

Product Datasheet - Technical Specifications



More information in our Web-Shop at ► www.meilhaus.com

Your contact

Technical and commercial sales, price information,
quotations, demo/test equipment, consulting:

Tel.: **+49 - (0)81 41 - 52 71-0**

FAX: **+49 - (0)81 41 - 52 71-129**

E-Mail: sales@meilhaus.com

Meilhaus Electronic GmbH
Am Sonnenlicht 2
82239 Alling/Germany

Tel. **+49 - (0)81 41 - 52 71-0**
Fax **+49 - (0)81 41 - 52 71-129**
E-Mail sales@meilhaus.com

Mentioned company and product names may be registered trademarks of the respective companies. Errors and omissions excepted. © Meilhaus Electronic.

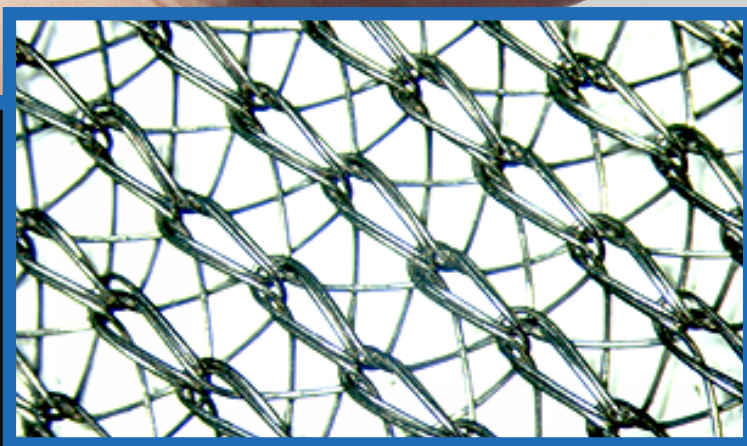
www.meilhaus.com

AARONIA SHIELD®

RF SHIELDING FABRIC

50dB

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



AARONIA AG®
WWW.AARONIA.DE



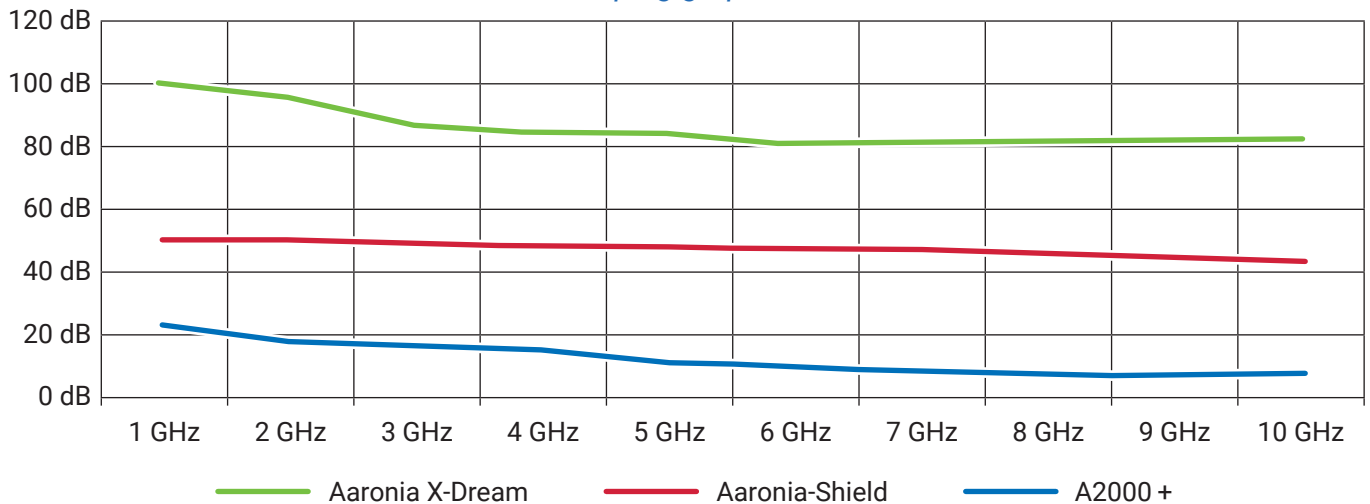
MADE IN GERMANY

Specifications

Aaronia Shield®

| | | |
|--|---|---|
| Length per unit | 0,7 m, 7 m, (1 m ² , 10 m ²) Also available as cut good | <ul style="list-style-type: none"> • Extremely breathable • Odourless • Extremely transparent • Treatable like regular fabric. Ideal for mobile shielding chambers etc. • Rot proof • Frost proof • Anti-septic • Anti-static • Washable • Foldable • Also usable as a transparent fly screen (not usable for outdoor applications) • Very easy to handle even for the novice |
| Lane width | 1,4 m | |
| Thickness | 0,1 mm | |
| Mesh size | 0,7 mm | |
| Colour | silver | |
| Weight | approx. 27 g/m ² | |
| 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 | 43 dB (99,992%) at 10 GHz and 50 dB (99,999%) at 1 GHz (even without grounding) | |

Damping graph 1 - 10 GHz



Measurements prove the good screening performance: Damping of high-frequency radiation in the frequency range particularly affected by pulsed signals, for example by cell towers, is 90% to 99%. Also, static and low-frequency electric fields like those generated by any cables or appliances in homes, or high-voltage power lines, are being damped by up to 99,9%.

