

100dB EMC Shielding Fleece **Aaronia X-Dream®**

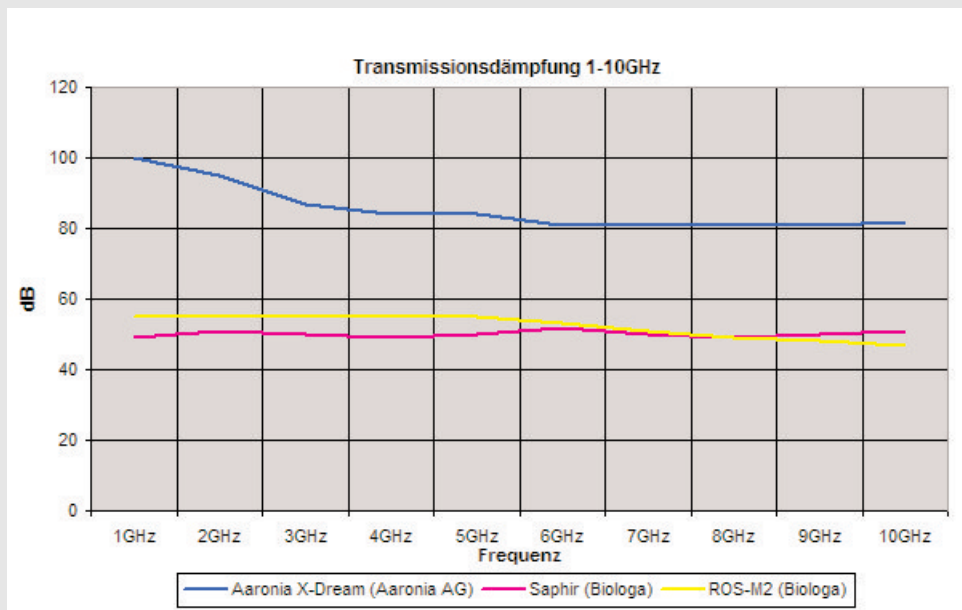


In use at OSRAM GMBH, Berlin

Technical Data:

- Breathable
- Does not rot
- Frost resistant
- Foldable
- Bendable
- Can be coated over
- Antistatic
- Very low weight
- Can be laid in-wall or in concrete
- Replaces reinforcement fabric
- Simple handling, also for laymen
- Length per standard delivery unit: 0,7m, 7m oder 36m (1m², 10m², 50m²). Also as cut goods.
- Web width: 1,4m
- Thickness: 0,5mm
- Color: copper
- Weight: approx. 80g/m²
- Material: copper/polyester mix
- Shielding characteristic static fields: 99,999.999% to 99,999.999.99% (only WITH grounding!)
- Shielding characteristic low-frequency, electric fields: 99,999.999% to 99,999.999.99% (only WITH grounding!)
- Shielding characteristic high-frequency fields up to 10GHz: 80dB (99,999999%) 100dB (99,999.999.99%) (also WITHOUT grounding!)

Attenuation Curve 1-10GHz:

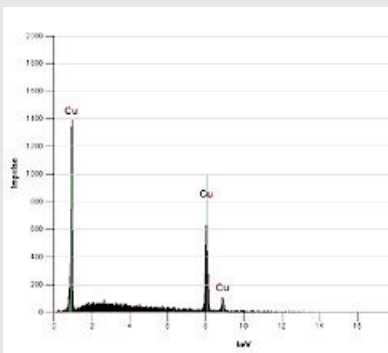


Standardized readings according to MIL-STD-285 attest the extremely high level of shielding of Aaronia X-Dream®: Reduction/attenuation of high-frequency radiation, especially in the frequency range that is subject to pulsed signals from mobile phone stations, is 80dB (99.999.999.99%).

Compared to the stated shielding fleece, Aaronia X-Dream® offers a shielding effectiveness that is at least 1.00 times or even 10.000 times better in the stated frequency range.

And it also shields static and low-frequency fields that are radiated by cables and machines in your home or from high-voltage lines to a similar degree.

Material Properties:



Electron microscope scanning shows the excellent purity of the Aaronia X-Dream® material

The various shielding systems that are currently on the market differ considerable when it comes to protection and cost effectiveness.

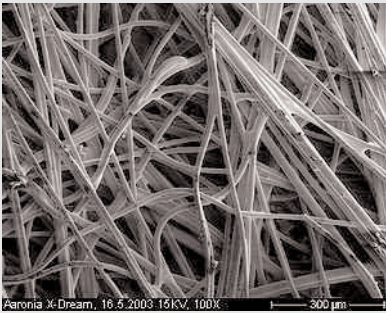
Moreover, they are very often difficult to handle, not only for laymen but also for specialists; and they are mostly too expensive.

In addition to that, users currently need TWO shielding systems since the available systems against high-frequency radiation do not offer protection against low-frequency radiation and vice versa.

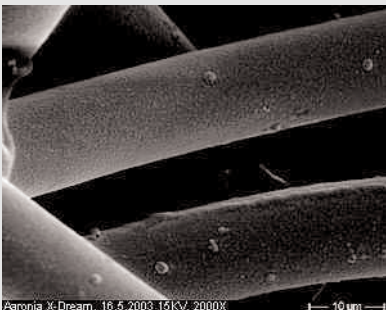
Material Properties:



High-resolution scan shows the chaotic structure of the Aaronia X-Dream® fleece, which provides excellent protection.



Electron microscope scans show that the individual fibers are inseparably fused to form an impenetrable structure against HF radiation.



