

Rev 1.6  
26.04.2012

# Magnetic field shielding foil / shielding sheet Aaronia MagnoShield® FLEX

Screening against static and low-frequency magnetic fields and interference of any kind

## References / examples of proof:

- ◆ German military (technical observation), Hof, Germany
- ◆ Philipps GmbH, Munich, Germany
- ◆ Panasonic, Bad Homburg, Germany
- ◆ Max-Planck Institute for nuclear physics, Heidelberg, Germany
- ◆ Robert Bosch GmbH, Magdeburg, Germany
- ◆ Technical University Hamburg, Germany
- ◆ Siemens AG, Munich, Germany
- ◆ University of Newcastle, United Kingdom



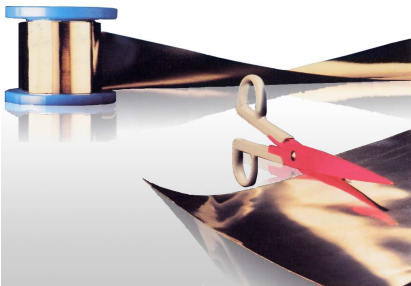
Made in Germany



# Specifications

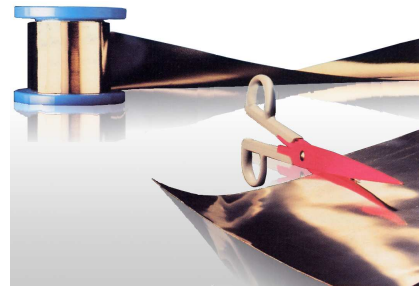
## Aaronia MagnoShield® FLEX

- ◆ **Nealed** for maximum shielding efficiency
- ◆ **Shielding factor: 5-7**
- ◆ Saturation flux density: approx. 0,8 Tesla
- ◆ Length per standard packaging unit: 1m (0,155m<sup>2</sup>), 10m (1,55m<sup>2</sup>), also available as cut good
- ◆ Lane width: 0,155m (155mm)
- ◆ Weight: approx. 1,1kg/m<sup>2</sup>
- ◆ Material thickness: 0,1mm
- ◆ Foldable, can be bent and folded without problems
- ◆ Very easy handling and cutting using a knife or scissors
- ◆ Easy to install due to high flexibility
- ◆ Magnetically conductive material: Nickel/iron alloy, so-called Mu metal, isotrope
- ◆ Noncorrosive
- ◆ Frost proof
- ◆ Paintable
- ◆ Colour: dark silver
- ◆ Also available as self-adhesive version

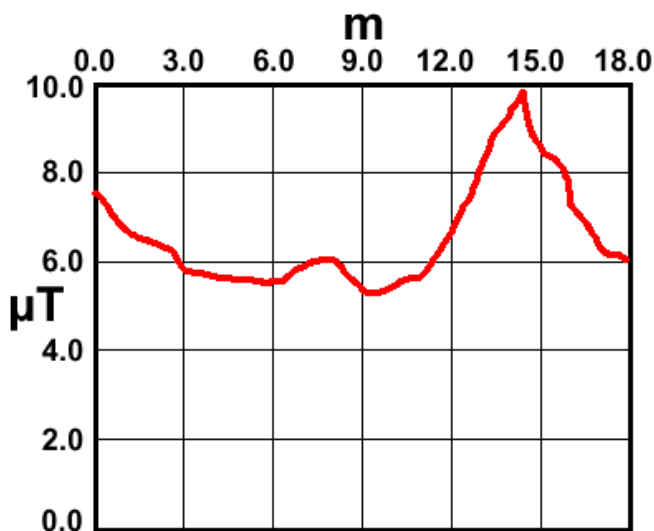


## Aaronia MagnoShield® FLEX PLUS

- ◆ **Self-adhesive version** with very high adhesive strength
- ◆ Glue heat-resistant up to 120 C
- ◆ **Nealed** for maximum shielding efficiency
- ◆ **Shielding factor: 5-7**
- ◆ Saturation flux density: approx. 0,8 Tesla
- ◆ Length per standard packaging unit: 1m (0,091m<sup>2</sup>), 10m (0,91m<sup>2</sup>), 50m (4,55m<sup>2</sup>). Also available as cut good.
- ◆ Lane width: 0,091m (91mm)
- ◆ Weight: approx. 1,1kg/m<sup>2</sup>
- ◆ Material thickness: 0,1mm
- ◆ Foldable, can be bent and folded without problems
- ◆ Very easy handling and cutting using a knife or scissors
- ◆ Easy to install due to high flexibility
- ◆ Magnetically conductive material: Nickel/iron alloy, so-called Mu metal, isotrope
- ◆ Noncorrosive
- ◆ Frost proof
- ◆ Paintable
- ◆ Colour: dark silver

