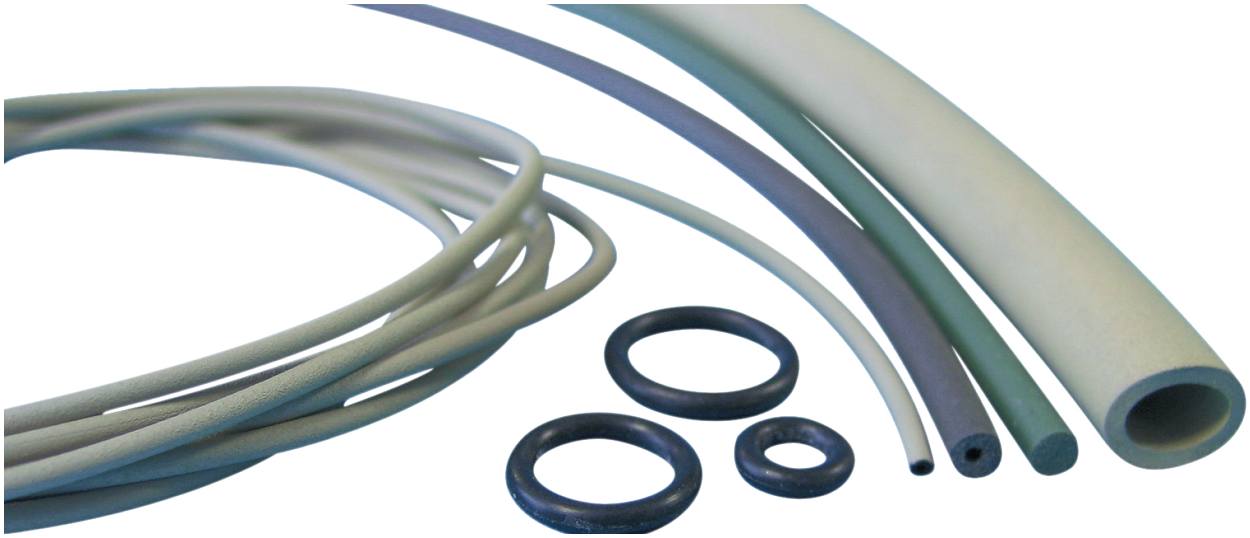
O-PROFILES 7900

For EMI shielding applications in grooves

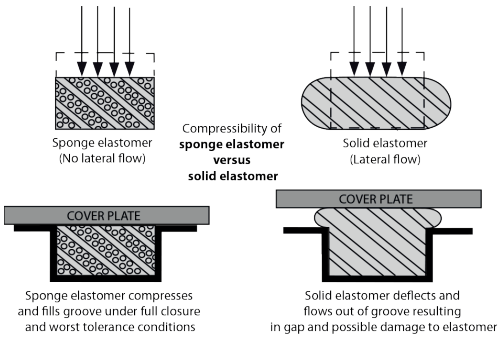


Several types of O-profiles have been developed for different applications, each with its own advantages. O-profiles were originally designed for high-performance shielding, mainly for military applications. They are used when environmental sealing and EMI screening are required, and where there is not much 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 elastomer's and 10-50% for hollow extrusions and sponge rubbers.

COMPRESSION

Solid elastomer's 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.



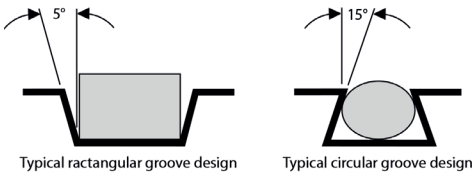
BENEFITS

- 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 aluminum, silver copper, nickel, nickel graphite) for applications with chemicals

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.



» O-PROFILE 7900

MATERIAL OPTIONS

7900 series Conductive O-profiles can be delivered in the following materials:

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 rubber	-
X needs to be replaced for extrusion type & dimensions			

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 Aluminum
- Fluorosilicone Silver Aluminum
- Fluorosilicone Nickel
- Silver Plated Nickel
- Silver Glass

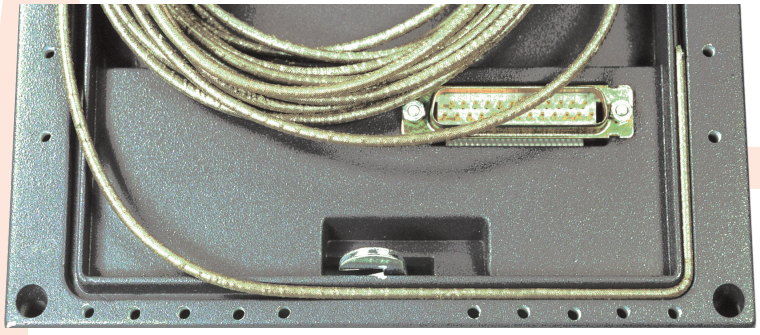
EXTRUSION TYPES

1: Hollow 2: Solid 3: Cell Rubber 4: Rectangular

SHIELDING PERFORMANCE* AND TECHNICAL DETAILS

Conductive material	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)										
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
Operating Temp	-	-	+160	+160	+160	+125	+160	+160	+160	+125	+160
Range (˚C)	-	-	-50	-55	-55	-55	-55	-55	-55	-55	-55
Color	Gray	Silver	Black	Dark Gray	Beige	Dark Tan	Gray	Green	Light Green	Green	Dark Green
Shore Hardness (A +/-5) ASTM D2240	-	-	60	60	65	65	65	65	70	65	70
Volume Resistivity (ohms) 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

These values are measured under laboratory conditions. In other situations, results may differ. Please read our Guarantee.



