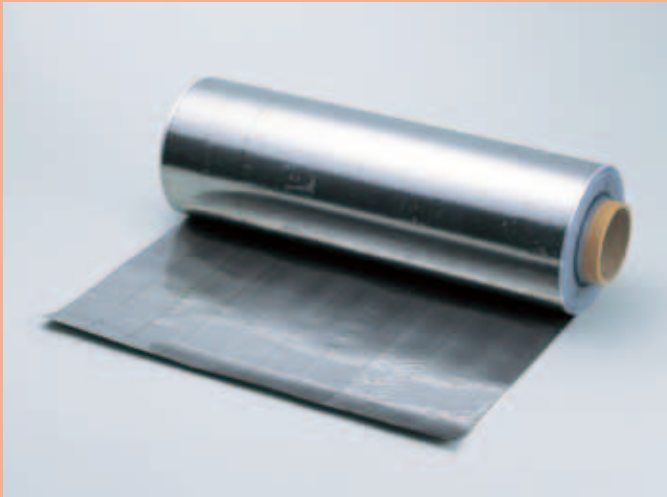


FINEMET®
EMC Components
[Catalog]



FM SHIELD™ MS-F / MS-FR Series
High Permeability, Thin and Flexible Magnetic Shielding Sheet


MS-F / MS-FR series are thin and flexible magnetic shielding sheets made of high permeability FINEMET® FT-3M tapes laminated with PET films.


FINEMET® is a registered trademark of Hitachi Metals, Ltd.
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Materials Mag!c
Hitachi Metals


NOTICES


 **WARNING** This is a hazard warning sign. Please observe the following items in order to avoid possible injury or death.

 **CAUTION** This caution sign indicates the possibility of bodily injury or property damage due to improper handling. Please observe the following items in order to avoid possible bodily injury and property damage.

1. Design and Use

 **WARNING** 1) This product is designed to be used for general electronic devices (e.g. office machinery, communication devices, measurement devices, household appliances, etc.). Performance and safety of this product for application in particular fields which require particularly high reliability and quality, and whose application is potentially life threatening or could lead to physical harm in the event of malfunction, is not guaranteed. Such fields may include: space science, aviation, nuclear energy, fire control, transportation, safety equipment, and medical equipment. Please be sure to carefully check performance and safety when the product is used for these applications, and take appropriate measures for systems, such as fail-safes, in order to avoid any accidents which may result in bodily injury and/or property damage. It is the responsibility of the user to take these measures.

 **WARNING** 2) When designing a component using this product and applying the designed components in any system, use this product only in the guaranteed range specified by Hitachi Metals, Ltd. Do not use the product beyond the guaranteed values specified by Hitachi Metals, Ltd. Hitachi Metals, Ltd. will not be responsible for any damages or accidents resulting from use of this product beyond the guaranteed values specified by Hitachi Metals, Ltd. Even when the product is used within the specifications given by Hitachi Metals, please take appropriate measures for systems, such as fail-safes in order to avoid any accidents which may result in bodily injury and/or property damage. It is the responsibility of the user to take these measures.

 **WARNING** 3) This product may overheat due to magnetic conversion depending on the environment. Please be sure to take appropriate measures for systems, such as fail-safes, in order to avoid any accidents which may result in bodily injury and/or property damage. It is the responsibility of the user to take these measures.


4) Do not use this product in devices under massive radiation, such as neutron rays. This product is not radiation-proof and may result in product deterioration.

5) In no event shall Hitachi Metals, Ltd. be responsible for any claims, loss, or damages caused by defect in design through the fault of the user.

2. Handling

1) Do not drop the product. The impact of the drop may alter the magnetic properties.


2) Keep the product away from high-powered magnets. The product is likely to be pulled by magnetic force and be damaged from the shock.

 **CAUTION** 3) The material (metal alloy ribbon) of the product is extremely thin with very sharp edges, which can cut your hands or fingers. If the metal portion is exposed, do not handle with bare hands.

4) Do not use or store the product where it may be damaged by impact/direct shock. The product contains thin metal alloy, with relatively low impact resistance. The metal alloy could fracture, and its magnetic properties could deteriorate due to the impact.

5) Overlapped parts of the metal ribbons are not adhered together. If overlapping ribbons are in the end of the product, the metal ribbons may come apart.

6) Metal powder and/or weld may come off from the end, which may cause circuits to short in peripherals, or cause injuries to your hands, fingers, eyes, etc.

 **CAUTION** 7) Multiple bends or bends with high curvature may break their protection sheets, and metal powder and/or weld may come off from the damaged part(s) which may cause circuits to short in peripherals, or cause injuries to your hands, fingers, eyes, etc. Multiple bends or bends with high curvature may also deteriorate the magnetic properties of the product. If multiple bends or bends with high curvature are required, please consult us in advance.

3. Environment

Do not use the product under the following conditions:

1) In liquids, such as water, oil, chemicals, organic solvents, etc.;

2) In locations subjected to direct sunlight, open air, and/or dust;

3) In environments with corrosive atmospheres, such as salt air, Cl₂, H₂S, NH₃, NO_x, SO₂, O₃, etc.;

4) In locations subjected to high temperatures and/or high humidity;

5) In locations near flammable gases;

6) In locations near heat-generating equipment.

4. Storage

In order to avoid negatively affecting the performance of the product, do not store it where water or other liquids splash directly, or in damp places.

5. Disposition

1) When disposing of the product, dispose of it as industrial waste.

2) Disposition, reprocessing, or other additional processes shall be arranged at your own expense.

6. Products and Use

The products and their specifications are subject to change without notice. Please check the latest catalog, technical documents, or specifications before implementation of final design, or before procurement or use of the products.

7. Rights and licenses

No warranties, rights, or licenses in connection with any patents, trademarks, copyrights, or any other intellectual property rights shall be, expressly or implied, given or granted to any party by Hitachi Metals, Ltd. under this catalog.

8. Contact

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