

1200 - Metal knit EMI/RFI gasket

The Metal knit EMI/RFI shielding gaskets of the 1200 series consist of a layer of knitted electrically conductive metal wires on attached to a low-closure force rubber or elastomer core. For heavy-duty applications like EMP or high temperatures, a fully metal version is available. Sometimes a Metal knit EMI/RFI gasket is combined with an environmental seal to provide IP rating, depending on the materials used.

Knitted wire mesh gaskets provide a cost-effective solution to high shielding performance applications in the magnetic and electrical fields, including EMP. The gaskets can be made either completely from knitted metal mesh or from knitted metal mesh over an elastomer core which allows recovery after compression.

For high frequency shielding, foil-based gaskets like Amucor Shield 6800 series will perform better, because of their much larger contact surface. Please refer to the explanatory image below.



Metal knit EMI/RFI gaskets

Contact points of Metal knit gasket vs. Amucor shield



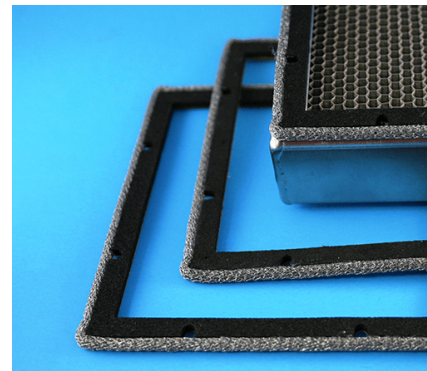
Contact points of metal knit gasket



Contact points of Amucor shield



Metal knit EMI/RFI gasket in a groove



Metal knit EMI/RFI gasket combined with water seal

Benefits

- High attenuation for lower frequencies (low-frequency magnetic shielding)
- Suitable for use under extreme conditions (military applications)
- Wear resistant
- Not susceptible to corrosion
- Various conductive materials against tension corrosion
- Roll lengths of 1 to 1000 meters (depending on width and height of the gasket)
- Tools required: pair of scissors

Options (on request)

- Custom made in the dimensions specified
- Available with flame-retardant core
- Available with conductive self-adhesive
- Available with chemical-resistant rubbers like EPDM
- Silicone sponge for high temperatures up to 220°C
- Cut into accurate lengths
- As a ready made frame

Applications

Used to seal enclosure lids and doors, removable cover plates and interface gaskets for EMI shielded vent panels and EMI/RFI shielded windows.

Optimum compression/density

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The maximum deflection with a sponge elastomer core is approximately 30%, with hollow extrusion 50%. This is why the hollow type is used more often.

Compression levels are important in applications such as liquid filtration and noise attenuation, where flow resistance is critical.

Temperature resistance

Temperature resistance depends on the core material of the metal knit EMI/RFI gasket; ranges from -60C up to 220C are possible. These Metal knit EMI/RFI gaskets are insensitive to external influences and can withstand harsh conditions very well.

Technical specifications

Material	Applications
Monel Per QQ-N-281 BS 3075 N A 13 Class A diameter 0.11mm	The most commonly used material. Insensitive to corrosion and neutral on the galvanic scale.
Aluminium AMS 4187 BS 1475 5056A Alloy 5056 diameter 0.13mm	Used in some cases for aluminium enclosures. Aluminium can be chromed with an Al-chrome 1200 layer, if necessary.
T.C.S. Steel core (57%) Copper cladding (40%) Tin plating (3%) diameter 0.11mm	Excellent magnetic as well as electrical properties, because a Ferro alloy is covered with copper. The outside is tinned to prevent corrosion.
Stainless steel AISI 304 diameter 0.13mm	The strongest material with shielding performance comparable to aluminium. Highly wear resistant.

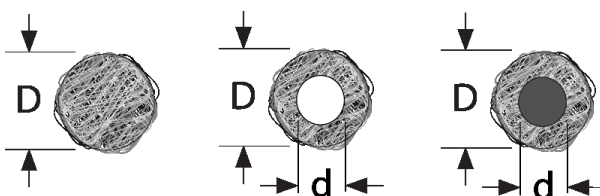
Shielding performance

Frequency	Field	Monel	Aluminium	TCS	S/Steel
10 KHz	H	45	40	60	40
100 KHz	H	49	45	65	44
1 MHz	H	60	60	85	58
1 MHz	E	125	125	125	125
10 MHz	E	120	120	120	120
100 MHz	E	100	100	108	100
400 MHz	P	98	95	99	94
1 GHz	P	85	76	78	76
10 GHz	P	80	65	62	60

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

Stock dimensions

Round (R)



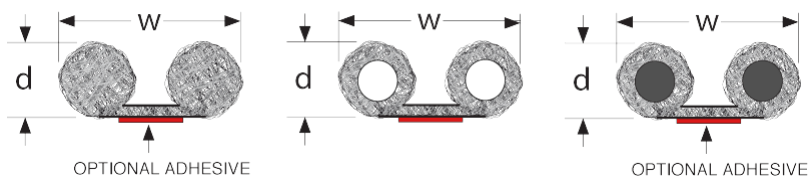
D (mm) or D x d (mm)

