

O-profiles 7900

For application in grooves



For applications in grooves

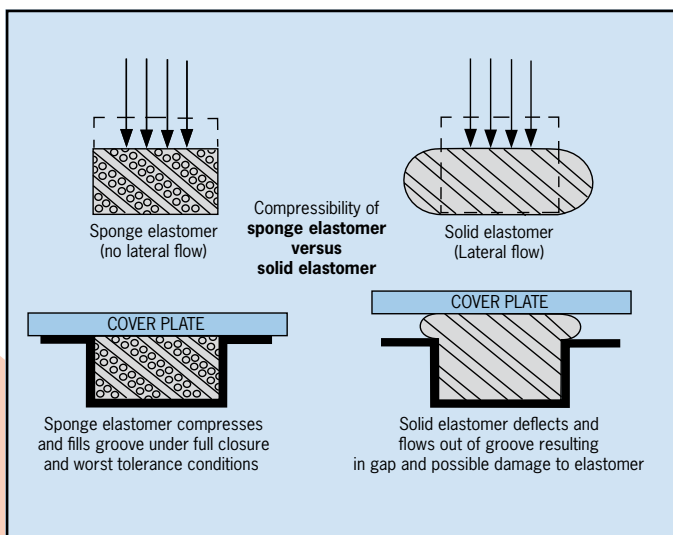
Several types of O-profiles have been developed for different applications, each with their own benefits. O-profiles were developed for high performance shielding, primarily for military applications. They are used where environmental and EMI screening is required but where little space is available.

Four kinds of cores are available: **solid, hollow extrusion, cell rubber and small rectangular shapes**. The rubber can be conductive or be covered with metallized fabric foil.

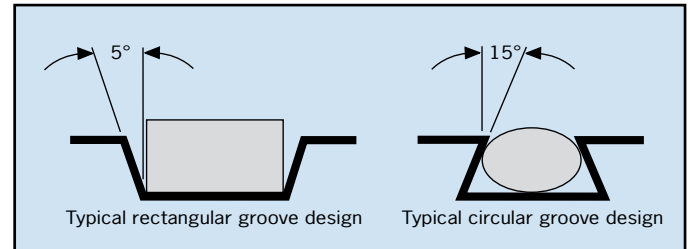
For optimal shielding performance a compression of 5-10% is recommended for solid elastomers and 10-50% for hollow extrusions and cell rubbers.

How to use

Solid elastomers are hardly compressible. They are easily deformed but their volume does not change as with sponge elastomers (PVC, EPDM, Neoprene) (see picture below). Therefore, allowance for material flow must be considered in the groove design.



The figure below shows the design for two different types of grooves: on the left a typical rectangular groove, while the design on the right can mechanically retain circular cross section gaskets by side friction.



Shielding performance

Shielding effectiveness depends on surface, shape of gaskets and materials used.

Shielding performance (dB)					
Frequency	Graphite filled	Nickel filled	Silver filled	Conductive fabric	Amucor foil
200 KHz	70	75	70	65	70
100 MHz	95	110	115	103	110
500 MHz	90	110	115	92	98
2 GHz	90	105	115	89	91
10 GHz	90	100	115	87	89

See guarantee

Technical specifications of solid elastomers

Filler	Graphite	Nickel	Silver
Upper operating temp. C°	+160	+160	+160
Lower operating temp. C°	-50	-50	-50
Specific gravity (±5%)	1.99	4.60	3.20
Hardness shore A (±5%)	60	80	75
Elongation % (min)	100	100	100
Compression set %	30	30	30
Tensile strength Mpa (min)	1.00	1.25	1.25
Volume resistivity Ohms/cm (Max)	0.1	0.005	0.002

Benefits

- Easy to fit into grooves
- Deflection up to 50%
- Low closure force

Options

- Cut into accurate lengths or endless O-rings
- Drop out prevention fixtures
- UL94V-0 flame retardant core
- Silicone core for high temperatures up to 220°



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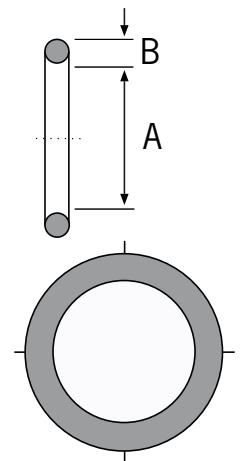
Solid and hollow conductive O-rings and profiles

Standard dimensions Profiles

Hollow	Solid	Cell Rubber	Rectangular max. length ± 300 mm
0.3 x 0.9	1.0	2.1	0.25 x 1
0.5 x 1.2	1.4	3.0	0.25 x 1,5
0.5 x 1.6	1.6	3.5	0.25 x 2
0.7 x 1.9	1.8	4.0	0.25 x 2,5
1.5 x 2.6	2.0	4.5	0.25 x 3
1.5 x 3.1	2.4	5.0	0.5 x 1
1.5 x 3.6	2.6	5.5	0.5 x 1,5
2.0 x 4.1	2.8	6.0	0.5 x 2
2.4 x 0.8	3.0	6.5	0.5 x 2,5
3 x 5	3.5	7.0	0.5 x 3
3.2 x 1.1	4.0	7.5	0.8 x 1
4 x 6	5.0	8.0	0.8 x 1,5
6 x 3.2	5.4	8.5	0.8 x 2
6 x 8	6.0	9.0	0.8 x 2,5
7 x 10	7.0	9.5	0.8 x 3
8 x 12	8.0	10.0	1 x 1
9.5 x 6.4	9.0	11.0	1 x 1.5
12 x 15	10.0	12.0	1 x 2
12 x 16	11.0	15.0	1 x 2.5
16 x 20	12.0	18.0	1 x 3
	15.0	20.0	1,5 x 1
	18.0	22.0	1,5 x 2
	20.0	25.0	1,5 x 3

Standard dimensions jointed O-rings

A mm	B mm
14.00	1.8
17.2	1.8
18.8	1.8
20.4	1.8
21.9	1.8
25.1	1.8
28.3	1.8
31.5	1.8
34.7	1.8
37.8	2.6
41.0	2.6
44.1	2.6



Ordering information

Example

Height Y 5mm, Width 10 mm with Hollow silicone O-profile covered with conductive fabric, diameter 1.5 x 2.6 mm: **79122-1.5 x 2.6**

Part number	Extrusion type	Base material	Covering	Dimensions in mm.
79	1	2	2	1.5 x 2.6
	1: Hollow 2: Solid 3: Sponge rubber 4: Rectangular 5: Jointed o-ring	1: Neoprene 2: Silicone 3: PVC 4: EPDM 5: Conductive rubber	1: Reinforced Amucor 2: Conductive fabric 3: Silver filled rubber 4: Nickel filled rubber 5: Graphite filled rubber	See the dimensions table for the possible dimensions by the chosen extrusion type