



YSHIELD
EMR - PROTECTION

Shielding of electromagnetic fields

List of contents 22.07.2019

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Shielding of electromagnetic fields

About us

Since 2003 we develop and produce **electroconductive paints on basis of carbon**, especially to shield rooms and buildings against electromagnetic fields.

As wholesaler we also deliver further products to a **global network of retailers** as well as companies and private customers directly.



Our top-selling product

Our top-selling products for almost all interior and exterior shielding applications are our metal-free, corrosion-resistant **high-frequency shielding paints**. After over 13 years permanent research and development, they are technical nearly perfect. Our shielding paints can **easily and universally be applied like regular wall paints** and achieve an **attenuation of ca. 40 dB** (99.99 % shielding effectiveness) in one layer.



Our philosophy

- Private label:** Our strength is the **development and production of own products**. Regarding the offered trading products we work closely with the manufacturers. Many of those products have been inspired by us or are exclusively made for us.
 - In-house production:** The **best control over a product** will be achieved by carrying out the workflow in-house. We permanently develop our shielding paints in-house and are producing them in our own state-of-the-art plant. Canopies, curtains and textiles are manufactured in our in-house sewery. The coating machine for the production of our Yxx-rolled goods was developed and constructed by us. All parts of our grounding accessories are milled, processed and assembled by our staff. Even the bar system along with the connectors are milled, fitted, bent, sawn and polished in-house.
 - Simply the best:** Our product range includes **selected and longtime approved products only**. We wont offer new, unexperienced products for the sake of having them added to our product range. Also there are always good reasons if we don't offer certain devices, fabrics, gauzes, fleeces and shielding textiles in our range.
 - Shielding attenuation:** This point has highest priority in our company philosophy. The informations for many products, shown in the Internet are supplied incorrect, vague or misleading or are relating to 15 year old reports. Therefore we have invested in internal measurement technology for being able, to provide **reliable attenuation values and reports** to our customers. Therewith we are testing each produced or delivered batch as well.
 - Availability from stock:** Falling back on a full stock is
- important to us. Many products have a production period and delivery time from 4-12 months. „Stock status: Green“ shown in our online shop means that we will be able to deliver this products on the same or on the very next day, even in **large quantities**.
- Pricing:** Our handmade high quality YSHIELD products are produced in Germany and as generally known, **quality has it's price**. Only by pursuing this strategy we will be able, to provide a perfect customer service and a continously development of new innovative products in the future.

Overview - Shielding paints



YSHIELD® HF-SAMPLES

YSHIELD shielding paints are **electroconductive base coatings** for the protection of large areas against **high-frequency (HF)** radiation and/or against **low-frequency (LF)** electric fields. The typical application is the shielding of rooms and buildings.

Sample set HSF: There is a sample set of all HF-paints with each 0.1 liter, see left picture.

	PRO 54	HSF 54	HSF 64	HSF 74	NSF 34
Brief description	Technically our best paint. Contains no graphite and does not stain. Must be applied in two layers. Low-emission.	The All-in-One paint. Recommendation interior and exterior. Frost-resistant for worldwide shipping. Low-emission.	Ecological compromise. Dispersion-silicate paint with excellent adhesion. Low-emission.	Pure silicate paint without preservative agent. Only recommended with allergies against preservative agents. Low-emission.	To shield electrical fields (LF) only. Superior mechanical and chemical properties. Low-emission.
Shielding HF / LF	HF / LF	HF / LF	HF / LF	HF / LF	- / LF
Screening one-layer	25-30 dB (99.9%)	37 dB (99.980 %)	39 dB (99.987 %)	39 dB (99.987 %)	40 dB
Screening two-layer	35-40 dB (99.99%)	44 dB (99.996 %)	46 dB (99.997 %)	45 dB (99.997 %)	
Ecology	Normal	Normal	High	Very high	Normal
VOC content *	0.2 g/l	0.2 g/l	0.1 g/l	0.1 g/l	0.1 g/l
PAH content **	0.002 mg/kg	0.002 mg/kg	0.002 mg/kg	0.002 mg/kg	0.002 mg/kg
Binding agent	Pure acrylate	Pure acrylate	Silicate, pure acrylate	Silicate	Pure acrylate
Solvent	Water	Water	Water	Water	Water
Screening basis	Carbon	Carbon	Carbon	Carbon	Carbon
Application area	Interior, exterior	Interior, exterior	Interior only	Interior only	Interior, exterior
Coverage one-layer	5 - 7.5 m ² /l	5 - 7.5 m ² /l	5 - 7.5 m ² /l	5 - 7.5 m ² /l	7.5 m ² /l
Coverage two-layer	2.5 - 3.75 m ² /l				
Moisture resistance	High	High	Normal	Normal	High
Substrates	Almost all	Almost all	Almost all	All absorbent	Almost all
Applicable with	Paint roller, airless (nozzle>525)	Paint roller, airless (nozzle>525)	Paint roller, airless (nozzle>525)	Paint roller, airless (nozzle>525)	Paint roller, airless (nozzle>515)
Spatter behavior	Very low	Very low	Small splatters	Small splatters	Low
Adhesive tensile strength	4.8 N/mm²	2.3 N/mm²	2.2 N/mm ²	1.7 N/mm ²	4.1 N/mm ²
Viscosity (Brookfield)	2000 mPas	2000 mPas	2500 mPas	2000 mPas	1500 mPas
Rheology	Newtonian	Newtonian	Shear thinning	Shear thinning	Newtonian
Film character	Elastic hard	Elastic soft	Elastic soft	Hard, frail	Elastic soft
Color	Black	Black	Black	Black	Black
Temperature max.	100° C	100° C	100 C	200° C	100° C
Sd-value	0.1 m	0.1 m	0.05 m	0.01 m	0.1 m
pH-value	8	8	12	12	8
Pigmentation size max.	100 µm	100 µm	100 µm	100 µm	10 µm
Density	1.15 kg / l	1.25 kg / l	1.27 kg / l	1.3 kg / l	1.05 kg / l
Solids content	44 %	56 %	52 %	45 %	24 %
MFFT	5° C	5° C	5° C	5° C	5° C
Frost resistance ***	5 frost-/thaw cycles	5 frost-/thaw cycles	No	No	5 frost-/thaw cycles
Delivery sizes	1 / 5 Liter	1 / 5 Liter	1 / 5 Liter	1 / 5 Liter	1 / 5 Liter
Shelf life	12 months	12 months	12 months	12 months	12 months

* Volatile organic compounds. The EU limit value for cat. A/a is 30 g/l (by 2010).

** Polycyclic aromatic hydrocarbons. The nonbinding EU limit value for **children toys** is 0.2 mg/kg.

*** The given frost resistance is valid liquid in the container, of course on the wall its permanent frost-resistant.

PRO54 - Shielding paint (HF+LF)

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

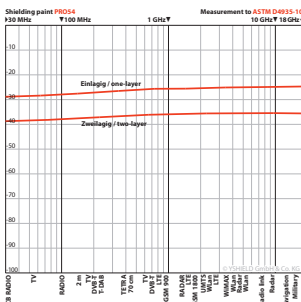
Electro

Prices

TECHNICALLY THE BEST



YSHIELD® PRO54



Characteristics

For the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

- **Frost resistant: Suitable for shipping during winter time and for sea freights in containers**
- Breathable, solvent free, **low-emission, low odor**
- **Application:** Interior, exterior
- **Attenuation:** 25-30 dB, **two-layer 35-40 dB**

Special feature

Technically our best paint, that is formulated without graphite, which has many advantages:

- Does not stain off while overpainting with white wall paint.
- Impacts against the white covering paint don't produce black stripes any more.
- The surface of the paint film is microporous rough and offers top coatings a catchy underground for excellent adhesion.
- With 4.8 N/mm² this paint has an extremely high adhesive tensile strength (adhesive power on the underground) for a wall paint which is two times higher than with our graphite paints.

The lack of graphite has only one disadvantage: The electrical resistance and therefore the shielding attenuation is 10 dB lower per layer. **We always highly recommend a two-layer application with this paint,** to reach the typical 35-40 dB attenuation. The slightly higher costs due to the second coat are compensated by the many advantages.

Underground

Interior and exterior: Excellent adhesion on almost all undergrounds like existing emulsion paints, sheetrock, wallpaper, cement, plaster, masonry, wood, etc.

Top coating

Preferably covered with plastic bonded, **water-based emulsion paints**, dispersion silicate paints, facade paints or silicon resin paints. Not applicable are pure mineral paints (clay, loam, chalk, silicate). Please find appropriate product recommendations in the technical data sheet.

Due to the high adhesive tensile strength (to ETAG 004 for EIFS-systems, minimum 0.08 N/mm²), applicable directly under pure organic plaster, no mineral pasters!

Grounding

Must be grounded! We recommend interior the **grounding strap EB2** plus **grounding set GW** or **GB**, exterior the **fiber additive AF3** plus the **grounding set GE**.

Frost resistance

This product is frost resistant (proved for 5 frost-/thaw cycles), can be shipped throughout the year by air cargo or ship.

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.

Ingredients

Water, pure acylic dispersion, carbon fibers, carbon black, additives, preservative (MIT, BIT).