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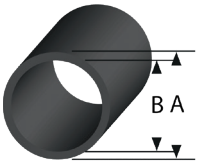
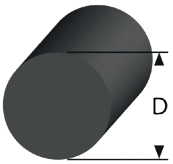
STANDARD EXTRUSIONS

Type 1: Hollow



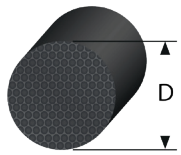
Hollow		
Part number	Outside A (mm)	Inside B (mm)
79-1-X-X-0.9-0.3	0.9	0.3
79-1-X-X-1.2-0.5	1.2	0.5
79-1-X-X-1.6-0.5	1.6	0.5
79-1-X-X-1.8-0.5	1.8	0.5
79-1-X-X-1.9-0.7	1.9	0.7
79-1-X-X-2.0-0.5	2.0	0.5
79-1-X-X-2.0-0.8	2.0	0.8
79-1-X-X-2.4-0.8	2.4	0.8
79-1-X-X-2.4-1.0	2.4	1.0
79-1-X-X-2.6-1.5	2.6	1.5
79-1-X-X-3.0-0.5	3.0	0.5
79-1-X-X-3.0-0.8	3.0	0.8
79-1-X-X-3.0-1.0	3.0	1.0
79-1-X-X-3.0-1.6	3.0	1.6
79-1-X-X-3.2-0.8	3.2	0.8
79-1-X-X-3.2-1.1	3.2	1.1
79-1-X-X-3.2-1.5	3.2	1.5
79-1-X-X-3.5-0.8	3.5	0.8
79-1-X-X-3.5-1.6	3.5	1.6
79-1-X-X-3.6-1.5	3.6	1.5
79-1-X-X-4.0-1.1	4.0	1.1
79-1-X-X-4.0-1.3	4.0	1.3
79-1-X-X-4.0-1.6	4.0	1.6
79-1-X-X-4.0-2.0	4.0	2.0
79-1-X-X-4.1-2.0	4.1	2.0
79-1-X-X-4.5-1.6	4.5	1.6
79-1-X-X-4.8-2.4	4.8	2.4
79-1-X-X-5.0-1.6	5.0	1.6
79-1-X-X-5.0-3.0	5.0	3.0
79-1-X-X-5.5-1.6	5.5	1.6
79-1-X-X-5.5-3.2	5.5	3.2
79-1-X-X-6.0-1.6	6.0	1.6
79-1-X-X-6.0-3.2	6.0	3.2
79-1-X-X-6.0-4.0	6.0	4.0
79-1-X-X-6.4-1.6	6.4	1.6
79-1-X-X-6.4-3.2	6.4	3.2
79-1-X-X-8.0-5.0	8.0	5.0
79-1-X-X-8.0-6.0	8.0	6.0
79-1-X-X-9.0-6.4	9.0	6.4
79-1-X-X-9.5-6.4	9.5	6.4
79-1-X-X-10.0-7.0	10.0	7.0
79-1-X-X-10.0-8.0	10.0	8.0
79-1-X-X-12.0-8.0	12.0	8.0
79-1-X-X-15.0-12.0	15.0	12.0
79-1-X-X-16.0-12.0	16.0	12.0
79-1-X-X-20.0-16.0	20.0	16.0

Type 2: Solid



Solid		Solid	
Part number	Diameter (mm)	Part number	Diameter (mm)
7900-2-X-X-1.0	1.0	7900-2-X-X-5.4	5.4
7900-2-X-X-1.2	1.2	7900-2-X-X-5.5	5.5
7900-2-X-X-1.4	1.4	7900-2-X-X-6.0	6.0
7900-2-X-X-1.6	1.6	7900-2-X-X-6.4	6.4
7900-2-X-X-1.8	1.8	7900-2-X-X-7.0	7.0
7900-2-X-X-2.0	2.0	7900-2-X-X-7.5	7.5
7900-2-X-X-2.4	2.4	7900-2-X-X-8.0	8.0
7900-2-X-X-2.6	2.6	7900-2-X-X-8.5	8.5
7900-2-X-X-2.8	2.8	7900-2-X-X-9.0	9.0
7900-2-X-X-3.0	3.0	7900-2-X-X-9.5	9.5
7900-2-X-X-3.2	3.2	7900-2-X-X-10.0	10.0
7900-2-X-X-3.5	3.5	7900-2-X-X-11.0	11.0
7900-2-X-X-4.0	4.0	7900-2-X-X-12.0	12.0
7900-2-X-X-4.5	4.5	7900-2-X-X-15.0	15.0
7900-2-X-X-4.8	4.8	7900-2-X-X-18.0	18.0
7900-2-X-X-5.0	5.0	7900-2-X-X-20.0	20.0

