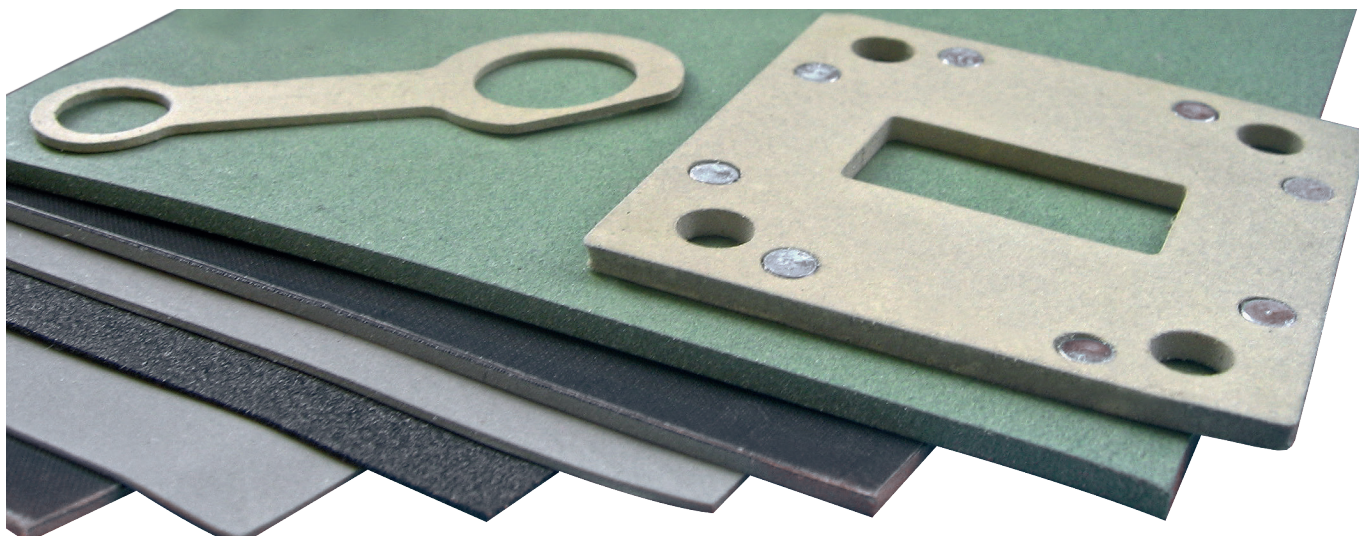


# CONDUCTIVE RUBBER SHEETS

In EMI shielding, this rubber in particular is used as a medium to provide electrical conductivity across a gasket-flange interface



The rubber is made conductive by incorporating small conductive metal particles throughout the material. It can provide an EMI-proof and watertight seal in narrow constructions.

Electrically conductive rubbers are typically used for EMI applications. But they are also useful for EMP protection, wave-guide applications and against static electricity. The rubber can be filled with silver, nickel, silvered glass, silvered aluminum, or graphite (only for ESD). Commercial EMI applications often choose **Nickel-graphite conductive rubber (Part number 5760)** or **Graphite conductive rubber (Part number 5755)** from a costs point of view, while military and aerospace applications often call for **Silver Aluminum Silicone Conductive Rubber (Part number 5750)** to meet Mil-G-83528C specifications. In military or aerospace, fluorosilicone versions may also be used due to their chemical and fuel resistance.

As the material shields high frequencies, electrically conductive rubber shows a shielding effect of 60 dB at 30MHz ~ 10GHz. Due to its excellent conductivity, grounding, and EMI shielding effect, it is well suited for military communications equipment. The rubber can be manufactured in various shapes such as sheets, molded parts, die-cut, strips, o-rings, etc.

## CONDUCTIVE ADHESIVE INFORMATION (CONDUCTIVE PSA)

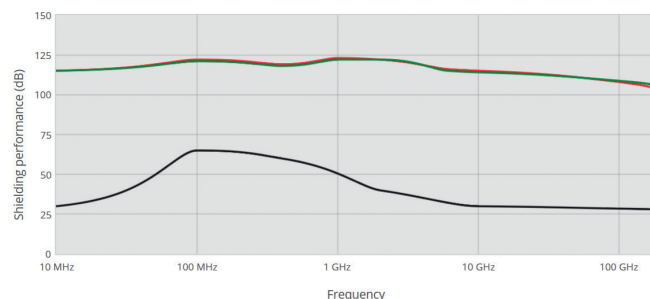
Property	Unit	Outcome	Test method
Surface resistance	Ω/sq	<0.10	MIL-DTL-83528C
Adhesive strength	G/25mm	850	ASTM D 3330
Conductive PSA	-	Acrylic + Ni	-
Liner	-	Paper, Film	-

\* Please note: Conductive adhesive is **optional**. By default, these Conductive rubber gaskets are supplied without adhesive.