Optional: Fiber additive AF3

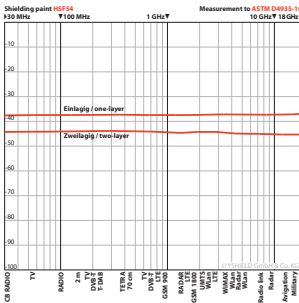
This paint is formulated without long conductive carbon fibers to allow airless spraying. For crack bridging and consequential a better grounding we advise to mix in the fiber additive AF3.

HSF54 - Shielding paint (HF+LF)

UNIVERSAL CLASSIC



YSHIELD® HSF54



Characteristics

Our longtime classic was improved again in 2014. Based on a high quality **pure acrylic binder**. For the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

- **Frost resistant: Suitable for shipping during winter time and for sea freights in containers**
- **Breathable, solvent free, low-emission, low odor**
- **Application:** Interior, exterior
- **Attenuation: 37 dB, two-layer 44 dB**

Underground

Interior and exterior: Excellent adhesion on almost all undergrounds like existing emulsion paints, sheetrock, wallpaper, cement, plaster, masonry, wood, etc.

Top coating

Preferably covered with plastic bonded, **water-based emulsion paints**, dispersion silicate paints, facade paints or silicon resin paints. Not applicable are pure mineral paints (clay, loam, chalk, silicate). Please find appropriate product recommendations in the technical data sheet. Due to the high adhesive tensile strength (to ETAG 004 for EIFS-systems, minimum 0.08 N/mm²), applicable directly under pure organic plaster, no mineral pasters!

Grounding

Must be grounded! We recommend interior the **grounding strap EB2** plus **grounding set GW or GB**, exterior the **fiber additive AF3** plus the **grounding set GE**.

Frost resistance

This product is frost resistant (proved for 5 frost/thaw cycles), can be shipped throughout the year by air cargo or ship.

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Ingredients

Pure acylic dispersion, graphite, water, carbon black, additives, preservative (MIT, BIT).

Optional: Fiber additive AF3

This paint is formulated without long conductive carbon fibers to allow airless spraying. For crack bridging and consequential a better grounding we advise to mix in the fiber additive AF3.

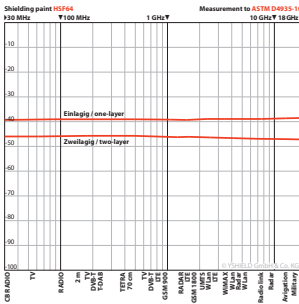
HSF64 - Shielding paint (HF+LF)

Prices Electro Measurement Grounding Canopies Textile products Fabrics Sheet products Paints

**ECOLOGICAL
 COMPROMISE**



YSHIELD® HSF64



Characteristics

Ecological compromise. Recommendation for interior use. Based on **potassium silicate** combined with a **pure acrylic binder** for enhanced adhesion. For the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

- **Dispersion-silicate paint with limited moisture resistance, therefore for interior use only**
- Breathable, solvent free, **low-emission, low odor**
- Because of a **pH-value of 12** (superalkaline), application only with protective equipment
- **Application:** For interior use only
- **Attenuation:** **39 dB**, two-layer **46 dB**

Frost resistance

This product is not frost resistant on shipping. At long frost periods during winter time, the shipping can be rescheduled by a few days. Our frost resistant shielding paint HSF54 is our alternative that can always be shipped.

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.

Ingredients

Potassium silicate, graphite, water, pure acylic dispersion, carbon black, additives, preservative (MIT, BIT).

Optional: Fiber additive AF3

This paint is formulated without long conductive carbon fibers to allow airless spraying. For crack bridging and consequential a better grounding we advise to mix in the fiber additive AF3.

Underground

Interior: Excellent adhesion on almost all undergrounds like existing emulsion paints, sheetrock, wallpaper, cement, plaster, masonry, wood, glass, plastic substrates, etc. Not usable on gypsum based substrates!

Top coating

Preferably covered with plastic bonded, **water-based emulsion paints** or dispersion silicate paints. We restricted recommend pure mineral paints (clay, loam, chalk, silicate). Please find appropriate product recommendations in the technical data sheet.

Grounding

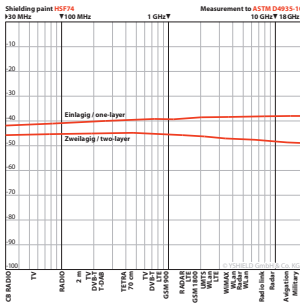
Must be grounded! We recommend interior the **grounding strap EB2** plus **grounding set GW** or **GB**.

HSF74 - Shielding paint (HF+LF)

MAXIMUM ECOLOGY



YSHIELD® HSF74



Characteristics

Pure silicate paint with an absolute modicum of ingredients, also without a preservative agent. To be recommended only with an allergy against preservative agents. Based on potassium silicate. For the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

- As a pure silicate paint with limited moisture resistance, therefore for interior use only
- Highly breathable, solvent free, low-emission, neutral odor, without preservative agent
- Because of a pH-value of 12 (superalkaline), application only with protective equipment
- **Application:** For interior use only
- **Attenuation:** 39 dB, two-layer 45 dB

Underground

Interior: Good adhesion on absorbent, untreated, preferably mineral undergrounds like chalk, silicate, clay, etc.. Restricted use on absorbent emulsion paints, wallpapers, etc., please check first! Not usable on gypsum based substrates!

Top coating

Preferably covered with plastic bonded, **water-based emulsion paints** or dispersion silicate paints. We restrictedly recommend pure mineral paints (clay, loam, chalk, silicate). Please find appropriate product recommendations in the technical data sheet.

Grounding

Must be grounded! We recommend interior the **grounding strap EB2** plus **grounding set GW or GB**.

Frost resistance

This product is not frost resistant on shipping. At long frost periods during winter time, the shipping can be rescheduled by a few days. Our frost resistant shielding paint HSF54 is our alternative that can always be shipped.

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Ingredients

Potassium silicate, graphite, water, carbon black, emulsifier, defoamer, cellulose, no preservative agent.

Optional: Fiber additive AF3

This paint is formulated without long conductive carbon fibers to allow airless spraying. For crack bridging and consequential a better grounding we advise to mix in the fiber additive AF3.

NSF34 - Shielding paint (LF)

ONLY AGAINST ELECTRICAL FIELDS



YSHIELD® NSF34

Characteristics

Paint against low frequency **elektrel fields only**. Based on a high quality **pure acrylic binder**. For the shielding of low-frequency electric fields (LF).

- This paint is **frost resistant for shipping in the winter or on pallets in shipping containers**
- Breathable, solvent free, **low-emission, low odor**
- **Application:** Interior, exterior
- **Attenuation: 40 dB (99 %)**

Underground

Interior and exterior: Excellent adhesion on almost all undergrounds like existing emulsion paints, sheetrock, wallpaper, cement, plaster, masonry, wood, etc.

Top coating

Preferably covered with plastic bonded, **water-based emulsion paints**, dispersion silicate paints, facade paints or silicon resin paints. Not applicable are pure mineral paints (clay, loam, chalk, silicate). Please find appropriate product recommendations in the technical data sheet. Due to the high adhesive tensile strength (to ETAG 004 for EIFS-systems, minimum 0.08 N/mm²), usable directly under pure organic plaster, no mineral pasters!

Grounding

Must be grounded! We recommend interior the **grounding strap EB2** plus **grounding set GW or GB**, exterior the **fiber additive AF3** plus the **grounding set GE**.

Frost resistance

This product is **frost resistant** (proved for 5 frost-/thaw cycles), can be shipped throughout the year by air cargo or ship.

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.

Ingredients

Pure acylic dispersion, graphite, water, carbon black, additives, preservative (MIT, BIT).

Optional: Fiber additive AF3

This paint is formulated without long conductive carbon fibers to allow airless spraying. For crack bridging and consequential a better grounding we advise to mix in the fiber additive AF3.

Accessories

AF3 - Fiber additive



YSHIELD® AF3

Characteristics

Special additive for mixing with our shielding paints. All our shielding paints are formulated without crack-bridging carbon fibers for airless spray application. In case of cracks forming in the substrate, this additive contains long, electrically conductive carbon fibers which guarantee the grounding even without using the grounding strap.

Processing

Stir in the additive (90 ml) into **5 liter shielding paint**. Use an electro mixer that all mixes homogeneously.

Ingredients

Water, carbon black, carbon fibers, additives, preservative (MIT, BIT)

GK5 - Primer concentrate



YSHIELD® GK5

Characteristics

Special coordinated high quality primer concentrate for surface preparation with our shielding paints. For priming of solid old coats of paint, brittle, chalky and absorbent substrates. Consolidating, adhesion promoting, good penetration, regulates the absorbency. Also recommended on our smearing graphite shielding paints, if problematic (mineralic) coatings should be applied.

Processing

Use a first-class paint roller. Do not work at temperatures below 5°C/41°F.

Consumption

The consumption depends on the character and absorbency of the underground. Typical **interior productivity: 7.5 m²/l**. Typical **exterior productivity: 5 m²/l**.

Preparation

Mix the concentrate (1 liter) with 4 liters of water. Gives 5 liters of primer. If you use tap-water, process within 48 hours.

Ingredients

Pure-acrylic binder, additives, preservative (MIT, BIT).

AR40 - Paint stirrer

IMPORTANT FOR OUR 1-LITER BINS



YSHIELD® AR40

Characteristics

Paint stirrer to mix up our shielding paints. Our **1-liter paint containers have an opening of 40 mm diameter**. None of the usual paint stirrers will fit in this opening. That's why we have developed a stirrer by ourselves. Our paint stirrer is mixing up shielding paints quickly and consistently, even in slim and high paint containers.

