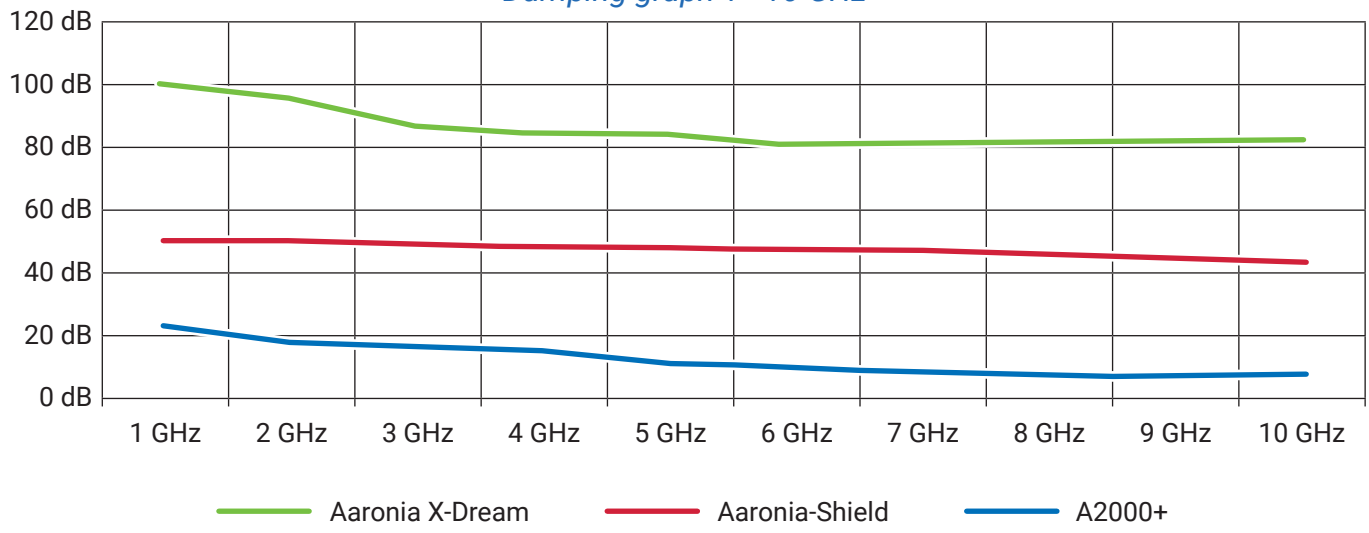
Specifications

Aaronia X-Dream

Length per standard packaging unit	0,7 m, 7 m or 36 m (1 m², 10 m², 50 m²) Also available as cut good
Lane width	1,4 m
Thickness	0,5 mm
Color	Brown/Silver
Weight	approx. 130 g/m²
Material	High-performance copper/polyester compound
Screening efficiency static fields	99,999.999% to 99,999.999.99% (only with grounding)
Screening efficiency low-frequency, electric fields	99,999.999% to 99,999.999.99% (only with grounding)
Screening efficiency high-frequency fields	70 dB (99,999.99%) at 20 GHz to over 110 dB (99,999.999.999%) at 500 MHz (even without grounding)
Surface Resistivity	<=0,07 ohms/square

- Breathable
- Rot proof
- Frost proof
- Foldable
- Paintable
- Anti-static
- Very lightweight
- Usable inside concrete
- Very easy handling even for the novice

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 (Canopies, clothing, curtains, 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.