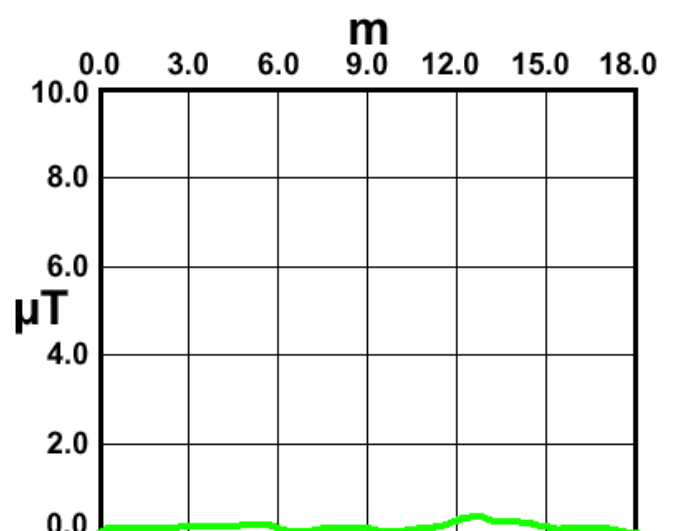


## Transmission damping curves:



**OHNE** MagnoShield® Flex

Magnetic field of a transformer before shielding



**MIT** MagnoShield® Flex

Magnetic field of a transformer after shielding

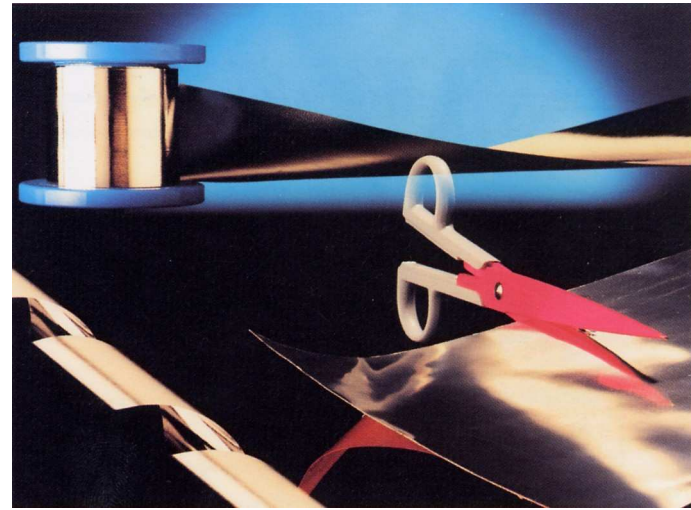
# Product description

Aaronia offers a magnetic field shielding which is easy to handle even for the novice: Aaronia MagnoShield® FLEX magnetic field shielding foil. Aaronia MagnoShield® FLEX is very easy to handle and to install. It is highly flexible, sturdy, frost proof, rot proof and noncorrosive.

Aaronia MagnoShield® FLEX has been developed especially for also shielding high-frequency magnetic fields caused by local radiation sources such as cables, transformers, generators, traction power, power distribution boxes, high-voltage lines etc. Aaronia MagnoShield® FLEX allows shielding electronic circuitry, appliances and their chassis against magnetic interference even in highly sensible areas such as control centres, etc.

Installation is very easy especially when using Aaronia MagnoShield® FLEX PLUS, even for the novice. The individual lanes need to be installed with an overlap of approx. 5cm to guarantee the best possible shielding efficiency.

Magnetic shielding performance can be adapted optimally to your requirements by applying several layers of the product.



Aaronia MagnoShield® FLEX and Aaronia MagnoShield® FLEX+ are the highly flexible solution for shielding any kind of electronic appliance, circuitry, sensors and chassis against static (for example, magnets) and low-frequency magnetic fields (for example, transformers, cables, traction power)



Deep-drawn, nealed magnetic field shieldings made from Aaronia MagnoShield® FLEX offer maximum shielding against static and low-frequency magnetic fields of any kind

To shield large areas (for example, entire rooms or buildings) against magnetic fields, we recommend our industrial solution consisting of Aaronia MagnoShield® magnetic shielding panels.

Aaronia MagnoShield® FLEX is nealed and thus offers maximum shielding efficiency against magnetic fields compared to regular materials. Still, Aaronia MagnoShield® FLEX can be folded and bent, which is normally not possible with regular materials, as their shielding efficiency would degrade drastically.

For greater amounts of identically sized units, we recommend custom manufacture to your specifications, giving you a perfect magnetic shielding product. However, please be aware of the one-time, yet considerable tool cost.