DKL90 - Dispersion glue

FOR OUR NETTINGS AND FLEECES



YSHIELD® DKL90

Characteristics

Special coordinated dispersion glue for binding our sheet materials to walls, ceilings, floors, doors, etc.. High quality class water-resistant special glue based on acrylics, breathable, low-emission and solvent-free. **Electrically conductive**, that the materials don't get isolated for grounding.

Processing

The application is identical to a wallpaper glue! Avoid bucklings and wrinkles in the materials! The wall surface and the backside of the material is primed with a painter's roller. The material is inserted

wet-on-wet and fixed by hand (with disposable gloves) or with a pressure roller. Work quickly and strip by strip so that the glue won't get dry.

Technical data

- **Specially for the following materials:** HNG80, HNG100, NCV95
- **Delivery sizes:** 5 liter
- **Coverage:** 17.5 m² - 25 m², depending on the underground
- **Ingredients:** Acrylic binder, water, carbon black, additives, preservative (MIT, BIT)
- **Color:** Black
- **Surface conductivity:** 400 ohm (square resistance R□)

Common characteristics



Easy handling and processing

YSHIELD shielding paints **can exceedingly be applied for all purpose**. Compared to wallpapers, fleeces or nettings they are easy to apply, even in structured rooms with bays, pitched roofs and dormers. Painters recommend our shielding paints for **ease of application**. All paints are best applied with a paint roller.

Perfect corrosion resistance

Many metalliferous shielding products are not resistant to corrosion. Our shielding paints do not contain any metals but a mixture of carbons instead. That's why our shielding paints are **chemically stable and permanent corrosion-free**, even in damp environment.

Emissions VOC / PAH

Our shielding coatings are tested regularly from the **TÜV-SÜD** on the content of VOC (volatile organic compounds) and PAH (polycyclic aromatic hydrocarbons). 1) The actual **VOC limit** is 30 g/l, our paints contain only 0.1 g/l to 1 g/l. 2) The recommended **PAH limit** (for category 1) is 0.2 mg/kg. Our paints contain 0.002 mg/kg, so they are **100 times below the limit for children toys**.

Preservation

Any kind of aqueous paint must be preserved. Controversial discussed is the use of Isothiazolinone- compounds, referring to CIT only. CIT is not contained in our paints. Further to this we reject preservation with BIT/silver, like utilized in eco-paints, as we don't want to use nanosilver. **Our preservation with MIT/ BIT has a very low allergenic potential, which is regularly confirmed by MCS-customers.** As an alternative, our shielding paint HSF74, is free from any kind of preservatives.

Sustainability

Due to its **paint-typical holohe-dral structure without holes**, our shielding paints provide a nearly linear attenuation up to very high frequencies, regardless of the direction of signal polarization. Proved up to 18 GHz they are very **future-proof**.

Carefully selected ingredients

YSHIELD shielding paints **do not contain solvents, plasticisers or any other problematic ingredients**. All ingredients were **carefully selected, regardless of price** and according to their high quality and safety.

Grounding instructions

Please find more information about the necessary grounding at „grounding“.

Handling and processing

Please find detailed handling instructions in our **technical data sheets on our website** on the product pages! Upon request we will be happy to send this data sheets to you!

Paints

Project examples

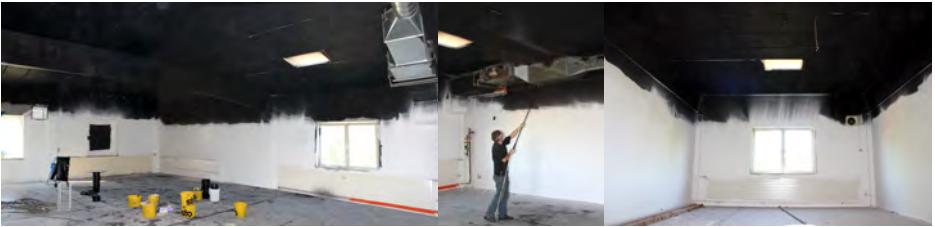
Sheet products

Shielding data center (60-80 MHz), Germany



Fabrics

Shielding industrial building (airless), Germany



Textile products

Canopies

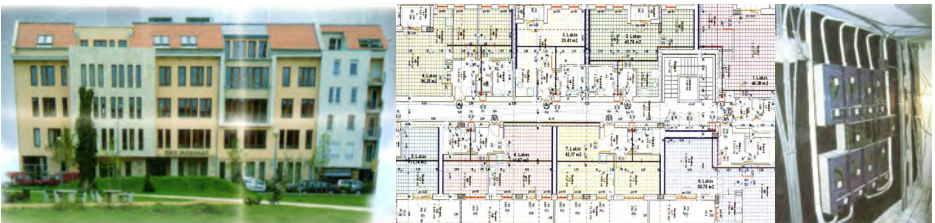
Shielding semi-detached house (2648 $\mu\text{W}/\text{m}^2 \rightarrow 10.2 \mu\text{W}/\text{m}^2$), Germany



Grounding

Measurement

Shielding multifamily building complex, Hungary



Electro

Prices

Project examples

Shielding one-family house ($194 \mu\text{W}/\text{m}^2 \rightarrow 0.01 \mu\text{W}/\text{m}^2$), Austria



Shielding one-family house ($604 \mu\text{W}/\text{m}^2 \rightarrow 0.26 \mu\text{W}/\text{m}^2$), Australia



Shielding one-family house, Australia



Art installation with conductive paint HSF54, Great Britain



Paints

Sheet products

Fabrics

Textile products

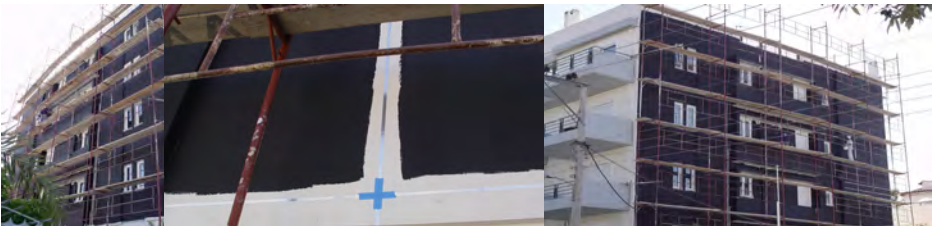
Canopies

Grounding

Measurement

Electro

Prices

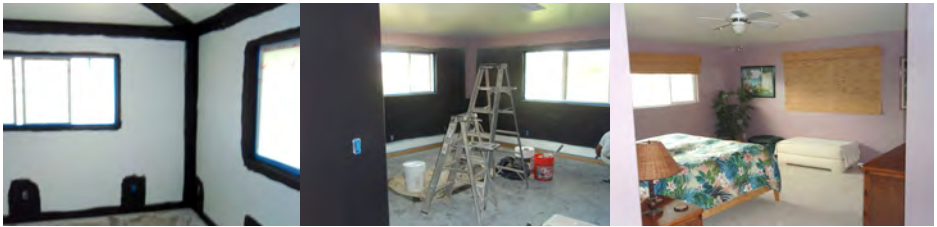
Project examples**Shielding airport terminal, Asia****Shielding development department at Asus-computer, Taiwan****Shielding apartment houses, Greece****Shielding BAUFRITZ framehouses, Germany**

Project examples

Shielding one-family house, Germany



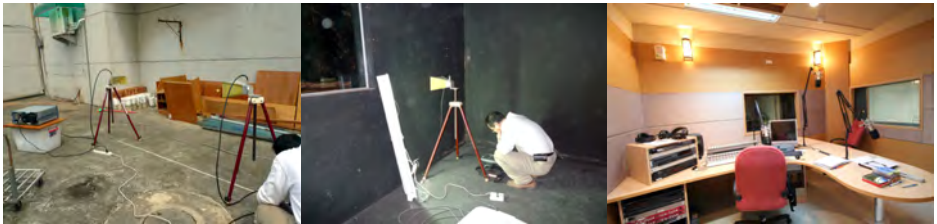
Shielding one-family house ($616 \mu\text{W}/\text{m}^2 \rightarrow 0.5 \mu\text{W}/\text{m}^2$), Hawaii



Shielding student project school building, Austria



Shieldings recording studios, Taiwan



Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

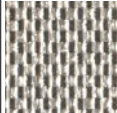
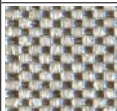
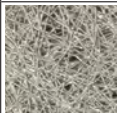
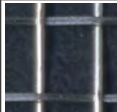

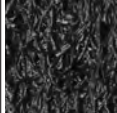
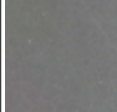
Measurement

Electro

Prices

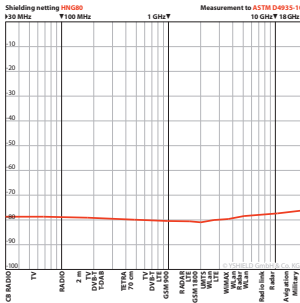
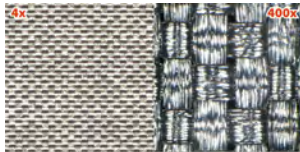
Overview - Wallpapers, nettings, fleeces

