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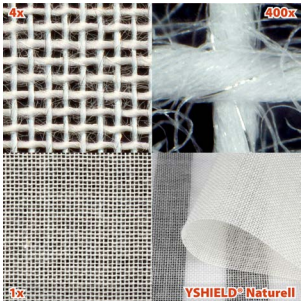
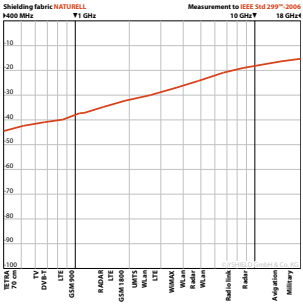
NATURELL - Shielding fabric (HF)

OUR RECOMMENDATION





Characteristics

NATURELL™ from Swiss-Shield® is a **semi-transparent ecological cotton fabric** for the shielding of high-frequency electromagnetic fields (HF).

- **Ecological cotton fabric without chemicals, certified to Öko-Tex 100 and 1000**
- High screening attenuation for a cotton fabric
- **Textile characteristics:** Washable, easy to iron and process
- **Quality grade: Very high**

Application

Typical application as **curtain**. Not electrically conductive.

Technical data

- **Width: 250 cm**, +/- 2 cm
- **Length: Available by the meter**, 120 meter rolls
- **Attenuation: 38 dB**, two-layer 53 dB
- Color: Ecru-White
- Raw materials: 82 % cotton, 17 % copper, 1 % silver
- Weight: 70 g/m²
- Certificates: Öko-Tex 100 and 1000

Grounding

Cannot be grounded. Low-frequency electrical fields (LF) must be reduced by additional procedures. We recommend to shield this fields or to switch it off with a demand switch.

Screening attenuation

The screening attenuation is **regularly tested in our own EMC laboratory**. We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Care

30	Gentle cycle at 30°C
	Iron without steam at degree 1
	No drying in tumble dryers
	No bleaching
	No chemical dry-cleaning

Cleaning with our special washing detergent **TEXCARE**. No handwashing! For allergy sufferers: Every new fabric smells, wash before its first usage!

About Swiss Shield®

This fabric is manufactured by Swiss Shield® in Switzerland. The secret of its shielding effectiveness is a worldwide unique, patented, ultra-thin high-tech yarn. We at YSHIELD particularly value the high quality of the fabrics (haptics, slip resistance, washing resistance). **It is not for nothing that we are the world´s largest supplier of Swiss Shield®!**

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Messprotokoll Schirmdämpfung — Measurement report screening attenuation

Material

Abschirmstoff / Shielding fabric NATURELL

Konformität

Diese Messung der Schirmdämpfung elektromagnetischer Felder von **400 MHz bis 18 GHz** wurde in Übereinstimmung mit dem Standard **IEEE Std 299™-2006** durchgeführt. Einige Gutachter messen nach MIL-STD-285, dieser veraltete Standard von 1956 ist nicht mehr gültig.

Ort der Messung

Schon seit Jahren lassen wir die Schirmdämpfung nicht mehr von externen Laboren durchführen. **Wir haben ein professionelles EMV-Labor nach gängigen etablierten Standards, wie z.B. ASTM D4935-10, IEEE Std 299-2006, IEEEE Std 1128-1998, ASTM A698/A698M-07, etc. direkt bei uns im Haus.**

Das hat für uns viele Vorteile: Unsere Produkte werden nicht nur einmalig getestet, zur Qualitätssicherung vermessen wir jede Charge. Und selbstverständlich brauchen wir das Labor zur Entwicklung unserer eigenen Produkte.

Messaufbau

Als **Messgerät** verwenden wir den professionellen Vektor-Netzwerkanalysator **Rohde & Schwarz ZNB20** mit einer Messdynamik von 140 dB bis zu 20 GHz.

Als **Antennen** für IEEE Std 299-2006 verwenden wir zwei **Log.-Per.-Antennen**, mit einem Frequenzbereich von 400 MHz bis 18 GHz. Die Muster werden im **Fernfeld** vermessen mit horizontaler und/oder vertikaler Polarisation. Wir verwenden diesen Standard für alle **elektrisch nicht-leitfähigen oder dickere Muster**.

