



## 50dB EMC screening fabric Aaronia-Shield®

High performance RF Shielding-Fabric made from a patented high-tech shielding-fibre

"..especially effective against all high-frequency radiation up to far beyond 10GHz"  
"..ensures conformance with rigorous architecture-biological exposure limits.."  
"..offers a 30 to 1000 fold more efficient screening than similar products on the market"  
"..particularly well-suited for people with allergies!"  
(KettenwirkPraxis 02/2005)

### References / examples of proof:

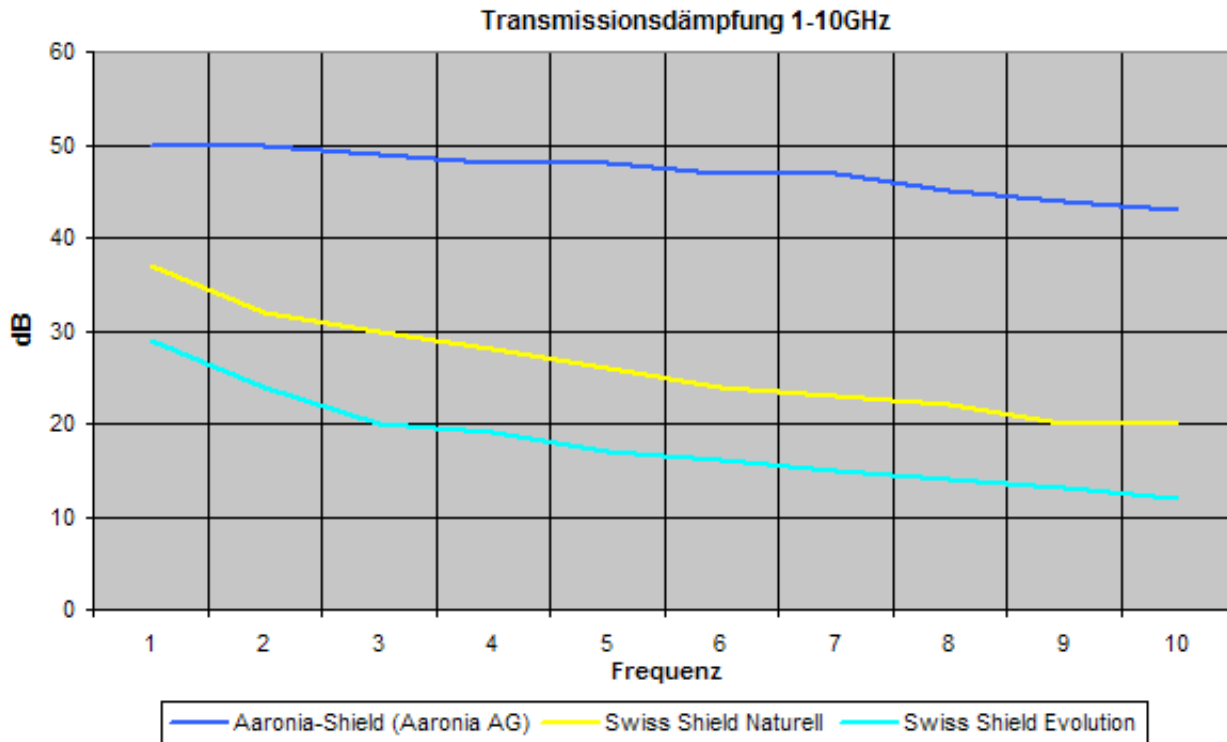
- ◆ EADS GmbH, Ulm, Germany
- ◆ Max Planck Institute for Plasma Physics, Greifswald, Germany
- ◆ Max Planck Institute for Iron Research, Düsseldorf, Germany
- ◆ Technical University Hamburg, Germany
- ◆ EnBW, Karlsruhe, Germany
- ◆ University Munich, Germany
- ◆ Dr. Oetker Nahrungsmittel, Bielefeld, Germany

# Specifications

## Aaronia Shield®

- ◆ Extremely breathable
- ◆ Odourless
- ◆ Extremely transparent
- ◆ Treatable like regular fabric. Ideal for garments, curtains, canopies, protective suits etc.
- ◆ Rot proof
- ◆ Frost proof
- ◆ Anti-septic
- ◆ Anti-static
- ◆ Washable
- ◆ Foldable
- ◆ Also usable as a transparent fly screen
- ◆ Very easy to handle even for the novice
- ◆ Length per standard unit: 0,7m, 7m, (1m<sup>2</sup>, 10m<sup>2</sup>). Also available as cut good
- ◆ Lane width: approx. 1,4m
- ◆ Thickness: 0,1mm
- ◆ Mesh size: approx. 0,7mm!
- ◆ Colour: Silver
- ◆ Weight: approx. 15g/m<sup>2</sup>
- ◆ Mesh material: High-performance silver/polyamid compound (20%/80%)
- ◆ Screening performance **static fields**: 99,99% to 99,999% (only WITH grounding!)
- ◆ Screening performance **low-frequency, electric fields**: 99,99% to 99,999% (only WITH grounding!)
- ◆ Screening performance **high-frequency fields**: 43dB (99,992%) at 10GHz and 50dB (99,999%) at 1GHz (even without grounding!)