## BENEFITS

- Excellent conductivity on the entire surface
- Excellent electromagnetic shielding effect
- Easy die-cutting, kiss-cutting and slitting
- Temperature ranges of -60 to +185°C (under certain circumstances, tolerance can be up to 220°C)

## SHIELDING PERFORMANCE\*



- 5750 - Silver plated aluminum
- 5755 - Graphite
- 5760 - Nickel Graphite

## TECHNICAL DETAILS

Part number	5750 Silver plated aluminum	5755 Graphite	5760 Nickel Graphite
Filler	Ag/Al	Graphite	Ni-graphite
Base polymer	Silicone	Silicone	Silicone
Width (mm)	600 x 600	430 x 450	600 x 600
Elongation, %, min.	90	50	50
Flame resistance, UL94 (horizontal)	HB	HB	HB
Flame resistance, UL94 (vertical)	V-0	V-0	V-0
Volume resistance, Ohm-cm (expression of conductivity)	0.008	1.8	0.05
Operating temp. Range (°C)	+125 -55	+160 -50	+160 -55
Color	Dark tan	Black	Dark gray
Volume Resistivity (ohms) ASTM D991	0.005	2.2	0.04
Specific Gravity (+/- 0.25)	3.5	2.0	2.0



## » CONDUCTIVE RUBBER SHEETS

### AVAILABLE SHEET THICKNESSES

Ag/Al Silicone conductive rubber (silver plated aluminium) 5750	
Thickness (mm)	0.3, 0.5, 1.0, 1.2, 1.5, 1.7, 2.0, 2.5, 3.0

Graphite conductive rubber (black) 5755	
Thickness (mm)	1, 2, 3, 4, 5, 10 mm

Ni-Graphite conductive rubber (dark gray) 5760	
Thickness (mm)	0.3, 0.5, 1.0, 1.2, 1.5, 1.7, 2.0, 2.5, 3.0

### WHAT QUESTIONS NEED TO BE ANSWERED TO SELECT THE RIGHT MATERIAL?

- What is the approximate shielding effectiveness you need to achieve for your application?
- What environment will this material be exposed to? Does the rubber need to be solvent or fuel resistant (fluorosilicone)?
- Are you looking for a semi-conductive/static dissipating material or is this a true EMI/RFI shielding application?

### HOW DOES THE CONDUCTIVE FILLER MATERIAL IN THE RUBBER COMPARE TO COSTS AND PERFORMANCE?

Part number	Conductive filler	Cost	Conductivity	Typical shielding effectiveness*
5750	Silver plated aluminium	\$\$\$	Extremely conductive	120 dB
5760	Ni-graphite	\$\$	Super conductive	100 dB
5755	Graphite	\$	Very conductive	70 dB

### SPECIAL MATERIALS (ON REQUEST)

These Conductive Rubber Sheets 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](mailto:info@hollandshielding.com)

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

### ELECTRICALLY CONDUCTIVE RUBBER IS AVAILABLE AS

- Sheets
- Molded parts
- Die-cut or flash cut
- Strip/Profile



### ORDER EXAMPLE

Part number	Type	Thickness	Width (mm)	Length (mm)	Tape code
<b>5750</b> : Silver plated aluminium <b>5755</b> : Graphite <b>5760</b> : Ni-graphite	<b>S</b>	Check "Available sheet thicknesses" table above for more information	Specify the width of the Conductive rubber sheet in mm	Specify the length of the Conductive rubber sheet in mm	<b>02</b> : Without self-adhesive <b>03</b> : with conductive self-adhesive (only recommended on small sizes)

#### \*Notice

Information supplied in these data sheets is based on independent and laboratory tests which Holland Shielding Systems BV, hereafter referred to as HSS believes to be reliable. HSS has no control over the design of customer's product which incorporates products, therefore it is the responsibility of the user to determine the suitability for his particular application and we recommend that the user make his own test to determine suitability.

The product described in this data sheet shall be of standard quality, however the products are sold without warranty of fitness for a particular purpose, either expressed or implied, except to the extent expressly stated on HSS invoice, quotation or order acknowledgment. HSS does not warrant that products described in this data sheet will be free of conflict with existing or future patents of third parties. All risks of lack of fitness, patent infringement and the like are assumed by the user.