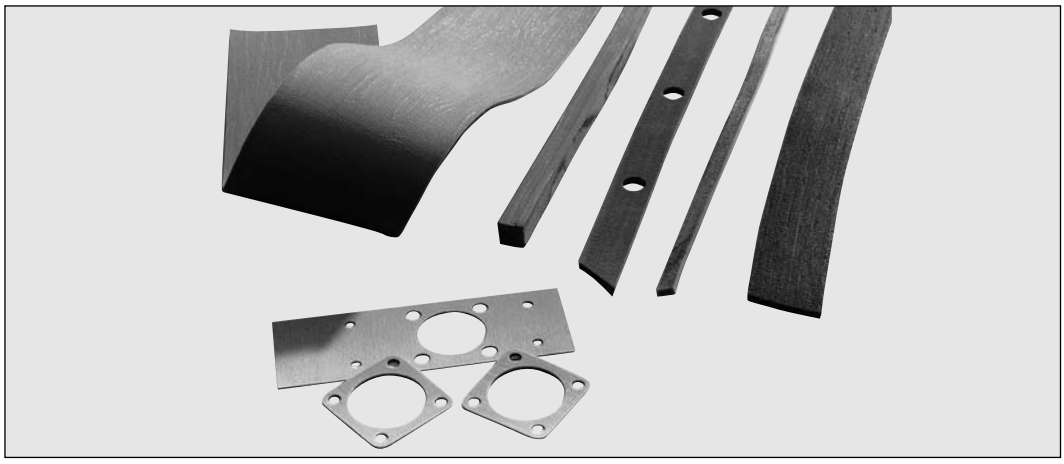


General Description

- BOM 1 consists of fine monel or aluminium wires which are vulcanized into solid or sponge silicone. In order to add elasticity to the gasket and to optimize the mechanical performance the wires will be crimped. More than 140 wires/ cm2 - vertically oriented - provide the electrical contact. The gasket can be used to compensate large surface tolerances on flat surfaces or in grooves. To hold the material in place a simple silicone adhesive (e.g. RTV 732) can be used which provides at the same time a mounting provision. However, it should be used spotwise only for contact reasons.
- BOM 1 is not only a highly flexible EMI/RFI shielding product, but also offers an excellent dust, moisture and spraywater protection. If solid silicone is used with the right mounting pressure, the gasket meets the environmental sealing per IP65. For harsh environments, e.g. with aggressive liquids like hydraulic oil, fuels, kerosene etc., fluorosilicone will be a suitable material.
- In case BOM 1 is used in a groove, it is important to remember that the elastomer does not compress but deforms. This must be considered in the calculation of the groove`s cross section.
- BOM 1 is optionally available with stainless steel, SCF and phosphorus bronze. Since this is a special product, a minimum order value applies. Specifications are available on request.

Availability

Sheets

- The BOM 1 sheet materials made from solid or sponge silicone are listed in table 1, for dimensions please refer to table 2. The sheets are supplied in a standard length of 914 mm. Other dimensions per customer requests are available at no extra charge, but a minimum order value may apply.
- Sheets of solid or sponge silicone can optionally be supplied with pressure sensitive adhesive tape (PSA) as mounting provision.

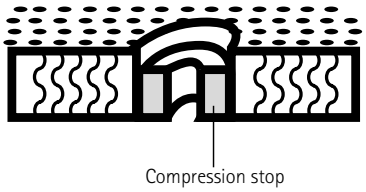
Strips

- The BOM 1 strip materials made from solid or sponge silicone are shown in table 1, for dimensions please refer to table 3. The strips are supplied in a standard length of 5486 mm. Strips can be bonded together with a simple silicone compound (e.g. RT732) in order to extend the length. Special dimensions per customer requests are possible, but a minimum order value may apply. Optionally a PSA can be applied to solid or sponge strips, but this is limited to strips with a certain width.

Die-cut parts

► To form a uniform gasket, BOM 1 material can be die-cut to customer specifications. When selecting material and thickness, the following should be considered:

- Diameter on bolt holes should not be less than the thickness of the material.
- Minimum hole distance from the edge of gasket should not be less than the material thickness. If this is not possible, a U-slot can be used instead.
- Compression stops used in the bolt holes prevent the material from being damaged, as the recommended compression of the material is thus limited.

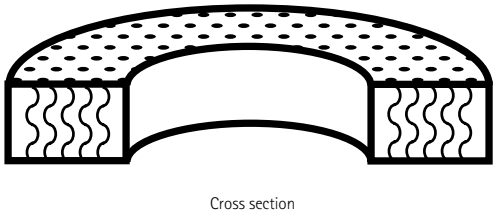


Connector gaskets

► Connector gaskets will be die-cut from material as listed in the tables on page 39 to 43.

O-rings

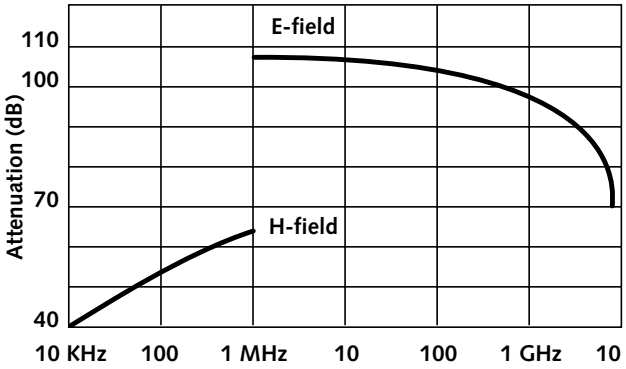
► Uniform O-rings in different sizes will be die-cut from sheet material as listed in table 1. Please note that the cross section is rectangular. Customer specified parts are welcome.



