



EMI Knitted Mesh Shielding products

Today's sensitive electronic control technologies often require shielding against electromagnetic interference (EMI) and Radio Frequency Interference (RFI) whilst also needing to comply with the electromagnetic compatibility (EMC) directive.

EMI Seals & Gaskets Ltd has designed and developed a number of products to meet the suppression needs of numerous organisations across the electronics, aerospace, military, commercial, telecommunications, medical, test equipment and enclosure industries.

Alongside our Fabric Wrapped range of profiles and Gaskets we can also offer a full range of conductive Metal Meshes. Using a wide base range of metals to accommodate for operating parameters and galvanic reactions our mesh metals include: Monel, Tin Plated Copper Clad Steel (SN-FE-CU), Tinned Copper, Stainless Steel, Silver-Clad Copper, Aluminium and Copper. Nickel-Plated Copper and Phosphor Bronze gaskets are available to special order.

There are three predominant styles:

Firstly simple mesh tapes, primarily used for EMI shielding electrical and electronic cable assemblies; for cable jointing, grounding, static discharge and within connector assemblies. Normally, the knitted wire mesh should be applied to a cable with a 50% overlap to provide a 4-layer shield, then terminated at each end by clamping, soldering or spot-welding.

Secondly Mesh Covered Elastomer Core and Environmental Seals and Gaskets are used widely on electronic enclosures where there is a seam unevenness and where low closure forces are required. The compliant central core of the gasket takes up these divides and ensures excellent continuity between the mating surfaces.

Ideal for frequently-opened panels & doors because the central core does not allow a compression set, mesh covered elastomer core gaskets are particularly useful where panels and doors are frequently opened or assembled and disassembled. They are suitable for fixing by groove mounting, where they are held in place by sidewall friction. Some rectangular sections, where double-sided tape can be applied to the gasket itself, can be fixed using adhesive spots.

If you require an environmental seal as well as the shielding element it is possible to incorporate an elastomeric section into the profile or gasket to effect this. Similar to our Fabric Wrap and 'C' Wrap profiles and gaskets these mesh and elastomer combination seals can be very effective at achieving high attenuation, high IP solutions. Used frequently to seal enclosure lids and doors, removable cover plates and interface gaskets for vent panels and windows.

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Thirdly All-Metal Wire Mesh and Compressed Wire Mesh Gaskets are used to provide EMI shielding in microwave ovens, CCTV, wave-guides, connectors and shaft seals.

With an all-metal construction, compressed wire mesh gaskets are also extremely good heat conductors and are resilient to high temperatures and shock absorption. This makes them suitable for use in severe environmental conditions. Custom conductive gaskets are not, however, recommended for use where joints are regularly opened or where an environmental seal is required. All-metal EMI shielding gaskets are regularly used on cast, machined and sheet metal enclosures. They are also particularly suitable for groove mounting where they are held in place by sidewall friction. They may also be fixed in place by gluing, riveting, spot welding, soldering and via the fin on 'P' section and double-core-with-fin gaskets by means of a metal plate.

All-metal compressed wire mesh gaskets are constructed from knitted wire mesh to produce a seamless gasket, normally with a rectangular or round cross section. Gaskets are made by die-compressing given amounts of mesh to produce solutions in a wide range of sizes and densities.

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