Specifications

Material characteristics

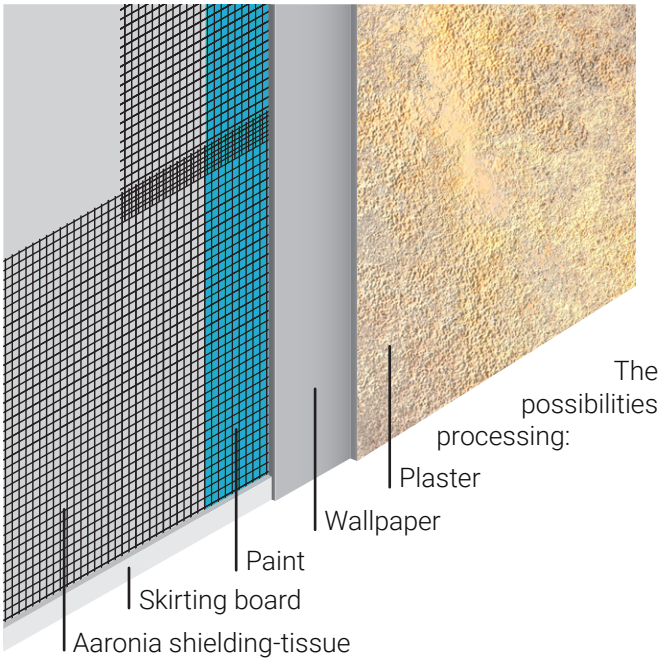
The various screening systems available on the market today differ widely in both affordability and protection efficiency. They are often far too difficult to handle, particularly for the novice, but also for professional users. Apart from this, they are mostly far too expensive. Also, customers currently mostly need two seperate screenings simultaneously, as most screenings against RF offer hardly any protection against LF fields, and vice-versa.

With their EMC high-tech fleece Aaronia X-Dream®, Aaronia probably offers the world's most efficient screening performance of over 110 dB, unique in this price category and with these material characteristics. Still, Aaronia X-Dream® is easy to handle even for the novice. Aaronia X-Dream® screening fleece offers simultaneous protection against high-frequency (RF) and low-frequency (LF) E-field radiation. The secret behind this extremely good efficiency is a patented tissue based on a compound of copper and polyester. Aaronia X-Dream® is easy to handle and to install. It can be folded without taking damage, is sturdy, frost proof, rot proof, breathable and can even be installed in concrete. As such, it is also applicable for outdoor use and can thus save a lot of cost.

Aaronia X-Dream® can be used both for screening electric fields from local LF radiation sources like cables or distribution boxes, as well as for screening rooms or entire houses or other buildings against RF radiation. Installation is performed by laying the fleece in adjacent lanes which need to overlap approx. 15 cm for guaranteeing a closed surface. It is noteworthy that it is not necessary to ground Aaronia X-Dream® for RF screening! Still, we generally recommend grounding using our grounding package, as this will also add protection against low-frequency electric fields from high-voltage lines, power cables etc

Shielding a house or a building

Houses and other buildings should be protected with Aaronia X-Dream indoors.This is achieved by glueing or "stapling" the EMC fleece to the walls. In roofs, the fleece should be installed directly beneith the vapor barrier. In floors, the fleece can even be installed in the floor pavement. Always note that for professional RF screening, a hermetically sealed enclosure, a so-called Faraday cage, must be built. Be careful to always leave a bit of overlap when attaching the fleece to walls, floors and ceilings to be able to later connect the lanes without gaps! Windows need to be screened as well. For this, we recommend our highly-transparent shielding fabric Aaronia-Shield®.



Screening a room

To protect a room (such as a bedroom) against high frequency radiation, the entire room needs to be covered with Aaronia X-Dream® completely. On the other hand, if shielding against low-frequency electric fields (such as the electrical distribution box or in-wall cables) is desired, only a small area around the radiation source needs to be covered. Attention: For achieving low frequency shielding, the fleece must be grounded! For this, we strongly recommend our Aaronia grounding package. For floors, the fleece can be installed invisibly under the carpet, or, in a new building, in the floor pavement. When attaching to walls, the fleece can be attached like usual wallpapers using a special glue. If walls are made from plasterboard, wood or similar, the fleece can simply be "stapled" to the wall. Though, the easiest alternative is the self-adhesive "PLUS" version of Aaronia X-Dream®. The surface needs to be dust-free, free of grease and dry. Attachment to ceilings can be performed similarly. Doors and their frames should be covered entirely and completely with the fleece, preferably using the self-adhesive Aaronia X-Dream PLUS®, yielding to an almost perfect connectivity between the door's fleece and the fleece used in the rest of the room. For window use, we recommend Aaronia-Shield® which allows elegant installation as an invisible "fly screen". After installation, the EMC fleece can also be painted and covered with wallpaper or plaster. It even offers an attractive surface with the original copper appearance. Our installation manual makes it easy even for the novice to construct a screened room without hassle.