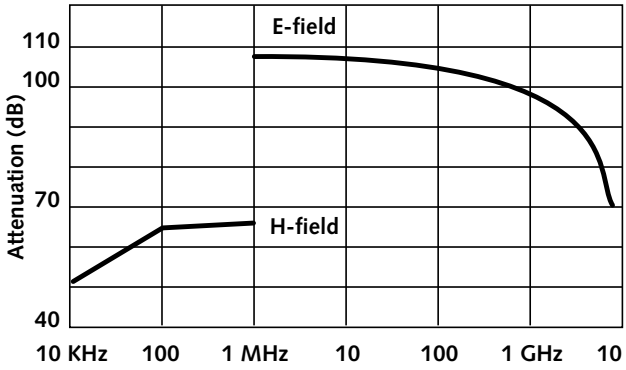
► O-rings with a large diameter can be made by bonding strip material together with a silicone compound (e.g. RTV 732), however, please be aware of the wire orientation when using this method.

Shielding Performance

► BOM 1 Sheet gasket



► BOM 1 Strips and rings



Compression Force

- To reach the above stated shielding effectiveness, it is recommended to compress the gasket by 10-25 % . With this mechanical compression, the material is used within its elastic limits. To avoid a damage of the material by overpressure, compression stops can be inserted.

Applications

- All industrial equipment, avionics and aerospace, radioelectronics, radar, communications, computer, instruments, display systems, digital equipment and military.

Specifications

Monel:
- Ø 0,11 ± 0,01 mm
- QQ-N-281-B

Aluminium:
- Ø 0,13 ± 0,01 mm
- AMS-4182, alloy 5056

Solid silicone:
- ZZ-R-765
- 30 shore
- Temperature range -57° to + 260°C

Sponge silicone:
- AMS-3195
- Temperature range -62° to + 204°C

Colour:
- Grey for silicone
- Blue for fluorosilicone

Mechanical Tolerances

Sheets solid and sponge:
- Height 0,80-6,35 mm: ± 0,25 mm
- Width 19,05-228,60 mm: ± 5,00 mm

Strips solid:
- Height 1,57-6,35 mm: ± 0,25 mm
- Width 1,57-6,35 mm: ± 0,38 mm
- Height 6,50-12,70 mm: ± 0,38 mm
- Width 6,50-12,70 mm: ± 0,51 mm

Strips sponge:
- Height 2,36-6,35 mm: ± 0,38 mm
- Width 2,36-6,35 mm: ± 0,51 mm
- Height 6,50-12,70 mm: ± 0,51 mm
- Width 6,50-12,70 mm: ± 0,76 mm

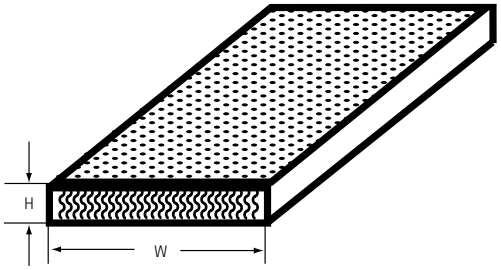
Material Code

Table 1: Material

	Composition	
	Sheets	**Strips**
Solid silicone with monel wire	1213-xxx	1212-xxx
Sponge silicone with monel wire	1313-xxx	1312-xxx
Solid fluorosilicone with monel wire	1413-xxx	1412-xxx
Solid silicone with alu-wire	1223-xxx	1222-xxx
Sponge silicone with alu-wire	1323-xxx	1322-xxx

Ordering Code

Table 2: Standard sheets from solid and sponge silicone

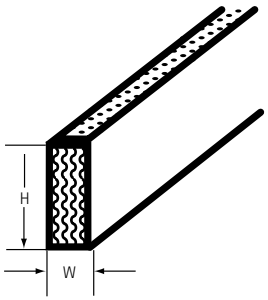


Dimensions in mm (Standard length is 914 mm)

Height	Width W						
H	19,05	25,4	50,8	76,2	114,3	152,4	228,6
0,81	-0307*	-0310*	-0320*	-0330*	-0345*	-0360*	-0390*
1,13	-0407*	-0410*	-0420*	-0430*	-0445*	-0460*	-0490*
1,38	-0507*	-0510*	-0520*	-0530*	-0545*	-0560*	-0590*
1,57	-0607*	-0610*	-0620*	-0630*	-0645*	-0660*	-0690*
2,40	-0907	-0910	-0920	-0930	-0945	-0960	-0990
3,18	-1207	-1210	-1220	-1230	-1245	-1260	-1290
3,96	-1507	-1510	-1520	-1530	-1545	-1560	-1590
4,78	-1807	-1810	-1820	-1830	-1845	-1860	-1890
6,35	-2507	-2510	-2520	-2530	-2545	-2560	-2590

* not available as sponge silicone

Table 3: Standard strips from solid and sponge silicone



Dimensions in mm (Standard length is 5486 mm)

Height	Width W							
H	2,36	3,18	3,96	4,78	6,35	7,92	9,53	12,7
1,57	-0609*	-0612*	-0615*	-0618*	-0625*	-0631*	-0637*	-0650*
2,36	-0909	-0912	-0915	-0918	-0925	-0931	-0937	-0950
3,18	-1209	-1212	-1215	-1218	-1225	-1231	-1237	-1250
3,96	-1509	-1512	-1515	-1518	-1525	-1531	-1537	-1550
4,78	-1809	-1812	-1815	-1818	-1825	-1831	-1837	-1850
6,35	-2509	-2512	-2515	-2518	-2525	-2531	-2537	-2550
7,92	-3109	-3112	-3115	-3118	-3125	-3131	-3137	-3150

* not available as sponge silicone