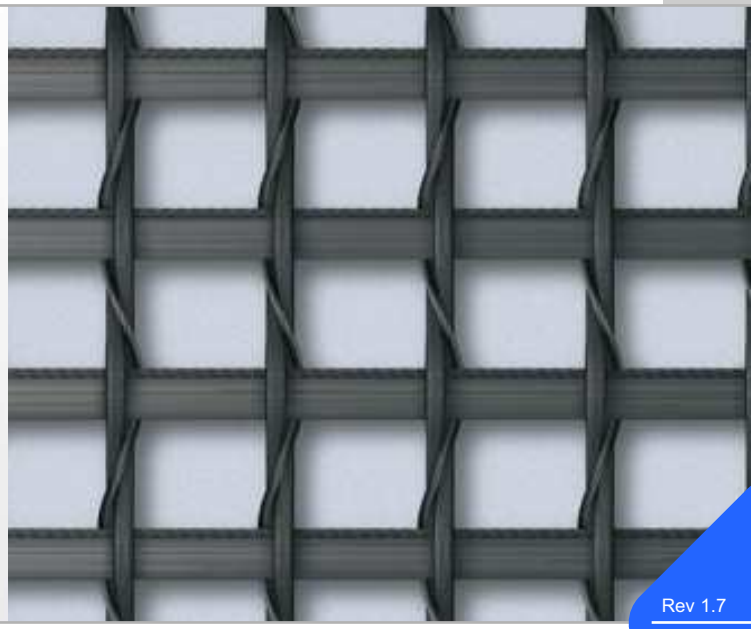
Data sheet



Rev 1.7
19.09.2014

20dB rf screening tissue A2000+

Reduces rf electrosmog from mobile phones, microwave ovens, transmission towers etc. by approx. 99%

References / examples of proof:

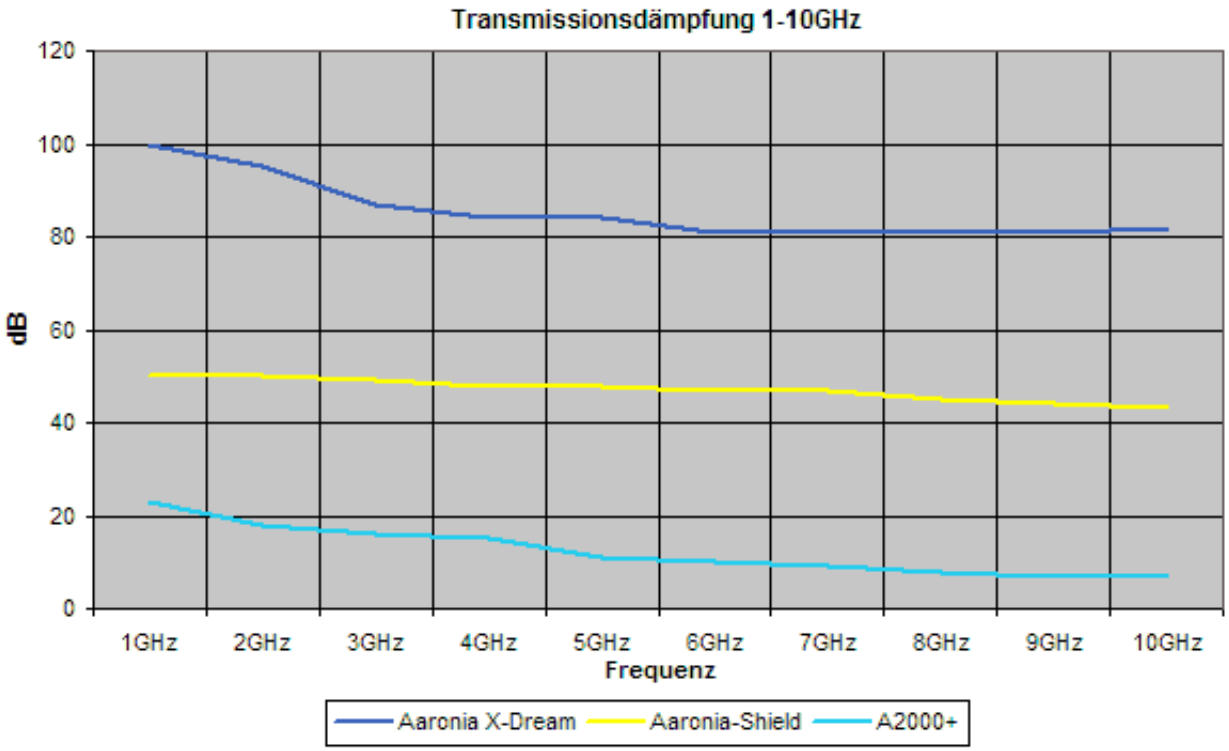
- CERN, Switzerland
- University Munich, Germany
- University Hannover, Germany
- Bayer Industry, Krefeld, Germany
- EnBW, Karlsruhe, Germany