2/2

	Prices	Electro	Measurement	Grounding	Canopies	Textile products	Fabrics	Sheet products	Paints	
Picture (magnified)										
Shielding HF/LE/MF		HF / LF / -	80 dB	HF / LF / -	100 dB	HF / LF / -	HF / LF / -	HF / LF / -	- / LF / -	HF / LE / MF
Shielding attenuation		Bad	Bad	Bad	Bad	Bad	55 dB	MF = 30 dB	LF = 80 dB	MF = 30 dB
Ecology		Bad	Bad	Bad	Bad	Bad	Very high	Normal	Normal	Normal
Base material		Polyester netting	Polyester netting	Polyester netting	Polyester netting	Nylon fleece	Stainless steel gauze V4A	Polyester fleece	Polyester fleece	Cobalt based alloy
Coating		Copper, nickel	Copper, nickel	Copper, nickel	Copper, nickel	Copper, nickel	-	Carbon laquer	Carbon laquer	Laminating film
Width		66 / 130 cm	66 / 130 cm	66 / 130 cm	66 / 130 cm	100 cm	90 / 150 cm	95 cm	95 cm	61 cm
Grammage		80 g/m ²	80 g/m ²	140 g/m ²	140 g/m ²	85 g/m ²	200 g/m ²	90 g/m ²	90 g/m ²	265 g/m ²
Thickness		0.07 mm	0.08 mm	0.08 mm	0.15 mm	0.32 mm	0.16 mm	0.55 mm	0.55 mm	0.1 mm
Tensile strength		High: 220 N/mm	High: 220 N/mm	High: 220 N/mm	High: 220 N/mm	Normal: 50 N/mm	Very high	Normal: 55-260 N/mm	Normal: 55-260 N/mm	-
Color		Brown	Brown	Brown	Brown	Brown	Gray	Black	Black	Silver
sD-value		Follows	Follows	Follows	Follows	Follows	-	Follows	Follows	-
Electr. resistance		8 mΩ/□	8 mΩ/□	4 mΩ/□	4 mΩ/□	8 mΩ/□	100 mΩ/□	100 Ω/□	100 Ω/□	-
Moisture resistance		Bad	Bad	Bad	Bad	Bad	Very good	Good	Good	Good
Corrosion resistance		Bad because of copper	Bad because of copper	Bad because of copper	Bad because of copper	Bad because of copper	Typically good for V4A	Good because of carbon	Good because of carbon	Good because of laminate
Windproof		No	No	No	No	No	No	No	No	Yes
Waterproof		No	No	No	No	No	No	No	No	Yes
Application area (examples)		Interior: Wall, ceiling, floor	Interior: Wall, ceiling, floor	Interior: Wall, ceiling, floor	Interior: Wall, ceiling, floor	Interior: Loose laying, drywall installations	Interior/exterior: Drywall installations, ventilated facades, flush-mounting	Interior: Wall, ceiling, floor, loose laying	Interior: Wall, ceiling, floor, loose laying	Interior: Shielding of low frequency magnetic fields
Processing (examples)		Glueing, stapling, laying	Glueing, stapling, laying	Glueing, stapling, laying	Glueing, stapling, laying	Stapling, laying	Plastering, spackling, stapling	Glueing, stapling, laying	Glueing, stapling, laying	Glueing, laying
Rework ability (examples)		Wall paints; glueing of sheet materials	Wall paints; glueing of sheet materials	Wall paints; glueing of sheet materials	Wall paints; glueing of sheet materials	Wall paints; glueing of sheet materials	Putty, plaster, boards	Wall paints; glueing of sheet materials	Wall paints; glueing of sheet materials	Wall paints, glueing of sheet materials
Price / m ² (20-25 m ²)		EUR 18.93	EUR 18.93	EUR 34.08	EUR 34.08	EUR 19.99	EUR 11.90	EUR 13.90	EUR 10.52	EUR 163.79

HNG80 - Polyester netting (HF+LF)

OUR RECOMMENDATION



Characteristics

HNG80 is a compact woven, **metallized polyester netting** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

Our standard product for easy bonding on walls, ceilings and floors! This professional product is typically used for ministries of defence, banking houses, laboratories, etc. Now available for private use!

Application

For bonding interior on walls, ceilings, floors, as intermediate layer, for **drywall constructions**, loosely laid, etc.

Technical data

- Widths: 66 cm (HNG80-66), 130 cm (HNG80-130)
- Length: By the meter / 20 m roll / 100 m roll
- Attenuation: 80 dB, two-layer 106 dB
- Weight: 80 g/m²
- Material thickness: 0.07 mm
- Color: Anthracite / Brown
- Tensile strength: Very good in both directions, 220 N/mm
- Materials: Polyester, copper, nickel, protection coating
- Surface conductivity: 0.02 ohm (square resistance R□)

Processing

In case of processing HNG80 as an intermediate layer we recommend using our dispersion glue DKL90 for adhesion. The wall and the backside of HNG80 should be coated with a paint roller. Insert the material wet on wet. Fix it manually (with disposable gloves) and press a gummed roller against the fleece to get a crease-free surface. Work quickly and strip by strip only so that the DKL90 glue does not dry. **A crease-free adhesion is only possible on perfectly level surfaces!** Structured surfaces (ingrain wallpaper, textured plastering) have to be smoothed. If that is not possible, we recommend using our shielding paint HSF54.

Grounding

Due to the highly conductive surface this material can be **contacted and grounded easily to shield low frequency (LF) electric fields.**

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, IECIEE Std 1128-1998, ASTM A698/A698M-07.** Please find the test report at our homepage directly on the product page.

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices

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HNG100 - Polyester netting (HF+LF)

Characteristics

HNG100 is a compact woven, **heavy metallized polyester netting** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

Maximum shielding product with over 100 dB. This professional product is typically used for ministries of defence, banking houses, laboratories, etc.

Application

For bonding interior on walls, ceilings, floors, as intermediate layer, for **drywall constructions**, loosely laid, etc.

Technical data

- Widths: 66 cm (HNG100-66), 130 cm (HNG100-130)
- Length: By the meter / 20 m roll / 100 m roll
- Attenuation: 100 dB, two-layer 134 dB
- Weight: 140 g/m²
- Material thickness: 0.08 mm
- Color: Anthracite / Brown
- Tensile strength: Very good in both directions, 220 N/mm
- Materials: Polyester, copper, nickel, protection coating
- Surface conductivity: 0.003 ohm (square resistance R□)

Processing

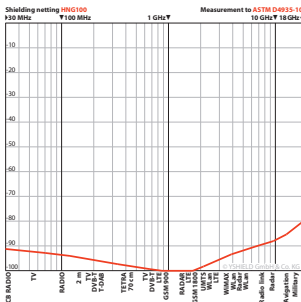
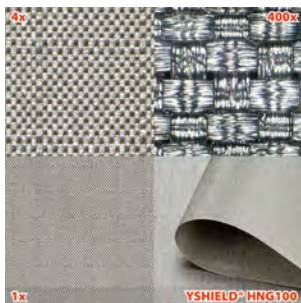
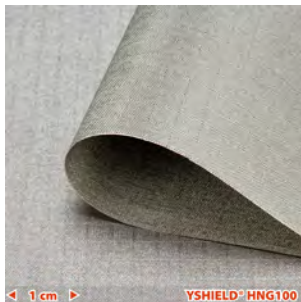
In case of processing HNG100 as an intermediate layer we recommend using our dispersion glue DKL90 for adhesion. The wall and the backside of HNG100 should be coated with a paint roller. Insert the material wet on wet. Fix it manually (with disposable gloves) and press a gummed roller against the fleece to get a crease-free surface. Work quickly and strip by strip only so that the DKL90 glue does not dry. **A crease-free adhesion is only possible on perfectly level surfaces!** Structured surfaces (ingrain wallpaper, textured plastering) have to be smoothed.

Grounding

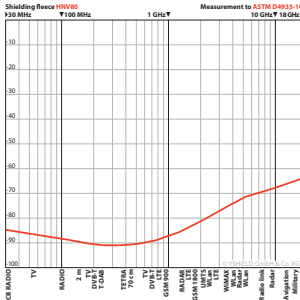
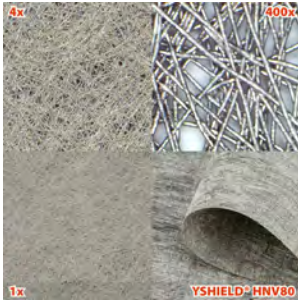
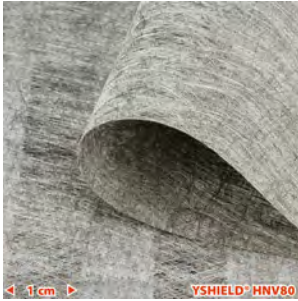
Due to the highly conductive surface this material can be **contacted and grounded easily to shield low frequency (LF) electric fields.**

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, IEEE Std 1128-1998, ASTM A698/A698M-07.** Please find the test report at our homepage directly on the product page.



HNV80 - Nylon fleece (HF+LF)



Characteristics

HNV80 is a fine, **metallized nylon fleece** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

This professional product is typically used for ministries of defence, banking houses, laboratories, etc. Now available for private use!

Application

Interior preferable **loosely laid** or for stapling in **drywall constructions**, etc.