Type 3: Cell rubber

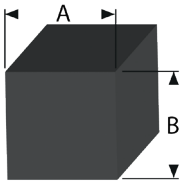


Cell Rubber		Cell Rubber	
Part number	Diameter (mm)	Part number	Diameter (mm)
7900-3-X-X-2.1	2.1	7900-3-X-X-9.0	9.0
7900-3-X-X-3.0	3.0	7900-3-X-X-9.5	9.5
7900-3-X-X-3.5	3.5	7900-3-X-X-10.0	10.0
7900-3-X-X-4.0	4.0	7900-3-X-X-11.0	11.0
7900-3-X-X-4.5	4.5	7900-3-X-X-12.0	12.0
7900-3-X-X-5.0	5.0	7900-3-X-X-15.0	15.0
7900-3-X-X-5.5	5.5	7900-3-X-X-18.0	18.0
7900-3-X-X-6.0	6.0	7900-3-X-X-20.0	20.0
7900-3-X-X-6.5	6.5	7900-3-X-X-22.0	22.0
7900-3-X-X-7.0	7.0	7900-3-X-X-25.0	25.0
7900-3-X-X-7.5	7.5		
7900-3-X-X-8.0	8.0		

The X must be replaced for the desired base material code and conductive material code.
Other sizes on request

STANDARD EXTRUSIONS

Type 4: Rectangular



Part number	Rectangular A Width (mm)	B Height (mm)
7900-4-X-X-0.25-1.0	0.25	1.0
7900-4-X-X-0.25-1.5	0.25	1.5
7900-4-X-X-0.25-2.0	0.25	2.0
7900-4-X-X-0.25-2.5	0.25	2.5
7900-4-X-X-0.25-3.0	0.25	3.0
7900-4-X-X-0.5-1.0	0.5	1.0
7900-4-X-X-0.5-1.5	0.5	1.5
7900-4-X-X-0.5-2.0	0.5	2.0
7900-4-X-X-0.5-2.5	0.5	2.5
7900-4-X-X-0.5-3.0	0.5	3.0
7900-4-X-X-0.8-1.0	0.8	1.0
7900-4-X-X-0.8-1.5	0.8	1.5
7900-4-X-X-0.8-2.0	0.8	2.0
7900-4-X-X-0.8-2.5	0.8	2.5
7900-4-X-X-0.8-3.0	0.8	3.0
7900-4-X-X-1.0-1.0	1.0	1.0
7900-4-X-X-1.0-1.5	1.0	1.5
7900-4-X-X-1.0-2.0	1.0	2.0
7900-4-X-X-1.0-2.5	1.0	2.5
7900-4-X-X-1.0-3.0	1.0	3.0
7900-4-X-X-1.5-1.0	1.5	1.0
7900-4-X-X-1.5-2.0	1.5	2.0

Part number	Rectangular A Width (mm)	B Height (mm)
7900-4-X-X-1.5-3.0	1.5	3.0
7900-4-X-X-1.6-1.0	1.6	1.0
7900-4-X-X-1.6-1.6	1.6	1.6
7900-4-X-X-1.8-1.0	1.8	1.0
7900-4-X-X-1.8-1.6	1.8	1.6
7900-4-X-X-2.0-1.0	2.0	1.0
7900-4-X-X-2.0-1.6	2.0	1.6
7900-4-X-X-2.0-2.0	2.0	2.0
7900-4-X-X-2.0-3.0	2.0	3.0
7900-4-X-X-2.4-2.0	2.4	2.0
7900-4-X-X-3.0-2.0	3.0	2.0
7900-4-X-X-3.2-1.6	3.2	1.6
7900-4-X-X-12.7-1.6	12.7	1.6
7900-4-X-X-12.7-2.0	12.7	2.0
7900-4-X-X-12.7-3.0	12.7	3.0
7900-4-X-X-12.7-4.8	12.7	4.8
7900-4-X-X-15.9-1.6	15.9	1.6
7900-4-X-X-15.9-2.0	15.9	2.0
7900-4-X-X-19.0-2.0	19.0	2.0
7900-4-X-X-22.35-1.6	22.35	1.6
7900-4-X-X-22.35-2.0	22.35	2.0
7900-4-X-X-25.4-6.4	25.4	6.4

The X must be replaced for the desired base material code and conductive material code. Other sizes on request

ORDER EXAMPLE

Series	Extrusion type	Core	Cover	Dimensions (mm)
7900				
	1 : Hollow **2 :** Solid **3 :** Sponge rubber **4 :** Rectangular	**1 :** Neoprene **2 :** Silicone **3 :** PVC **4 :** EPDM **5 :** Conductive rubber	**1 :** Amucor foil **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 for example 3.2/1.6

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