Specifications

Aaronia A2000+

- Breathable
- Rot resistant
- Frost-proof
- Foldable
- Paintable
- Usable in walls or concrete
- Replaces reinforcement fabric
- Very easy processing even for the novice
- Length per unit: 10m or 50m
- Width: 1m
- Thickness: 0,5mm
- Mesh size: ca. 5mm
- Colour: black
- Weight: approx. 200g/m2
- Mesh material: Stainless steel
- Quality assurance: TÜV CERT according to ISO 9001
- Screening efficiency **static fields**: 99,5% to 99,95% (only with grounding!)
- Screening efficiency **low-frequency, electric fields**: 99,5% to 99,95% (only with grounding!)
- Screening efficiency **radio frequency fields**: 90% to 99% (even without grounding!)

Damping graph

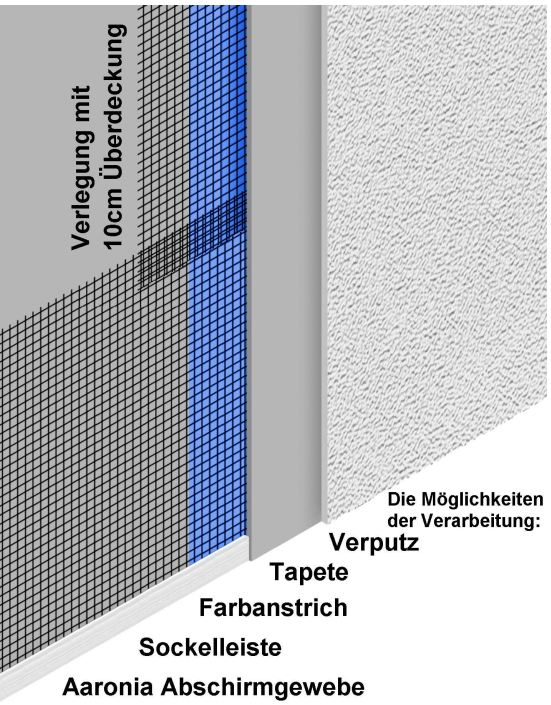


Measurements prove the good screening performance: Damping of high-frequency radiation in the frequency range particularly affected by pulsed signals, for example by cell towers, is 90% to 99%. Also, static and low-frequency electric fields like those generated by any cables or appliances in homes, or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

Description

Application:

The various currently available shielding systems all are vastly different in their shielding- and cost efficiency. Most are far too complicated in handling particularly for the novice, but also for the professional user. Furthermore, they are often also far too expensive. Additionally, mostly TWO seperate screening products are necessary as screenings against RF (high/radio frequency) are often not efficient against EMF and vice-versa.
In turn, Aaronia offers a very cost-effective and easy to use shielding: The Aaronia shielding-tissue A2000+. The Aaronia Shielding-tissue A2000+ offers protection against RF AND EMF E-field radiation at the same time. This exceptional performance is based on a concept using interwoven fibres made of stainless steel, and a special conductive coating. The tissue is easy to handle and to lay. It can be folded without risk of damage, is sturdy, frost proof, rot proof, breathable and can even be used inside walls or concrete. As such it is also suitable for outdoor use and then replaces the normal reinforcement fabric, thus saving a lot of cost.
The Aaronia screening tissue A2000+ can be used to screen local radiation sources like cables or distribution boxes as well as for protecting entire rooms or buildings. Laying is performed in lanes which need to overlap 15cm to form a closed surface. It is noteworthy that this tissue does NOT need to be grounded for achieving RF (high-frequency) protection! Though we generally recommend grounding using our grounding package, as low-frequency E-fields from power cables, high-voltage lines, etc. will also be screened using this method.



