

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



Made in Germany

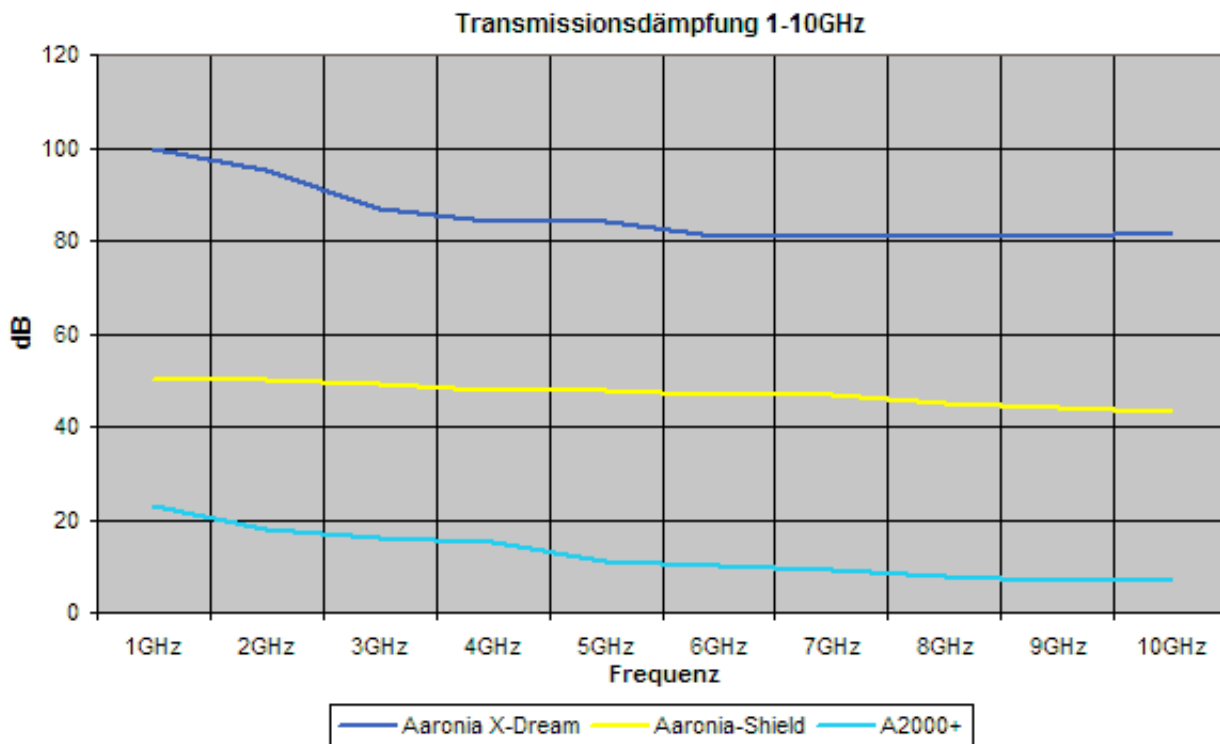


Specifications

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%.

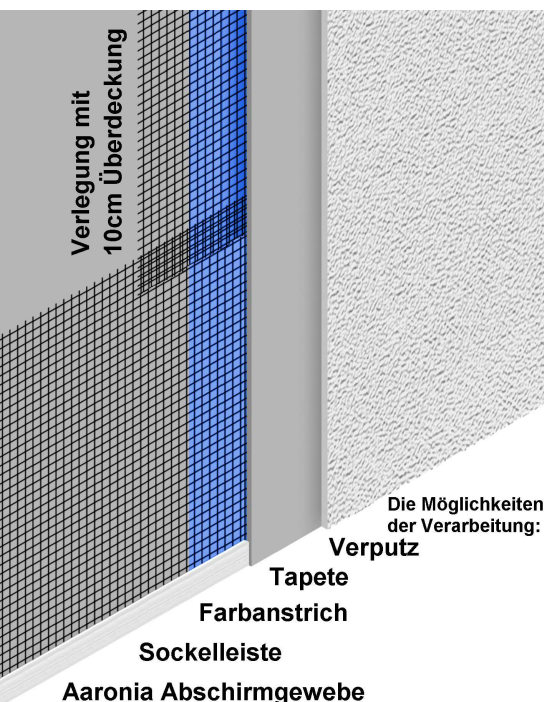
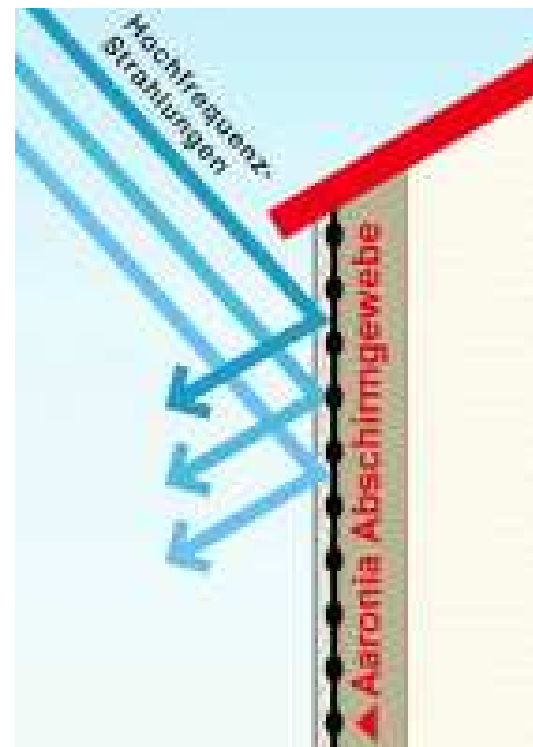
Description