Technical data

- **Width: 100 cm**
- **Length: By the meter / 20 m roll**
- **Attenuation: 87 dB**, two-layer 127 dB
- **Weight: 85 g/m²**
- **Material thickness: 0.15 mm**
- **Color: Anthracite / Brown**
- **Tensile strength: Very good in both directions, 50 N/mm**
- **Materials: Nylon, copper, nickel, protection coating**
- **Surface conductivity: 0.008 ohm (square resistance R□)**

Processing

Because of formation of wrinkles, bonding on walls with a glue is not recommended, use better HNG80 or HNG100 instead! Best usage for HNV80 is loosely laid under floor coverings, behind wall systems, etc. further for stapling in drywall constructions. Overlap the single elements, whereby you connect the elements for grounding.

Grounding

Due to the highly conductive surface this material can be **contacted and grounded easily to shield low frequency (LF) electric fields**.

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Product recommendation

HNV80 is also available as **self-adhesive version EB3**, with an electrically conductive glue in a width of 10 cm ... please see "Grounding accessories".

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices

V4A10 - Stainless steel gauze V4A (HF+LF)

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices

OUR RECOMMENDATION

Characteristics

V4A10 is a **finely woven, noncorrosive stainless-steel gauze** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

Application

For the interior and exterior **under-plaster in upgraded insulations, in roof areas, at drywall constructions, as flyscreen**, loosely laid, etc.

V4A (AISI 316) is resistant against water, water vapor, air humidity, mild acids and in coastal areas against salty seawater!

Technical data

- **Width: 100 cm**
- **Length: By the meter / 25 m roll**
- **Attenuation: 40 dB**, two-layer 60 dB
- Mesh width: 1.0 mm, wire diameter: 0.16 mm, material thickness: 0.32 mm, open area 70 %
- Weight: 280 g/m²
- Color: Silver
- Fire-proof material, A1 according DIN 4102:1994
- Surface conductivity: 0.1 ohm (square resistance R_□)

Processing

In case processing the V4A10 under plaster you should work with a preferably fine and organic filler. Under the floor covering (laminat, parquet, PVC coating, etc.) the V4A10 is being fixed with the adhesive used for the floor covering. For drywall construction and in roof area the mesh elements can be bolt or stapled together. **The rule is:** Always overlapp the

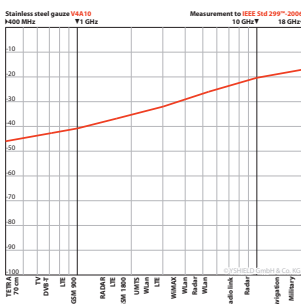
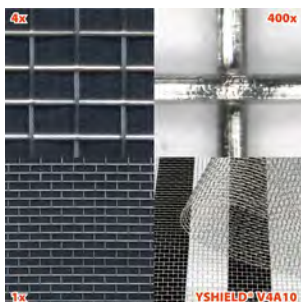
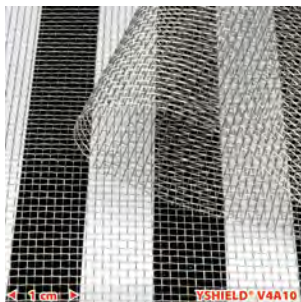
single elements at least 5 cm. For grounding use the perforated stainless steel tape ELB by screwing it right across the elements into the surface.

Grounding

Due to the highly conductive surface this material can be **contacted and grounded easily to shield low frequency (LF) electric fields.**

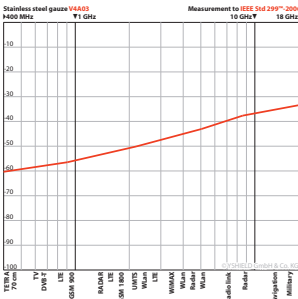
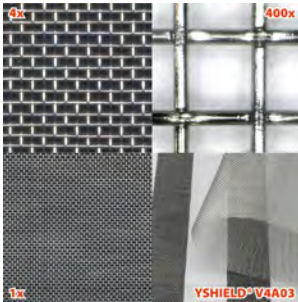
Screening attenuation

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, IEEE Std 1128-1998, ASTM A698/A698M-07.** Please find the test report at our homepage directly on the product page.



V4A03 - Stainless steel netting V4A (HF+LF)

OUR RECOMMENDATION



Characteristics

V4A03 is an **extremely fine woven, noncorrosive stainless-steel gauze** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

In comparison to V4A10, due to the smaller mesh width, the shielding attenuation is better at high frequencies.

Application

Due to the thin filaments especially as flyscreen.

V4A (AISI 316) is resistant against water, water vapor, air humidity, mild acids and in coastal areas against salty seawater!

Technical data

- Widths: 90 cm (V4A03-100), 150 cm (V4A03-150)
- Length: By the meter / 25 m roll
- Attenuation: 55 dB, two-layer 75 dB
- Mesh width: 0.3 mm, wire diameter: 0.08 mm, material thickness: 0.16 mm, open area 54 %
- Weight: 200 g/m²
- Color: Silver
- Fire-proof material, A1 according DIN 4102:1994
- Surface conductivity: 0.03 ohm (square resistance R□)

Processing

In case processing as **flyscreen**, the application is identical to that of a regular flyscreen in commercial tenter frames. In case processing the V4A03 **under plaster** you should work with a finest organic filler. Under the floor covering (laminat, parquet, PVC coating, etc.) the V4A03 is being fixed with the adhesive used for the floor covering. For drywall construction and in roof area the mesh elements can be bolt or stapled together. **The rule is:** Always

overlapp the single elements at least 5 cm. For grounding use the perforated stainless steel tape ELB by screwing it right across the elements into the surface.

Grounding

Due to the highly conductive surface this material can be **contacted and grounded easily to shield low frequency (LF) electric fields.**

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, IEEE Std 1128-1998, ASTM A698/A698M-07.** Please find the test report at our homepage directly on the product page.

NCV95 - Polyester fleece (LF)

Characteristics

NCV95 is a fine, **carbonized polyester fleece** for the shielding of low-frequency electric fields (LF).

Application

In the **interior** for walls, ceilings and floors as **intermediate layer**, in **drywall constructions** or for loose layings. Further together with our grounding plug EST as a **cheap „earthed mattress pad“**.

Technical data

- **Width: 95 cm**
- **Length: By the meter / 20 m roll**
- **Attenuation: 80 dB** (99.99 %)
- Weight: 90 g/m²
- Material thickness: 0.55 mm
- Color: Black
- Tensile strength: 260 N/mm in longitudinal direction, 35 N/mm in transverse direction
- Materials: Polyester, carbon coating
- Surface conductivity: 1000 ohm (square resistance R□)

Processing

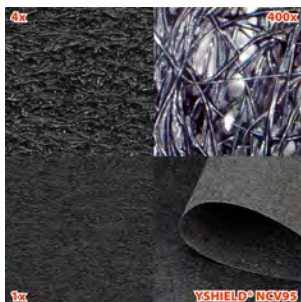
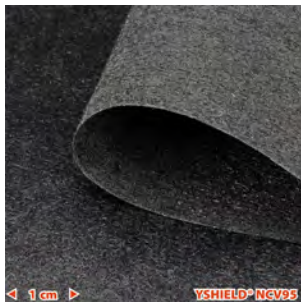
In case of processing NCV95 as an intermediate layer we recommend using our dispersion glue DKL90 for adhesion. The wall and the backside of NCV95 should be coated with a paint roller. Insert the material wet on wet. Fix it manually (with disposable gloves) and press a gummed roller against the fleece to get a crease-free surface. Work quickly and strip by strip only so that the DKL90 glue does not dry. **A crease-free adhesion is only possible on perfectly level surfaces!** Structured surfaces (ingrain wallpaper, textured plastering) have to be smoothed. If that is not possible, we recommend using our shielding paint NSF34. Used as „earthed mattress pad“, NCV95 has to be grounded from an electrician with our grounding plug EST.

Grounding

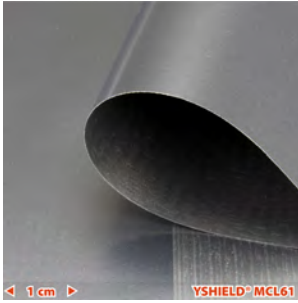
Due to the highly conductive surface this material can be **contacted and grounded easily to shield low frequency (LF) electric fields**.

Screening attenuation

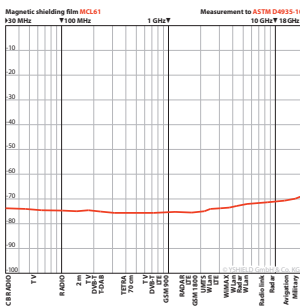
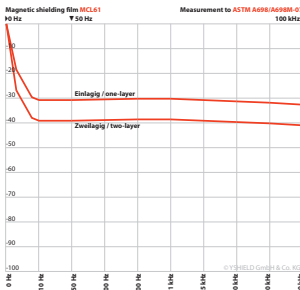
The screening attenuation is **regularly tested in our own EMC laboratory**. We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.



MCL61 - Magnetic shielding film (LF)



YSHIELD® MCL61



Characteristics

MCL61 is our **novel magnetic shielding film made from an amorphous cobalt alloy** for the shielding of low-frequency **magnetic alternating fields**. Also shields low-frequency electric alternating fields (LF) and high-frequency fields (HF).