Protecting a room:

To protect a room (such as a bedroom) against high frequency (RF) radiation, the complete room needs to be entirely covered with the tissue. In contrast, if a low-frequency E-Field radiation source (such as the power distribution box in your home or in-wall cables) is to be screened, only a small area around the radiation source needs to be covered. Attention: For protection against low frequency EMF, the tissue also needs to be grounded! For this, you should definitely use the Aaronia grounding package. For covering floors, the tissue can be laid invisible under carpets, or in the floor pavement. The tissue can be attached to walls like wallpaper using a special glue. If the walls are made from plasterboard, wood, or similar, the tissue can simply be "stapled" to the wall. Likewise, it can also be attached to ceilings. On the other hand, doors and their frames should be covered using Aaronia X-Dream screening fleece. That way, a nearly perfect connection with the rest of the tissue is formed when the door is closed. For shielding windows, you should use our screening fabric Aaronia-Shield, which can be installed elegantly like an invisible "fly screen". After installation, the tissue can be painted, covered with wallpaper or plaster and thus becomes invisible. Our installation manual even allows the novice to create a screened room without much hassle.

Shielding a house or other building:

Houses and other buildings should always be shielded externally when constructed.
To do this, the tissue can be used as a replacement for the reinforcement fabric.
In roofs, the tissue should be installed directly beneith the vapor barrier.

For floors, the tissue should be installed in the floor pavement.
Always remember that for the best possible RF screening, a completely closed surface needs to be built! So always leave a bit of overlapping tissue when installing in walls, floors and roofs for being able to tightly connect the lanes later!

Damping specifications for Aaronia high-performance shielding products

Product	Frequency	Damping in dB:	Damping factor	Damping in %	Application examples:
A 2000+	1GHz 10GHz	20dB 10dB	100 10	99,0% 90%	Indoor and outdoor shielding, low exposure
Aaronia-Shield®	1GHz 10GHz	50dB 45dB	100.000 30.000	99,999% 99,992%	Textile applications (Canopies, clothing, curtains etc.) Low and high exposure
Aaronia X-Dream®	1GHz 10GHz	100dB 80dB	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 10dB is equivalent to a 10fold increase in strength. For example, 100dB is 10 times as strong as 90dB, or 100 times as strong as 80dB, etc.

References

Cross-Section of Aaronia Clients

Government, Military, Aeronautic, Astronautic

- NATO, Belgium
- Department of Defense, USA
- Department of Defense, Australia
- Airbus, Germany
- Boeing, USA
- Bundeswehr, Germany
- NASA, USA
- Lockheed Martin, USA
- Lufthansa, Germany
- DLR,Germany
- Eurocontrol, Belgium
- EADS, Germany
- DEA, USA
- FBI, USA
- BKA, Germany
- Federal Police, Germany
- Ministry of Defense, Netherlands

Research/Development, Science and Universities

- MIT - Physics Department, USA
- California State University, USA
- Indonesien Institute of Sience, Indonesia
- Los Alamos National Labratory, 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 Institute for Radio Astronomy, Germany
- Max-Planck-Institute for Nuclear Physics, Germany
- Research Centre Karlsruhe, Germany

Industry

- APPLE, USA
- 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, Germany
- CNN, USA
- Duracell, USA
- German Telekom, Germany
- Bank of Canada, Canada
- NBC News, USA
- Sony, Germany
- Anritsu, Germany
- Hewlett Packard, Germany
- Robert Bosch, Germany
- Mercedes Benz, Austria
- Osram, Germany
- DEKRA, Germany
- AMD, Germany
- Keysight, China
- Infineon Technologies, Germany
- Philips Semiconductors, Germany
- Hyundai Europe, Germany
- JDSU, Korea
- Wilkinson Sword, Germany
- IBM Deutschland, Germany
- Nokia-Siemens Networks, Germany

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