Aaronia with its EMV High-Tech Vlies Aaronia X-Dream® offers the worldwide highest level of protection with respect to this price and material area of up to 100dB.

Aaronia X-Dream® , however, is nevertheless easy to handle.

The fleece Aaronia X-Dream® offers protection against high-frequency AND low-frequency radiation at the same time.

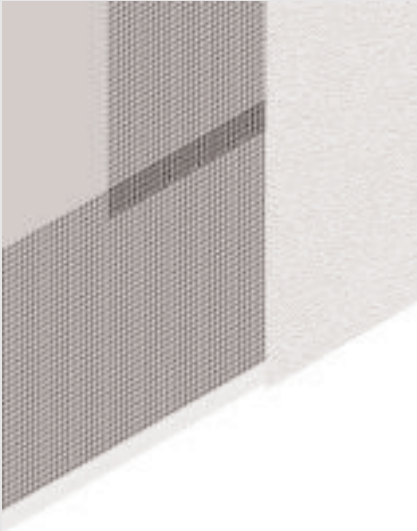
This extremely high level of shielding is due to our patented fabric concept that is based on a mixture of copper and polyester.

Aaronia X-Dream® is easy to handle and easy to lay. It can be bended and more without suffering damage; it has tensile strength, frost resistant, does not rot, is breathable and can be layed under plaster and under concrete. It is therefore also suitable for exterior rendering purposes and can replace the regular reinforcement fabric, which leads to a considerable saving of costs.

Aaronia X-Dream® can be used as screen against local radiation sources such as cables or junction boxes, but also as shielding for entire rooms or even buildings. It must then be layed in panels that must overlap approx. 15cm in order to form a closed area.

Please note that Aaronia X-Dream® does NOT have to be grounded when used against high-frequency radiation. In general, however, we do suggest grounding with our “grounding package” as this ensures protection against low-frequency electro smog stemming from power supply lines, high-voltage lines, etc.

Shielding of a room:



In order to achieve protection of a room, for example the bedroom, against high-frequency radiation, the room must be completely lined with Aaronia X-Dream® .

In case you only want to shield the source of low-frequency radiation (such as the junction box or cables in your wall) you will only need to line a small area around the source with our fleece. Note!! In cases of shielding against low-frequency radiation the fleece must be grounded!

It is imperative that you use our “grounding package”. For the floor you can lay the fleece beneath your carpet to make it invisible, or, if it is a new building under construction, the fleece can be layed in the floor pavement.

For walls, the fleece can be used like wall paper - pasted or bonded. Even easier than that is the mounting on walls made of plaster boards, wood, etc.. In those cases the fleece can be mounted with a stapler.

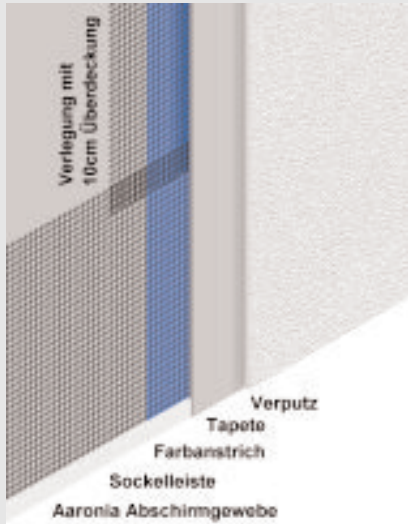
The easiest way is our self-adhesive fleece Aaronia X-Dream®.. The surface must be dust-free, free of grease, and dry. In the same manner you can mount the fleece on your ceiling.

Doors and architraves should be covered as a whole with the fleece - here the best solution is the self-adhesive Aaronia X-Dream®.

Thus, as soon as the door is closed, you will have a seamless connection with the fleece on walls, floor and ceiling. For the window area we suggest Aaronia-Shield® because it can elegantly be used as fly screen. After installation the EMC fleece can also be painted, be mounted with wall paper or covered with plaster.

Also, you can leave it as it is and achieve an attractive copper-toned surface. Our instruction manuals will enable even laymen to achieve a completely shielded room in in a short time..

Protection of a house or building:



Houses and buildings under construction should always be shielded on the exterior.

In these cases, the EMC fleece is used in the plaster as substitute for the reinforcement fabric. For the roof, the fleece should always be mounted directly underneath the vapor retarder.

For the floor, the fleece should be layed in the plaster.

Please keep in mind that an optimum protection against high-frequency radiation can only be achieved if the entire area is lined. So when laying the fleece in walls, floor, and ceiling you should always plan with excess length so you can later connect the individual panels seamlessly!

Attenuation Table:

Attenuation Table Aaronia High-performance Shielding solutions:

Shielding solution:	Frequency:	Attenuation in dB:	Attenuation factor:	Attenuation in %:	Examples:
A2000+	1GHz	20dB	100-fold	99,0%	Interior and exterior shielding for low radiation levels
	10GHz	10dB	10-fold	90%	
Aaronia-Shield®	1GHz	50dB	100.00-fold	99,999%	Textile applications (canopies, clothing, curtains, etc.) for low and high radiation levels
	10GHz	45dB	30.000-fold	99,992%	
Aaronia X-Dream®	1GHz	100dB	10.000.000.000-fold	99,999.999.99%	Interior shielding, metering chambers for high and highest radiation levels
	10GHz	80dB	100.000.000-fold	99,999.999%	

Note: With the attenuation factor dB, each increase of 10dB results in a tenfold increase of the value. Therefore, for example 100dB is ten times more than 90dB or 100 times more than 80dB etc.