Conformity

This measurement of the screening attenuation of electromagnetic waves from **400 MHz to 18 GHz** was done in conformity with standard **IEEE Std 299™-2006**. Some experts are measuring according to MIL-STD-285, this standard from 1956 is aged and no longer valid.

Location of measurement

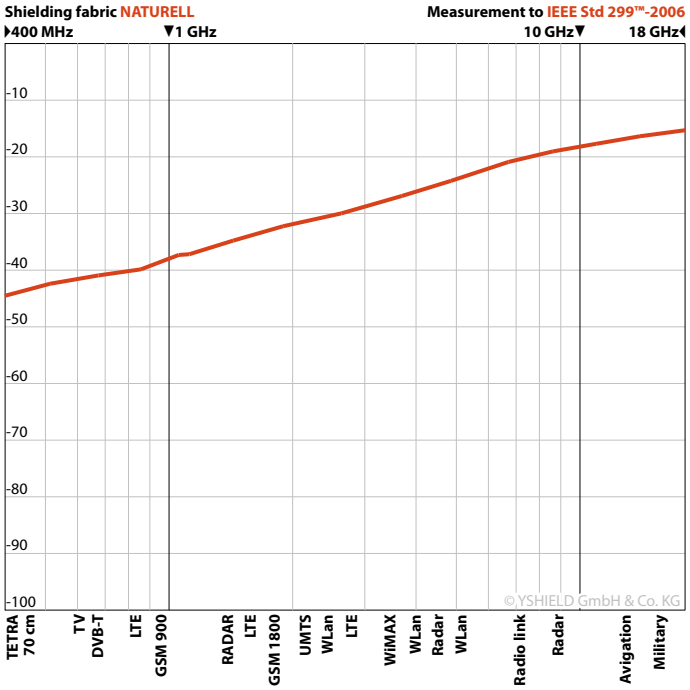
Already since many years, the confirmation of attenuation is no longer carried out through external consultants. **We have a professional EMC-laboratory for any established engineer standards, as ASTM D4935-10, IEEE Std 299-2006, IEEEE Std 1128-1998, ASTM A698/A698M-07, etc. at our disposal in-house.**

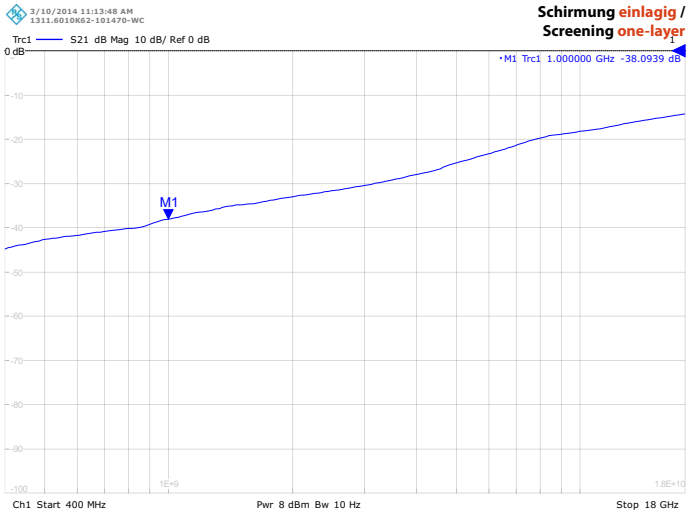
We take many advantages of this: Our goods are not only tested by a survey once, as for the reason of quality managment each charge is measured again. Of course, we do need our laboratory for the development of own products.