## Transmission damping chart 1-10GHz



Independent tests according to MIL-STD-285 performed by Prof.Dipl.-Ing.P.Pauli approve the superior screening performance of Aaronia-Shield® compared to the other products shown which are typically used for constructing screening canopies or curtains. The RF (high-frequency) radiation damping performance, especially in the frequency range where pulsed signals from cell towers etc. are present, is an exceptional 43dB (99,992%) to 50dB (99,999%). Compared to the other products shown, Aaronia-Shield® offers 30 to 1000 times better protection!

Apart from this, Aaronia-Shield® is the only screening product of these three which can also be grounded and thus even protects against static AND low-frequency EMF, which is generated by virtually all cables running through homes, all home appliances and also high-voltage power lines.

# Description

## Material characteristics:

The various "transparent" shielding systems currently available on the market are very diverse concerning their protection efficiency and affordability. Most offer hardly any protection at all in the higher GHz ranges. Mostly they are also extremely expensive and do not offer protection against low frequency EMF radiation, either. Also, the customer currently mostly needs TWO separate shieldings: One against RF and another against LF.

Consequently, Aaronia offers a very affordable alternative whose handling is particularly easy for the novice: The "screening fabric" Aaronia-Shield®. Aaronia-Shield® offers extremely good shielding performance especially in the high GHz range. Aaronia-Shield® simultaneously protects against both RF AND LF E-field radiation and is still extremely transparent. The reason behind this very good screening efficiency is a complex textile concept based on a special kind of patented silver/polyamid fibre. Aaronia-Shield® can be handled like regular fabric. It can be folded without the risk of taking damage, is anti-septic, frost proof, rot proof and extremely breathable. Aaronia-Shield® is optimally suited for constructing highly efficient screenings in terms of canopies, garments, curtains, fly screens, protective suits or for aerospace use.

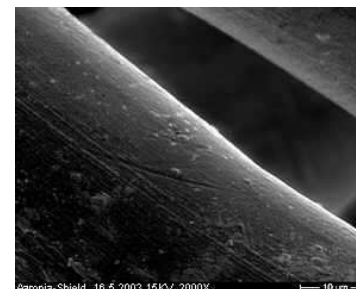
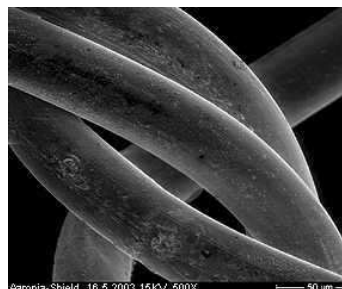
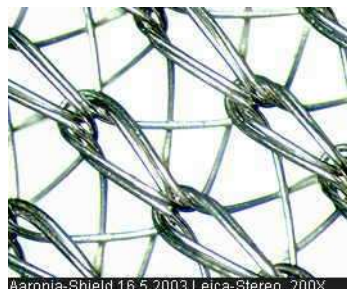
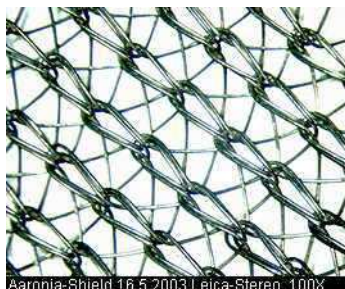
It is noteworthy that Aaronia-Shield® does NOT need to be grounded for high-frequency screening! Though, we generally recommend grounding using our grounding package if stationary use is intended (for example as canopy, curtains, fly screens etc.), as that way, protection against LF electric fields caused by high-voltage lines, power cables, etc. will also be achieved.



## Screening solutions made from Aaronia-Shield®:

For window use, Aaronia-Shield® lends itself optimally as a transparent shielding and at the same time doubles as a fly screen. Also, application as high-grade shielding curtain is not a problem at all.

Aaronia offers complete, high-grade canopy systems made from Aaronia-Shield® for beds. For also shielding the floor area, matching screening mats made from Aaronia X-Dream® have been developed exactly for this purpose. These mats are also used to ground the canopy systems and thus offer a comprehensive, complete protection. Our canopy systems allow even the novice to construct an optimally screened sleeping place with minimal effort.



The complex weaving technique used in Aaronia-Shield® warrants the best possible screening performance particularly in the higher GHz range.

# 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
- ◆ Fraport, Frankfurt