1.6	4.8 x 3.2	9.5 x 6.4
2.4	6.4	11.1
3.2	6.4 x 3.2	11.1 x 8.0
3.2 x 1.6	7.9	12.7
4.0	8.0 x 4.8	12.7 x 9.5
4.8	9.5	14.9 x 11.1

Produkt anfragen

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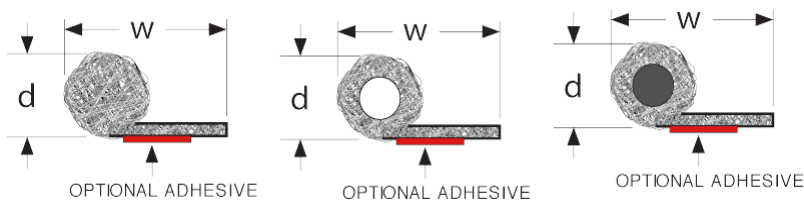
Double round (DR)



d x w (mm)

1.6 x 9.5	3.2 x 12.7	6.4 x 15.9
1.6 x 12.7	3.2 x 15.9	6.4 x 19.1
1.6 x 15.9	4.8 x 15.9	6.4 x 25.4
2.4 x 12.7	4.8 x 19.1	9.5 x 25.4
3.2 x 9.5	4.8 x 25.4	12.7 x 25.4

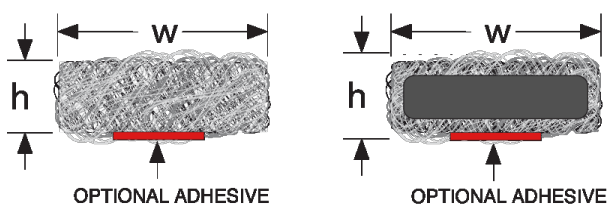
Round with tail (T)



d x w (mm)

1.6 x 9.5	3.2 x 15.9	6.4 x 12.7	9.4 x 25.4
1.6 x 12.7	3.2 x 19.1	6.4 x 15.9	9.5 x 15.9
1.6 x 15.9	4.0 x 12.7	6.4 x 19.1	9.5 x 19.1
1.6 x 19.1	4.0 x 19.1	6.4 x 25.4	9.5 x 25.4
2.4 x 12.7	4.8 x 12.7	7.9 x 15.9	11.1 x 19.1
2.4 x 15.9	4.8 x 15.9	7.9 x 19.1	11.1 x 25.4
2.4 x 19.1	4.8 x 19.1	7.9 x 25.4	12.7 x 19.1
3.2 x 12.7	4.8 x 25.4	9.4 x 19.1	12.7 x 25.4

Rectangular (S)



w x h (mm)

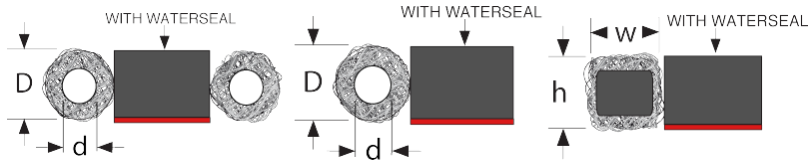
2.4 x 3.2	6.4 x 3.2	19.1 x 12.7
2.4 x 4.8	6.4 x 6.4	20 x 6
2.4 x 6.4	6.4 x 9.5	20 x 8
3.2 x 1.6	12.7 x 6.4	20 x 10
3.2 x 3.2	12.7 x 9.5	20 x 12
3.2 x 4.0	12.7 x 12.7	20 x 20
3.2 x 4.8	15 x 6	25 x 6
3.2 x 6.4	15 x 8	25 x 8
3.2 x 9.5	15 x 10	25 x 10
4.8 x 4.8	15 x 12	25 x 12
4.8 x 6.4	15 x 15	25 x 18
4.8 x 9.5	15.9 x 9.5	25 x 20
6.4 x 1.6		

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Metal knit gaskets with water seal/IP seal

All knitted mesh EMI/RFI gaskets can be produced with a water seal/IP seal.

The standard material for the fluid seal/water seal is Neoprene which can be adhesive-backed (indicated in red in the drawings) for easy installation. Alternatively, silicone sponge is also available.



Serie	Core	Material	Outside shape	Dimensions	Waterseal (Optional)	Waterseal width (mm)
1200	Select an option: N : Not important F : Full metal O : Hollow full metal C : Neoprene foam S : Silicone SF : Silicone foam H : Hollow silicone tube E : EPDM foam	Select an option: N : Not important M : Monel T : TCS A : Alluminium S : Stainless steel E : Steel	Select an option: R : Round DR : Double round T : Round with tail S : Rectangular	Find the sizes in the dimension table above	Select an option: S : Standard waterseal P : Soft "p" seal N : No waterseal	If you want the gasket with a water seal then specify the width of the waterseal in mm