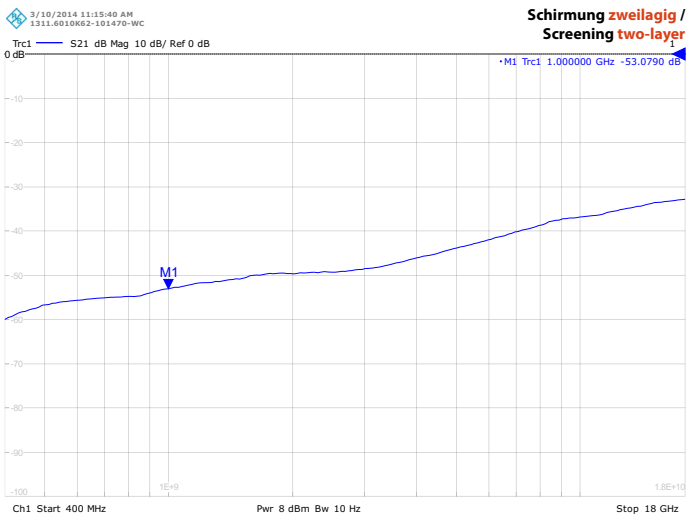
Measurement setup

The **instrument of measure** is a professional vector network analyzer **Rohde & Schwarz ZNB20** with 140 dB dynamic range up to 20 GHz.

The **antennas** for IEEE Std 299-2006 are **two Log.-Per.-Antennas**, with a frequency range from 400 MHz to 18 GHz. The samples are measured in the **far field** with horizontal and/or vertical polarisation. We use this standard for all **non-conductive or thicker samples**.







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Overview - Shielding fabrics

Here you find fabrics that are permanent in our assortement.

Please find many limited special items in the internet.

	Ultima Recommendation!	Naturell Recommendation!	Naturell Ultra Recommendation!	Voile Recommendation!	Evolution	Evo-Ultra	Wear	New-Daylite	Silver-Tulle	Silver-Tricot Recommendation!	Silver-Twin	Steel-Twin Recommendation!	Steel-Gray Recommendation!	Silver-Elastic	Silver-Silk	Silver-Grid Recommendation
Picture (magnified)																
Attenuation 1 GHz	41 dB	38 dB	40 dB	36 dB	30 dB	35 dB	30 dB	25 dB	50 dB	50 dB	57 dB	35 dB	35 dB	50 dB	60 dB	13 dB
Shielding HF	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
Shielding LF / Groundable	-	-	X	-	-	X	-	-	X	X	X	X	X	X	X	X
As (net) curtain	Yes	Yes	Yes	Yes	Yes	Yes	Limited	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-
As canopy	Yes	Yes	Yes	Yes	-	Yes	-	Yes	Yes	Yes	-	-	-	-	-	-
For clothing	-	-	-	-	-	-	Limited	-	-	-	-	-	Yes	Yes	Limited	-
For earthing products	-	-	Yes	-	-	Yes	-	-	Limited	Limited	Limited	Yes	Yes	-	Limited	Yes
Materials	Cotton, copper, silver	Eco-cotton, copper, silver	Cotton, copper, silver, carbon	Polyester, copper, silver	Polyester, copper, silver	Polyester, copper, silver, carbon	Cotton, copper, silver	Polyester, copper, silver	Nylon, silver	Nylon, silver	Cotton, polyester, silver	Cotton, polyester, stainless steel	Cotton, polyester, stainless steel	Spandex, silver	Nylon, silver	Cotton, polyester, silver
Width	250 cm	250 cm	250 cm	250 cm	250 cm	200 cm	150 cm	260 cm	140 cm	140 cm	150 cm	150 cm	150 cm	155 cm	130 cm	150 cm
Weight	85 g/m²	70 g/m²	115 g/m²	55 g/m²	80 g/m²	66 g/m²	70 g/m²	65 g/m²	40 g/m²	30 g/m²	150 g/m²	190 g/m²	120 g/m²	130 g/m²	45 g/m²	130 g/m²
Color	Ecru-white	Ecru-white	Ecru-white	White	White	Light gray	White	White	Gray/silver	Gray/silver	Beige/brown	Dark gray	Gray	Gray/silver	Silver/Brown	White
Dyeing possible	Yes	Yes	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	No	Yes
Discoloration silver	No	No	No	No	No	No	No	No	Little	Little	Little	-	-	Strong	Strong	Little
Optical transparency	Medium	Medium	Medium	High	Medium	Medium	None	High	Medium	Medium	None	None	None	None	None	None
Common quality grade	Very high	Very high	Very high	Very high	Very high	Very high	Very high	Very high	High	Very high	High	Very high	Very high	Very high	High	Very High
Result washing test / Attenuation	Very good	Very good	Very good	Very good	Good	Very good	Normal	Normal	Very good	Very good	Good	Very good	Very good	Very good	Very good	Very good