

Conductive rubber O-Profiles



Conductive rubber O-profiles 7900

Conductive Rubber O-profiles developed for high performance shielding. Used where environmental & EMI screening is required but little space is available.

Several types of O-profiles have been developed for different applications, each with its own advantages. O-profiles were originally designed for high-performance shielding, mainly for military applications. They are used when environmental sealing and EMI screening are required, and where there is little space.

Four kinds of extrusion types are available: **1: hollow**, **2: solid**, **3: Cell Rubber** and **4: rectangular**. These extrusion cores can be covered with metallized fabric foil or they can be made out of conductive rubber. For optimal shielding performance a compression of 5-10 % is recommended for solid elastomers and 10-50 % for hollow extrusions and sponge rubbers.

Benefits

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

Options (on request)

- Cut into accurate lengths or endless O-rings
- Drop-out prevention fixtures
- UL94V-0 flame-retardant version
- High temperature-resistant Silicone core (up to 220 °C)
- Fluorosilicone (silver aluminium, silver copper, nickel, nickel graphite) for applications with chemicals



Can be delivered on reel or in length you desire

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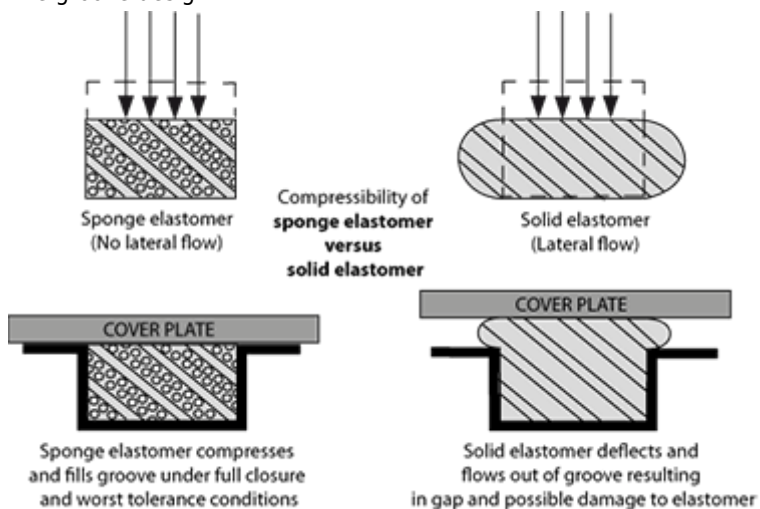
Example of the O-profile in use



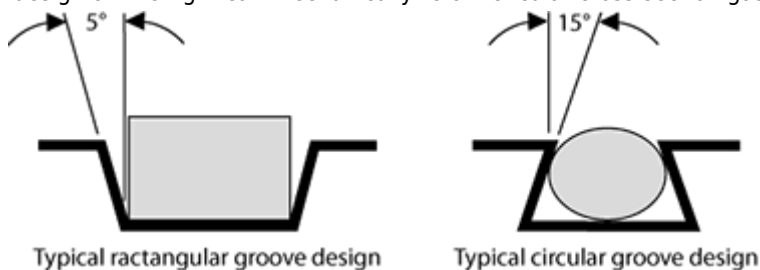
It can be delivered in different shapes & sizes

Compression

Solid elastomers cannot be compressed much. They are easily deformed but the volume does not change as would be the case with sponge elastomer (PVC, EPDM, Neoprene) so that allowance for material flow must be considered in the groove design.



The figure below shows two different groove designs. On the left there is a typical rectangular groove, while the design on the right can mechanically retain circular cross-section gaskets by side friction.



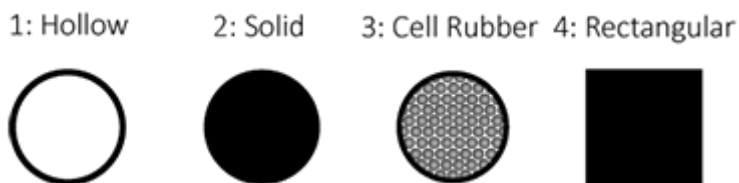
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Material options

Type	Code	Core	Cover
7900-x-1-1-x	1-1	Neoprene	Amucor foil
7900-x-1-2-x	1-2	Neoprene	Conductive fabric
7900-x-2-1-x	2-1	Silicone	Amucor foil
7900-x-2-2-x	2-2	Silicone	Conductive fabric
7900-x-3-1-x	3-1	PVC	Amucor foil
7900-x-3-2-x	3-2	PVC	Conductive fabric
7900-x-4-1-x	4-1	EPDM	Amucor foil
7900-x-4-2-x	4-2	EPDM	Conductive fabric
7900-x-5-3-x	5-3	Silvered particles filled silicone rubber	-
7900-x-5-4-x	5-4	Nickel filled silicone rubber	-
7900-x-5-5-x	5-5	Graphite filled silicone	-

X needs to be replaced for extrusion type & dimensions

Extrusion types



Special materials (on request)

These O-profiles are also available in special materials for special applications for example applications with chemicals. Below is a list of special materials. For availability and delivery please email info@hollandshielding.com.

- Silicone Carbon
- Fluorosilicone Nickel Graphite
- Silicone Nickel Graphite Flame Retardant
- Silicone Silver Aluminium
- Fluorosilicone Silver Aluminium
- Fluorosilicone Nickel
- Silver Plated Nickel
- Silver Glass

Shielding performance and technical details table (dB)

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

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Conductive Filler	Conductive fabric										
	Amucor	Graphite	Nickel Graphite	Silver Aluminum	Silver Copper	Nickel	Fluoro Nickel Graphite	Fluoro Silver Aluminum	Fluoro Silver Copper	Fluoro Nickel	
	Standard					On request					
Frequency	Shielding Performance STD 285 /MIL-DTL 83528C (dB)					Shielding Performance STD 285 /MIL-DTL 83528C (dB)					
10 MHz	N/A	N/A	30	115	111	115	114	116	114	116	110
100 MHz	60	65	65	121	120	122	115	122	122	125	116
400 MHz	98	110	60	119	120	119	121	119	118	118	124
1 GHz	94	108	N/A	122	121	123	114	122	121	124	117
2 GHz	91	105	40	122	119	122	122	122	123	121	112
6 GHz	90	102	N/A	115	115	116	117	114	109	117	111
10 GHz	90	100	30	114	112	115	114	107	114	115	113
18 GHz	N/A	N/A	N/A	106	105	104	105	105	103	104	103
OperatingTemp	-	-	+160	+160	+160	+125	+160	+160	+160	+125	+160
Range (°C)	-	-	-50	-55	-55	-55	-55	-55	-55	-55	-55
Colour	Grey	Silver	Black	Dark Grey	Beige	Dark Tan	Grey	Green	Light Green	Green	Dark Green
Shore Hardness (A +/-5) ASTM D2240	-	-	60	60	65	65	65	65	70	65	70
Volume Resistivity (ohm-cm) ASTM D991	-	-	2.2	0.04	0.008	0.005	0.1	0.05	0.01	0.005	0.1
Specific Gravity (+/- 0.25)	-	-	2.0	2.0	2.0	3.5	4.5	2.2	2.0	4.0	4.8

Standard extrusions (other sizes on request)

Type 1: Hollow