In comparison with MUMETALL® our new MCL61 has many advantages:

MUMETALL® is soft and sensitive, on bending, to shocks and on processing it loses the attenuation very fast. The cobalt strips in our MCL61 are **flexible but hard** even at small bending radii. The attenuation remains constant even at high mechanical stress. Because the cobalt strips are only 20 µm thin, 50 mm width and sharp like a knife, we **laminates it for protection**. Due to the lamination MCL61 is corrosion-resistant even in humid environments. With a **width of 61 cm** big areas are shielded faster compared to 15 cm width MUMETALL®-strips. MCL61 can easily be cut with scissors.

Technical data

- **Width: 61 cm**
- **Length: By the meter / 20 m rolls;** Because of the high production costs, we allow to divide up the ordered quantity!
- **Attenuation LF magnetic field: 30 dB (97 %);** The attenuation depends on the number of phases, cable twisting, the size of the area, etc.; Work in large areas: Shield cables with 1-2 sheets, fuse-boxes with 2-4 sheets;
- **Attenuation HF: 75 dB**
- **Weight:** 265 g/m²; Material thickness: 0.1 mm; Color: Silver
- **Materials:** Polyester, Co69, Fe4, Mo4, Nb1, Si16, B7

Magnetic properties

- Permeability: $\mu 2 = 10,000$; $\mu 4 = 25,000$; $\mu \text{max.} = 100,000$
- Saturation polarization Bs: 0.55 T
- Coercive field strength Hc: 0.5 A/m
- Remanence Br/Bs: 0.7
- Curie temperature Tc: 225 °C

Processing

Warning: The cutting edges are sharp like a knife! **Important:** Its difficult to glue the film free of creases, best cover the area with solid wall coverings. **Wall, ceiling, floor:** Best use a high-viscous assembly adhesive, that adheres to non-absorbent substrates. Smooth the glue, lay up the film, smooth with a pressure roller or squeegee. The sheets of MCL61 should be overlapped, level out the overlappings, paint it over with any commercial synthetic dispersion paint. Please pay attention that the film is a water vapour barrier on wall areas!

Grounding

MCL61 is electrically isolated. To ground it, every strip has to be screwed with a **chopper disk**, that penetrates the polyester film. The **grounding set MCL** contains all for 10-20 strips.

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

MCF5 - Magnetic shielding film (LF)



Characteristics

MCL5 is a **magnetic shielding film made from an amorphous cobalt alloy** for the shielding of low-frequency **magnetic alternating fields**. Also shields low-frequency electric alternating fields (LF) and high-frequency fields (HF).

In comparison with MUMETALL® our MCF5 has many advantages: MUMETALL® is soft and sensitive, on bending, to shocks and on processing it loses the attenuation very fast. MCF5 stays **flexible but hard** even at small bending radii. The attenuation remains constant even at **high mechanical stress**. MCF5 can easily be cut with scissors.

Application

Because MCF5 has a width of only 5 cm, its recommended for **shielding smaller areas, e.g. in electronic applications or for cables**.

Technical data

- **Width: 5 cm**
- **Length: Rolls** with 1 m (0.05 m²), 20 m (1 m²), 100 m (5 m²)
- **Attenuation LF magnetic field: 30 dB (97 %);**
 The attenuation depends on the number of phases, cable twisting, the size of the area, etc.; Work in large areas: Shield cables with 1-2 sheets, fuse-boxes with 2-4 sheets;
- **Attenuation HF: 75 dB**
- **Weight:** 180 g/m²; **Material thickness:** 0.02 mm; **Color:** Silver
- **Composition:** Co69, Fe4, Mo4, Nb1, Si16, B7

Magnetic properties

- **Permeability:** $\mu 2 = 10,000$; $\mu 4 = 25,000$; $\mu \text{max.} = 100,000$
- **Saturation polarization Bs:** 0.55 T
- **Coercive field strength Hc:** 0.5 A/m
- **Remanence Br/Bs:** 0.7
- **Curie temperature Tc:** 225 °C

Processing

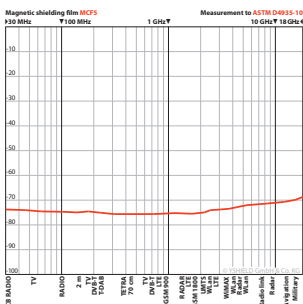
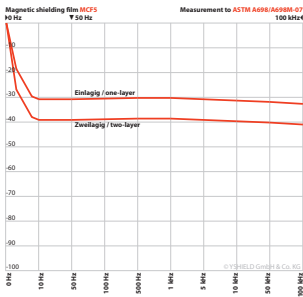
Warning: The cutting edges are sharp as a knife! Best use our plastic scraper FVR10 to press it on the adhesive tapes or into the glue, this is the safe way to keep your fingers! There is no self adhesive version available. However, bonding is easily possible: Please use a double sided adhesive tape e.g. Carpet adhesive tape with 50 mm width or a wider double-sided adhesive tape. Otherwise a commercial surface contact adhesive can be used (e.g. UHU, PATTEX).

Grounding

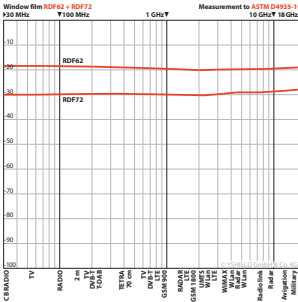
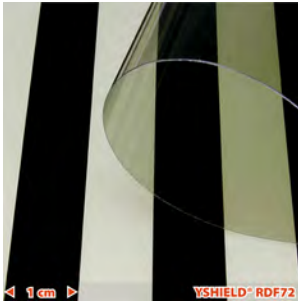
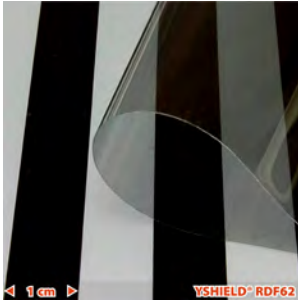
Due to the conductive surface this material **can be contacted and grounded easily** to shield low frequency (LF) electric fields.

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.



RDF62, RDF72 - Window films (HF)



	RDF62-Clear	RDF72-Premium
Application	Interior	Interior
Application on heat-absorbing glass	Limited / depends on the glass	Limited / depends on the glass
Edge sealant necessary	No	Yes: FKV50
Light transparency	62 %	72 %
Color of daylight	Bright grey	Bright Green
Reflections from interior	Bright silver	None
Reflections from exterior	Bright silver	None

Characteristics

RDFxx are precious-metal coated and self-adhesive films for the shielding of high-frequency radiation (HF). ● **RDF62-Clear** has a perfect ratio between quality, light transmission, color of daylight and good attenuation. ● **RDF72-Premium** is our premium film consisting of 10 metal layers for highest quality demands. Unrivaled attenuation and a very high degree of light transmission.

Technical data

- **Width: 76 cm and 152 cm**
- **Length: By the meter, roll with 30 m**
- **Attenuation: RDF62 = 19 dB, RDF72 = 30 dB**
- **Material thickness: RDF62 = 37.5 µm; RDF72 = 75 µm**
- **Mounting: Water-activated, pressure-sensitive adhesive**

Mounting accessories

The mounting requires craftsmanship skills and **professional accessories**:

- **Mounting concentrate FMK30** for wet bonding, 30 ml for 0.5 liter of water.
- **Plastic scraper FVR10** for a bubble-free bonding. With the both smooth edges the water and the bubbles can be pressed out, without scratching the film-surface.
- **Edge sealant FKV50**, 50 ml. This sealant has to applied to the edges of RDF72 about 8 weeks after it has been glued on.



Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement






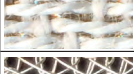
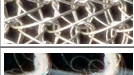




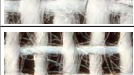
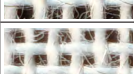

Electro

Prices

Overview - Shielding fabrics

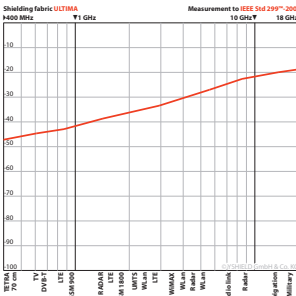
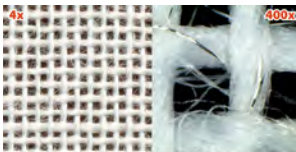
Here you find fabrics that are permanent in our assortment.

Please find many limited special items in the internet.