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 separate 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 beneath 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.

© Aaronia AG, DE-54597 Strickscheid, www.aaronia.com, Phone ++49(0)6556-93033

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 Sience, Indonesien
- ◆ Max-Planck-Institut für Polymerforschung, Mainz
- ◆ Los Alamos National Labratory, 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

Aaronia Distributors



Aaronia USA, 651 Amberton Crossing
Suwanee, Georgia 30024 USA
Phone ++1 678-714-2000, Fax ++1 678-714-2092
Email: sales@aaroniausa.com
URL: www.aaroniaUSA.com



Aaronia North China, Beijing Mesh Communication
Tech Co. Ltd., No. 2 Huayuan Road, Building 2, Haidian
District, 100191 Beijing, China
Phone ++86 10 822 37 606, Fax ++86 10 822 37 609
Email: sales@bjmesh.com
URL: www.bjmesh.com.cn



Aaronia South China, Shenzhen TORI Wisdom
Technology Co., Ltd, 3BRM, RD FL Luhua Technology
Bldg, Guangxia Road 7, Futian, 518049 Shenzhen, China
Phone ++86 755 888 580 86, Fax +86 755 830 73 418
Email: mail@aaronia-china.com
URL: www.aaronia-china.com



E-Instrument Tech Ltd., No. 16, Lane 37
Guanye E. Riad, Pingchen City,
324587 Taoyuan County, Taiwan
Phone: +886 3 4576 809 Fax: +886 3 468 8611
Email: sales@e-channel.com.tw
URL: www.e-channel.com.tw



Testpribor, Fabriciusa St. 30
Moscow 125363 Russia
Phone ++7 495-225-67-37
Email: testpribor@test-expert.ru
URL: www.test-expert.ru



EgeRate Elektronik Muh. ve Tic. Ltd. Sti.,
Perpa Ticaret Merkezi, A Blok Kat: 5 No: 141,
Sisli / Istanbul, Turkey
Phone ++90 212 220 3483, Fax ++90 212 220 7635
Email: info@egerate.com
URL: www.egerate-store.com



Aimil Ltd, B-906, BSEL Tech Park, Opp. Vashi Rly Stn,
400705 Vashi, Navi Mumbai, India
Phone ++91 22 3918 3554, Fax ++91 22 3918 3562
Email: sanjayagarwal@aimil.com
URL: www.aimil.com



EKKON SA, Paraná 350, Capital Federal,
1017 Buenos Aires, Argentina
Phone ++ 54 114 123 009 1, Fax ++54 114 372 324 4
Email: info@aaronia-argentina.com.ar
URL: www.aaronia-argentina.com.ar



Mono Tech Ltd, 2 Johanan Hasandlar St.
44641 Kfar-Sava, Israel
Phone ++972 72 2500 290, Fax ++972 9 7654 264
Email: kobi@aaronia.co.il
URL: www.aaronia.co.il



Tagor Electronic doo
Tihomira Brankovica 21
18000 Nis, Serbia
Phone ++381 18 575 545, Fax ++381 18 217 125
Email: miodrag.stojilkovic@tagor.rs
URL: www.tagor-instrumenti.rs



NDN, Janowskiego 15
02-784 Warszawa, Poland
Phone ++48 22 641 1547, Fax ++48 22 641 1547
Email: ndn@ndn.com.pl
URL: www.ndn.com.pl



VECTOR Technologies Ltd, 40 Diogenous str., 15234
Halandri, Greece
Phone ++30 210 685 8008, Fax ++30 210 6858 8118
Email: info@vectortechnologies.gr
URL: www.vectortechnologies.gr



Made in Germany

Aaronia AG, Gewerbegebiet Aaronia AG, DE-54597 Strickscheid, Germany
Phone ++49(0)6556-93033, Fax ++49(0)6556-93034
Email: mail@aaronia.de URL: www.aaronia.com

Spectran® **HyperLOG®** **BicoLOG®** **OmniLOG®** **Aaronia-Shield®** **Aaronia X-Dream®** **MagnoShield®** **IsoLOG®**

are registered trademarks of Aaronia AG