Damping specifications for Aaronia high-performance shielding products

| Product | Frequency | Damping (dB) | Damping factor | Damping (%) | Application examples |
|-----------------|-----------------|-----------------|-------------------------------|-------------------------------|--|
| Aaronia A2000 + | 1 GHz - 10 GHz | 20 dB - 10 dB | 100 - 10 | 99,0% - 90% | Indoor and outdoor shielding, low exposure |
| Aaronia-Shield | 1 GHz 10 GHz | 50 dB 45 dB | 100.000 30.000 | 99,999% 99,992% | Textile applications (mobile shielding chambers etc.) Low and high exposure |
| Aaronia X-Dream | 1 GHz 10 GHz | 100 dB 80 dB | 10.000.000.000 100.000.000 | 99,999.999.99% 99,999.999% | Indoor shielding, measurement chambers High to highest exposure |

Notice: when using the dB unit, an increase of 10 dB is equivalent to a 10fold increase in strength. For example, 100 dB is 10 times as strong as 90 dB, or 100 times as strong as 80 dB, etc.

Description

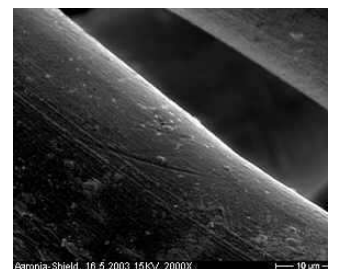
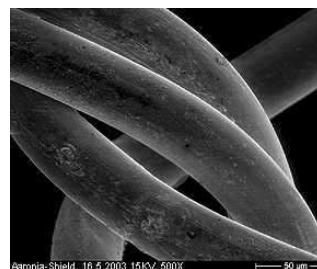
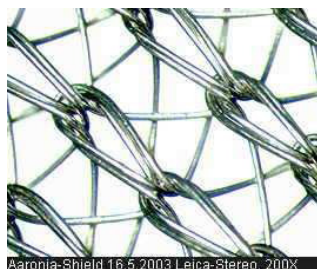
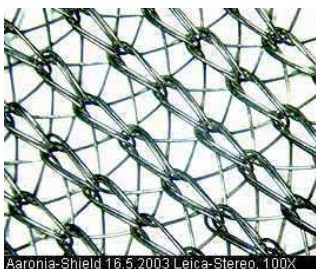
Material characteristics

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 mobile shielding chambers 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



Selected Aaronia Clients

Government, Military, Aeronautic, Astronautic

- **NATO**, Belgium
- **Department of Defense (DoD)**, USA
- **Department of Defence**, Australia
- **Airbus**, Germany
- **Boeing**, USA
- **German Armed Forces**, Germany
- **NASA**, USA
- **Lockheed Martin**, USA
- **Lufthansa**, Germany
- **German Aerospace Center (DLR)**, Germany
- **Eurocontrol**, Belgium
- **EADS**, Germany
- **Drug Enforcement Administration (DEA)**, USA
- **Federal Bureau of Investigation (FBI)**, USA
- **Federal Criminal Police Office (BKA)**, Germany
- **Federal Police**, Germany
- **Ministry of Defence**, Netherlands

Research/Development, Science and Universities

- **MIT - Physics Department**, USA
- **California State University**, USA
- **Indonesian Institute of Science (LIPI)**, Indonesia
- **Los Alamos National Laboratory (LANL)**, USA
- **University of Bahrain**, Bahrain
- **University of Florida**, USA
- **University of Victoria**, Canada
- **University of Newcastle**, United Kingdom
- **University of Durham**, United Kingdom
- **University Strasbourg**, France
- **University of Sydney**, Australia
- **University of Athen**, Greece
- **University of Munich**, Germany
- **Technical University of Hamburg**, Germany
- **Max-Planck Inst. for Radio Astronomy**, Germany
- **Max-Planck Inst. for Nuclear Physics**, Germany
- **Research Centre Karlsruhe**, Germany

Industry

- **IBM**, Switzerland
- **Intel**, Germany
- **Shell Oil Company**, USA
- **ATI**, USA
- **Microsoft**, USA
- **Motorola**, Brazil
- **Audi**, Germany
- **BMW**, Germany
- **Daimler**, Germany
- **Volkswagen**, Germany
- **BASF**, Germany
- **Siemens AG**, Germany
- **Rohde & Schwarz**, Germany
- **Infineon**, Austria
- **Philips**, Germany
- **ThyssenKrupp**, Germany
- **EnBW (Energie Baden-Württemberg)**, Germany
- **CNN**, USA
- **Duracell**, USA
- **German Telekom**, Germany
- **Bank of Canada**, Canada
- **NBC News**, USA
- **Sony**, Germany
- **Anritsu**, Germany
- **Hewlett-Packard**, Germany
- **Bosch**, Germany
- **Mercedes-Benz**, Austria
- **Osram**, Germany
- **DEKRA**, Germany
- **AMD**, Germany
- **Keysight**, China
- **Infineon Technologies**, Germany
- **Philips Semiconductors**, Germany
- **Hyundai Europe**, Germany
- **VIAVI**, Korea
- **Wilkinson Sword**, Germany
- **IBM Deutschland**, Germany
- **Nokia-Siemens Networks**, Germany


MADE IN GERMANY