		Silver-Grid Recommendation	13 dB	-	X	-	-	-	-	Yes	Cotton, poly-ester, silver	150 cm	150 g/m ²	White	Yes	Little	None	Very good
		Silver-Silk	60 dB	X	X	-	-	Limited	Limited	Yes	Nylon, silver	130 cm	45 g/m ²	White/Brown	No	Strong	None	Very good
		Silver-Elastic	50 dB	X	X	-	-	Yes	Yes	Yes	Span-dex, silver	155 cm	130 g/m ²	Gray/silver	No	Strong	None	Very good
		Steel-Gray Recommendation!	35 dB	X	X	Yes	-	Yes	Yes	Yes	Cotton, poly-ester, stainless steel	150 cm	120 g/m ²	Gray	No	-	None	Very good
		Steel-Twin Recommendation!	35 dB	X	X	Yes	-	-	Yes	Yes	Cotton, poly-ester, stainless steel	150 cm	190 g/m ²	Dark gray	No	-	None	Very good
		Silver-Twin	57 dB	X	X	Yes	-	-	Limited	Limited	Cotton, poly-ester, silver	150 cm	150 g/m ²	Beige/brown	Yes	Little	None	Good
		Silver-Tulle Recommendation!	50 dB	X	X	Yes	Yes	-	Limited	Limited	Nylon, silver	140 cm	40 g/m ²	Gray/silver	No	Little	Medium	Very good
		New-Daylite	25 dB	X	-	Yes	Yes	-	-	-	Polys-ester, copper, silver	260 cm	65 g/m ²	White	No	No	High	Normal
		Wear	30 dB	X	-	Limited	-	Limited	-	-	Cotton, copper, silver	150 cm	70 g/m ²	White	Yes	No	None	Normal
		Evolution	30 dB	X	-	Yes	-	-	-	-	Polys-ester, copper, silver	250 cm	80 g/m ²	White	No	No	Medium	Good
		Voile Recommendation!	36 dB	X	-	Yes	Yes	-	-	-	Polys-ester, copper, silver	250 cm	55 g/m ²	White	No	No	High	Very good
		Naturell Ultra Recommendation!	40 dB	X	X	Yes	Yes	-	Yes	-	Cotton, copper, silver, carbon	250 cm	115 g/m ²	Ecu-white	Yes	No	Medium	Very good
		Naturell Recommendation!	38 dB	X	-	Yes	Yes	-	-	-	Eco-cotton, copper, silver	250 cm	70 g/m ²	Ecu-white	Yes	No	Medium	Very good
		Ultima Recommendation!	41 dB	X	-	Yes	Yes	-	-	-	Cotton, copper, silver	250 cm	85 g/m ²	Ecu-white	Yes	No	Medium	Very good
Picture (magnified)																		
Attenuation 1 GHz																		
Shielding HF																		
Shielding LF / Groundable																		
As (net) curtain																		
As canopy																		
For clothing																		
For earthing products																		
Materials																		
Width																		
Weight																		
Color																		
Dyeing possible																		
Discoloration silver																		
Optical transparency																		
Common quality grade																		
Result washing test / Attenuation																		

ULTIMA - Shielding fabric (HF)

OUR RECOMMENDATION



Characteristics

ULTIMA™ from Swiss-Shield® is a **finely woven cotton fabric** for the shielding of high-frequency electromagnetic fields (HF).

- **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: 41 dB**, two-layer 54 dB
- Color: Ecu-White
- Raw materials: 82 % cotton, 17 % copper, 1 % silver
- Weight: 85 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, IEEEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Care

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

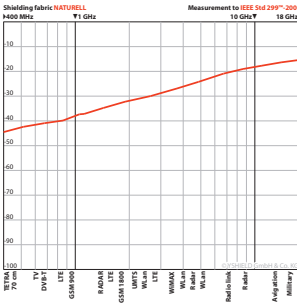
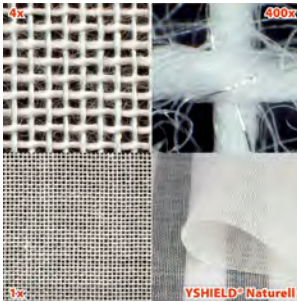
Cleaning with our special washing detergent **TEXCARE**. No handwashing! For allergy sufferers: Every new fabric smells, wash before its first usage!

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®!**

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Care

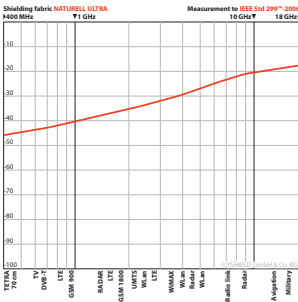
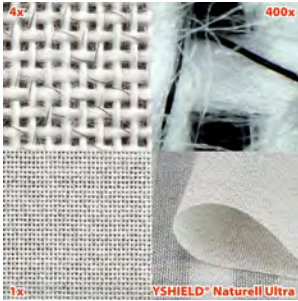
	Gentle cycle at 30°C
	Iron without steam at degree 1
	No drying in tumble dryers
	No bleaching
	No chemical dry-cleaning

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®!**

NATURELL ULTRA - Shielding fabric (HF+LF)



Characteristics

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

NATURELL ULTRA™ is the second fabric of a **new product series** from Swiss Shield®. In the new ULTRA-series the silver-/copper-filament is coated with carbon, why these fabrics are **electrically conductive** to shield low-frequency electric fields (LF). Perfect for bed canopies.

- **Cotton fabric certified to Öko-Tex 100 and 1000 Textile characteristics:** Washable, easy to iron and process
- **Quality grade: Very high**

Application

Typical application as **curtain** or to sew a **bed canopy**. Electrically conductive and therefore groundable.

Technical data

- **Width: 250 cm, +/- 2 cm**
- **Length: Available by the meter, 120 meter rolls**
- **Attenuation: 40 dB, two-layer 54 dB**
- **Color: Ecru-White**
- **Raw materials: 81 % cotton, 17 % copper, 1 % silver, 1 % carbon**
- **Weight: 115 g/m²**

Grounding

Due to the surface conductivity this fabric **can be grounded** to shield low frequency (LF) electric fields.

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find

the test report at our homepage directly on the product page.

Care

- 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®!**

VOILE - Shielding fabric (HF)

OUR RECOMMENDATION

Characteristics

VOILE from Swiss-Shield® is a **transparent voile-fabric** for the shielding of high-frequency electromagnetic fields (HF).

Our **technically best fabric** regarding to the attenuation, transparency and the mechanical stability.

- **High transparency at high screening attenuation**
- **Very elegant and slightly glossy**
- **Crease resistant polyester**
- **Textile characteristics:** Washable, easy to iron and process
- **Quality grade: Very high**

Application

Typical application as elegant **net curtain** or to sew a **bed canopy**. Not electrically conductive.

Technical data

- **Width: 250 cm, +/- 2 cm**
- **Length: Available by the meter, 120 meter rolls**
- **Attenuation: 36 dB, two-layer 51 dB**
- **Color: White**
- **Raw materials: 83 % polyester, 16 % copper, 1 % silver**
- **Weight: 55 g/m²**

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

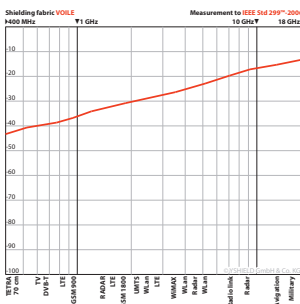
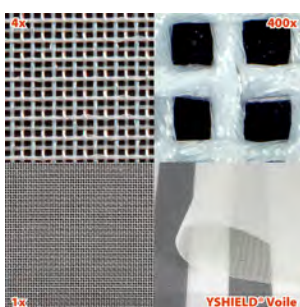
Care

- Gentle cycle at 30°C
- Iron without steam at degree 1
- Drying at low temperature
- 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®!**



Paints

Sheet products

Fabrics

Textile products

Canopies

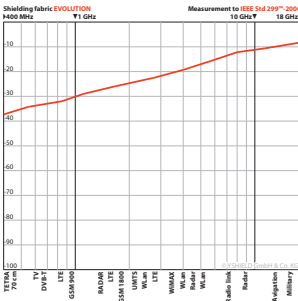
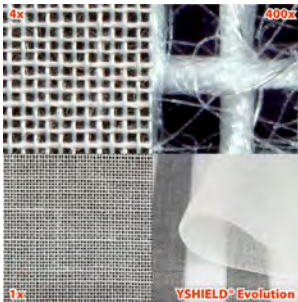
Grounding

Measurement

Electro

Prices

EVOLUTION - Shielding fabric (HF)



Characteristics

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

- **Crease resistant Trevira®-polyester**
- **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: 30 dB**, two-layer 43 dB
- Color: White
- Raw materials: 91 % polyester (Trevira), 8.5 % copper, 0.5 % silver
- Weight: 80 g/m²






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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Care

-  Gentle cycle at 30°C
-  Iron without steam at degree 1
-  Drying at low temperature
-  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®!**

WEAR - Shielding fabric (HF)

Characteristics

WEAR™ from Swiss-Shield® is a **compact cotton fabric** for the shielding of high-frequency electromagnetic fields (HF).

- **Good haptics and pleasant skin feel**
- **Textile characteristics:** Washable, easy to iron and process
- **Quality grade: Normal**

Application

Typical application for **sewing all articles of clothing**. Not electrically conductive.

Technical data

- **Width: 150 cm**, +/- 2 cm
- **Length: Available by the meter**, 80 meter rolls
- **Attenuation: 30 dB**, two-layer 39 dB
- **Color:** White; dyeing possible
- **Raw materials:** 90 % cotton, 9.5 % copper, 0.5 % silver
- **Weight:** 70 g/m²






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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

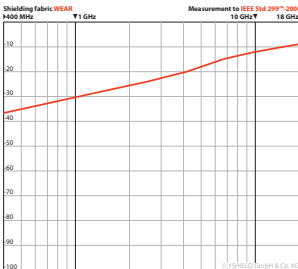
Care

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

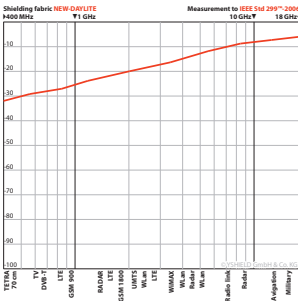
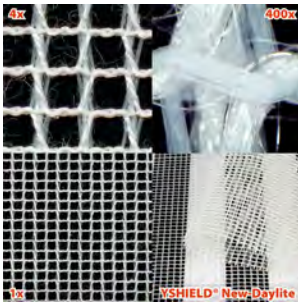
Cleaning with our special washing detergent **TEXCARE**. No handwashing! For allergy sufferers: Every new fabric smells, wash before its first usage!

