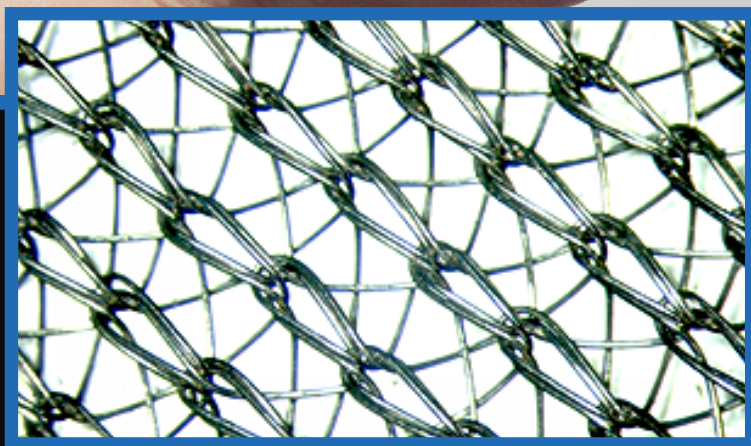


AARONIA SHIELD®

RF SHIELDING FABRIC

50dB

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



AARONIA AG
WWW.AARONIA.DE

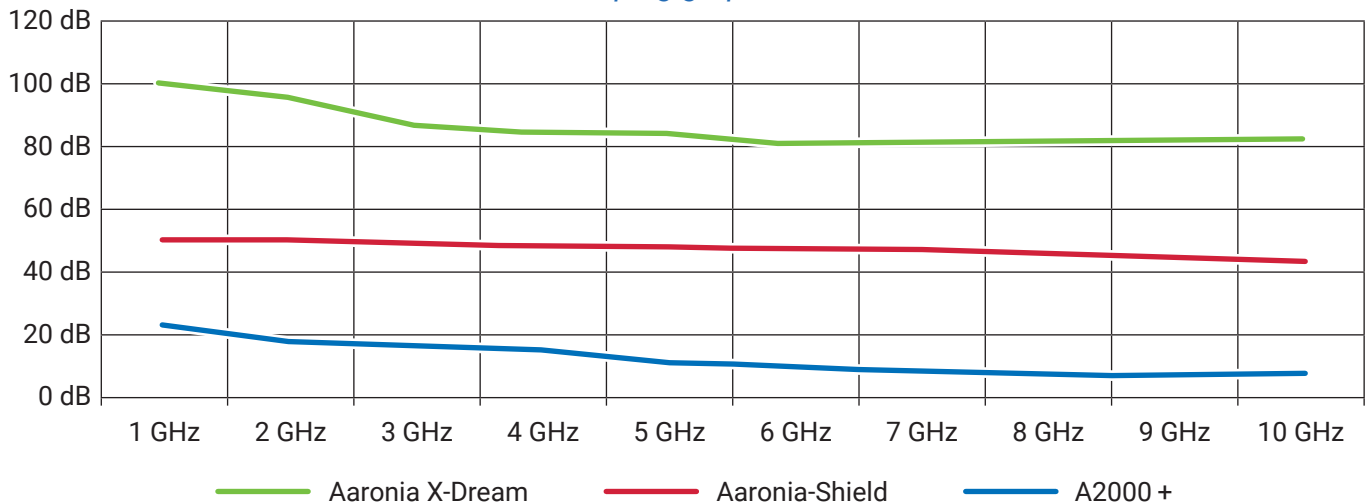


Specifications

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

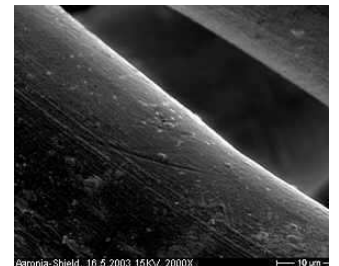
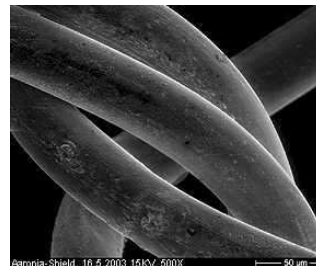
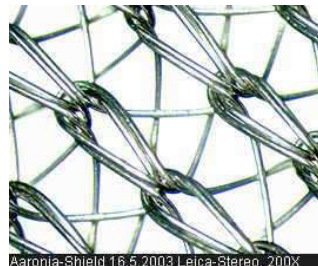
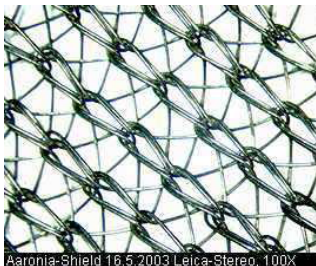
Material characteristics

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®

Aaronia’s shielding chambers offer an outstanding solution for setting up an RF laboratory, e.g. for EMC measurements. The chamber can be used mobile or stationary. They can be set up and dismantled easily and quickly, making them perfect for use even at changing locations. In addition to the shielding chambers, Aaronia offers matching shielding mats from the X-Dream® series to ensure optimal shielding. With the combination of shielding chamber and shielding mat you can be sure that no interfering RF radiation will negatively influence the measurement result. All in all, Aaronia’s shielding chambers offer an unbeatable combination of high shielding performance, mobility and quick set-up.



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

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