For shielding large areas (like rooms and buildings), we recommend our industrial solution consisting of Aaronia MagnoShield® shielding panels.

# References

## User of Aeronia Antennas, Spectrum Analyzers and screening solutions (Examples)

### Government, Military, aeronautic, astronautic

- ◆ NATO, Belgien
- ◆ Boeing, USA
- ◆ Airbus, Hamburg
- ◆ Bund (Bundeswehr), Leer
- ◆ Bundeswehr (Technische Aufklärung), Hof
- ◆ Lufthansa, Hamburg
- ◆ DLR (Deutsches Zentrum für Luft- und Raumfahrt, Stuttgart)
- ◆ Eurocontrol (Flugüberwachung), Belgien
- ◆ Australian Government Department of Defence, Australien
- ◆ EADS (European Aeronautic Defence & Space Company) GmbH, Ulm
- ◆ Institut für Luft- und Raumfahrtmedizin, Köln
- ◆ Deutscher Wetterdienst, Tauche
- ◆ Polizeipräsidium, Bonn
- ◆ Landesamt für Umweltschutz Sachsen-Anhalt, Halle
- ◆ Zentrale Polizeitechnische Dienste, NRW
- ◆ Bundesamt für Verfassungsschutz, Köln
- ◆ BEV (Bundesamt für Eich- und Vermessungswesen)

### Research/Development, Science and Universitys

- ◆ Deutsches Forschungszentrum für Künstliche Intelligenz, Kaiserslautern
- ◆ Universität Freiburg
- ◆ Indonesien Institute of Science, Indonesien
- ◆ Max-Planck-Institut für Polymerforschung, Mainz
- ◆ Los Alamos National Laboratory, USA
- ◆ University of Bahrain, Bahrain
- ◆ University of Florida, USA
- ◆ Universität Erlangen, Erlangen
- ◆ Universität Hannover, Hannover
- ◆ University of Newcastle, Großbritannien
- ◆ Universität Strasbourg, Frankreich
- ◆ Universität Frankfurt, Frankfurt
- ◆ Uni München – Fakultät für Physik, Garching
- ◆ Technische Universität Hamburg, Hamburg
- ◆ Max-Planck Institut für Radioastronomie, Bad Münstereifel
- ◆ Max-Planck-Institut für Quantenoptik, Garching
- ◆ Max-Planck-Institut für Kernphysik, Heidelberg
- ◆ Max-Planck-Institut für Eisenforschung, Düsseldorf
- ◆ Forschungszentrum Karlsruhe, Karlsruhe

### Industry

- ◆ Shell Oil Company, USA
- ◆ ATI, USA
- ◆ Fedex, USA
- ◆ Walt Disney, Kalifornien, USA
- ◆ Agilent Technologies Co. Ltd., China
- ◆ Motorola, Brasilien
- ◆ IBM, Schweiz
- ◆ Audi AG, Neckarsulm
- ◆ BMW, München
- ◆ Daimler Chrysler AG, Bremen
- ◆ BASF, Ludwigshafen
- ◆ Deutsche Bahn, Berlin
- ◆ Deutsche Telekom, Weiden
- ◆ Siemens AG, Erlangen
- ◆ Rohde & Schwarz, München
- ◆ Infineon, Österreich
- ◆ Philips Technologie GmbH, Aachen
- ◆ ThyssenKrupp, Stuttgart
- ◆ EnBW, Stuttgart
- ◆ RTL Television, Köln
- ◆ Pro Sieben – SAT 1, Unterföhring
- ◆ Channel 6, Großbritannien
- ◆ WDR, Köln
- ◆ NDR, Hamburg
- ◆ SWR, Baden-Baden
- ◆ Bayerischer Rundfunk, München
- ◆ Carl-Zeiss-Jena GmbH, Jena
- ◆ Anritsu GmbH, Düsseldorf
- ◆ Hewlett Packard, Dornach
- ◆ Robert Bosch GmbH, Plochingen
- ◆ Mercedes Benz, Österreich
- ◆ EnBW Kernkraftwerk GmbH, Neckarwestheim
- ◆ AMD, Dresden
- ◆ Infineon Technologies, Regensburg
- ◆ Intel GmbH, Feldkirchen
- ◆ Philips Semiconductors, Nürnberg
- ◆ Hyundai Europe, Rüsselsheim
- ◆ Saarschmiede GmbH, Völklingen
- ◆ Wilkinson Sword, Solingen
- ◆ IBM Deutschland, Stuttgart
- ◆ Vattenfall, Berlin
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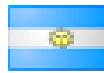
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