.28	0.3	0.35
	40	0.13	0.18	0.23	0.25	0.3
	63	0.1	0.13	0.15	0.18	0.2
	100	0.05	0.08	0.1	0.13	0.15
70	40	0.2	0.25	0.3	0.35	0.4
	63	0.15	0.18	0.23	0.25	0.3
	100	0.1	0.13	0.15	0.18	0.2
	160	0.05	0.08	0.1	0.12	0.1
80	180	0.025	0.04	0.05	0.06	0.08
	40	0.25	0.3	0.4	0.45	0.5
	63	0.2	0.25	0.3	0.35	0.4
	100	0.13	0.18	0.2	0.25	0.3
90	160	0.1	0.13	0.15	0.18	0.2
	180	0.08	0.1	0.13	0.15	0.18
	250	0.05	0.08	0.1	0.12	0.15
	40	0.35	0.4	0.45	0.5	0.5
90	63	0.3	0.35	0.4	0.45	0.5
	100	0.25	0.3	0.35	0.38	0.45
	160	0.2	0.23	0.25	0.3	0.35
	180	0.15	0.18	0.2	0.25	0.3
90	250	0.13	0.15	0.17	0.2	0.25
	355	0.08	0.1	0.13	0.15	0.2

There are 3 basic types of backup rings:

1. Bias cut
2. Spiral
3. Solid

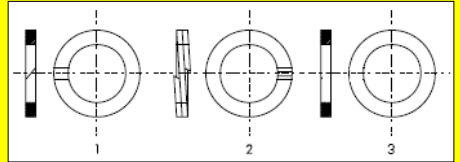


Figure 4

Backup rings:

If the structural gap is (too) large, the use of one or two back-up rings may prevent O-ring extrusion through the gap. Backup rings are generally made of PTFE or of a carbon- or glass-filled PTFE, thus ensuring that the temperature range and chemical resistance do not cause problems.

Backup rings are available in 3 styles (Fig. 4).

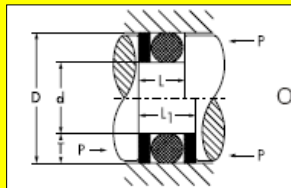
Backup rings may also be custom-made to fit the structure in question.

Contoured backup rings are available from Hypalon.

To prevent manufacturing or ordering errors in backup ring styles we need you to indicate the exact size of the structural parts as illustrated in the drawing opposite.

Outer seal:

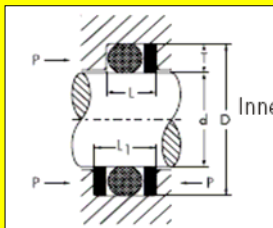
1. Cylinder diameter D
2. Groove diameter d or groove depth T
3. Groove width L of L1
4. O-ring cross-section S
5. Static or dynamic seal



Outer seal

Inner seal:

1. Rod diameter d
2. Groove diameter D or groove depth T
3. Groove width L of L1
4. O-ring cross-section S
5. Static or dynamic seal



Inner seal