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®!**



NEW-DAYLITE - Shielding fabric (HF)



Characteristics

NEW-DAYLITE™ from Swiss-Shield® is a **highly-transparent Trevira® polyester fabric** for the shielding of high-frequency electromagnetic fields (HF).

- **Very high transparency**
- **Crease resistant**
- **Trevira®-polyester**
- **Textile characteristics:** Washable, easy to iron and process
- **Quality grade: Very high**

Application

Typical application as **net curtain** or to sew a **bed canopy**.
 Not electrically conductive.

Technical data

- **Width: 260 cm, +/- 2 cm**
- **Length: Available by the meter, 120 meter rolls**
- **Attenuation: 25 dB, two-layer 34 dB**
- **Color: White**
- **Raw materials: 78 % polyester (Trevira), 21 % copper, 1 % silver**
- **Weight: 65 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, IEEEC Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Care

- Gentle cycle at 30°C
- Iron without steam at degree 1
- Drying at low temperature
- No bleaching
- No chemical dry-cleaning

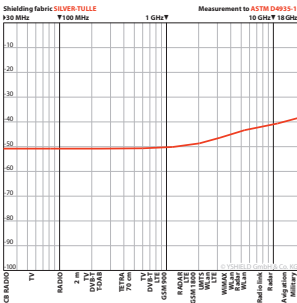
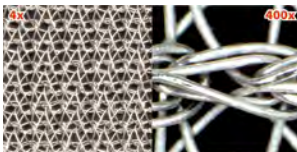
Cleaning with our special washing detergent **TEXCARE**. No handwashing! For allergy sufferers: Every new fabric smells, wash before its first usage!

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®!**

SILVER-TULLE - Shielding fabric (HF+LF)

OUR RECOMMENDATION



Characteristics

SILVER-TULLE is a **transparent fully silvered nylon fabric** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

By comparison to competitor products, this fabric has a **thicker and better silver plating** and don't lose its screening attenuation while washing or movement.

This fabric is hard to sew accurately, because it's stretchy and pulls out of place easily when you try to sew on it. Please note that customized curtains are difficult to sew dimensionally stable!

- **Good transparency at very high screening attenuation**
- **Contactable (groundable) to shield LF electric fields**
- **Textile similar characteristics:** Washable, easy to process. Exception: Do not iron.
- **Quality grade: Very high**

Application

As **net curtain**, as room divider in laboratories, medical practices, etc. and due to the highest washability to sew a **bed canopy**.

Technical data

- **Width: 140 cm, +/- 2 cm**
- **Length: Available by the meter, 100 meter rolls**
- **Attenuation: 50 dB**, two-layer 67 dB
- **Color:** Gray, silver
- **This silver-fabric can discolorate and has a limited durability, more under „Information silver-fabrics“**
- **Raw materials:** 80 % nylon, 20 % silver
- **Weight:** 40 g/m²
- **Surface conductivity:** 0.8 ohm (square resistance R□)

Grounding

Due to the surface conductivity this fabric **can be grounded** to shield low frequency (LF) electric fields.

Screening attenuation

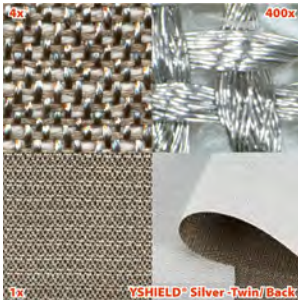
The screening attenuation is **regularly tested in our own EMC laboratory**. We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Care

	Gentle cycle at 30°C
	No ironing
	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!

SILVER-TWIN - Shielding fabric (HF+LF)



Characteristics

SILVER-TWIN is a **compact, double-ply cotton/silver fabric** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

The frontside is made of white cotton, while the backside is densely woven with a silver thread. Despite the extremely high attenuation due to the dark silver threads on the backside, this fabric has a light gray front side!

- **Very high attenuation, even at high frequencies!**
- **Excellent cost/performance ratio**
- **Contactable (groundable) to shield LF electric fields**
- **Textile characteristics:** Washable, easy to iron and process
- **Quality grade: High**

Application

As **curtain**, to sew thicker clothes, handy bags, etc..

Technical data

- **Width: 150 cm, +/- 2 cm**
- **Length: Available by the meter, 150 meter rolls**
- **Attenuation: 57 dB**
- **Color: Frontside light gray, backside silver**
- **This silver-fabric can discolorate and has a limited durability, more under „Information silver-fabrics“**
- **Raw materials: 50 % cotton, 35 % polyester, 15 % silver**
- **Weight: 150 g/m²**
- **Surface conductivity: 0.25 ohm (square resistance R□)**

Grounding

Due to the surface conductivity this fabric **can be grounded** to shield low frequency (LF) electric fields.

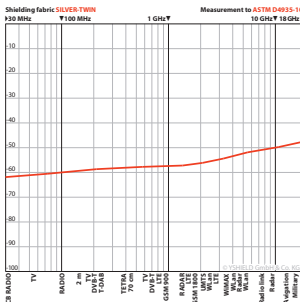
Screening attenuation

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Care

	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!



STEEL-TWIN - Shielding fabric (HF+LF)

Paints

Sheet products

Fabrics

Textile products

Canopies

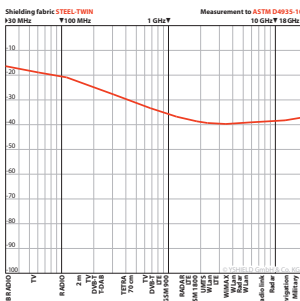
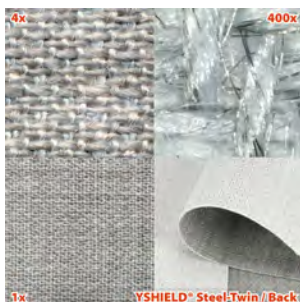
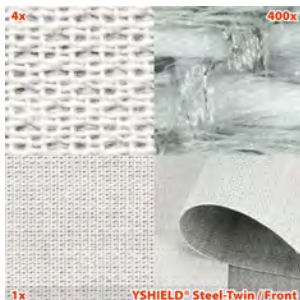
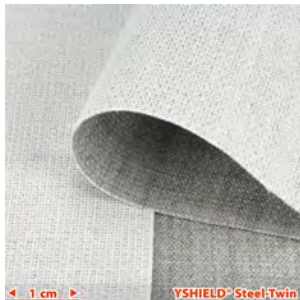
Grounding

Measurement

Electro

Prices

OUR RECOMMENDATION



Characteristics

STEEL-TWIN is a **compact cotton/polyester/stainless-steel fabric** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

The frontside is made of white cotton, while the backside is densely woven with a stainless steel thread. Despite the high attenuation due to the gray stainless steel threads on the backside, this fabric has a light gray front side!

- **Our most long-lasting and stable fabric**
- **Best price/value ratio of all fabrics!**
- Good screening attenuation, especially at high frequencies!
- **Contactable (groundable) to shield LF electric fields**
- **Textile characteristics:** Washable, easy to iron and process
- **Quality grade: Very high**

Application

As **curtain** or for floor mats.

Technical data

- **Width: 150 cm, +/- 2 cm**
- **Length: Available by the meter, 150 meter rolls**
- **Attenuation: 35 dB, two-layer 50 dB**
- Color: Frontside light gray, backside silver
- Raw materials: 68 % cotton, 17 % polyester, 15 % stainless steel
- Weight: 190 g/m²
- Surface conductivity: 100-800 ohm (square resistance R□)

Grounding

Due to the surface conductivity this fabric **can be grounded** to shield low frequency (LF) electric fields.

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

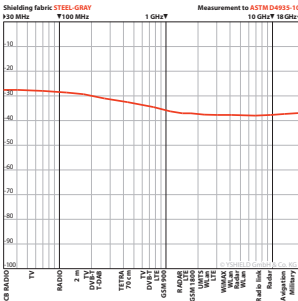
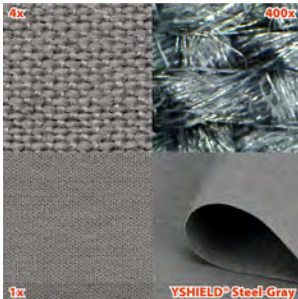
Care

	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!

STEEL-GRAY - Shielding fabric (HF+LF)

OUR RECOMMENDATION



Characteristics

STEEL-GRAY is a **compact cotton/polyester/stainless-steel fabric** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

For clothing the steel threads aren't as soft on the skin as the silver threads of Silver-Jersey or Silver-Knit, it feels like a little scratchy woolen sweater.

Tip: Wear a pyjama in bedding or a sleeping bag made from Steel-Active, then nothing scratches! Or use it as under-bedding. Order a free sample for testing!

- Our most long-lasting and stable fabric
- Best price/value ratio of all fabrics!
- Good screening attenuation, especially at high frequencies!
- Contactable (groundable) to shield LF electric fields
- Textile characteristics: Washable, easy to iron and process
- Quality grade: Very high

Application

As **curtain, floor mat, blanket, to incorporate in furniture (bed), room divider, or with reservations for low priced clothing or bedding.**

Technical data

- Width: 150 cm, +/- 2 cm
- Length: Available by the meter, 150 meter rolls
- Attenuation: 35 dB, two-layer 50 dB
- Color: Gray
- Raw materials: 40 % cotton, 30 % polyester, 30 % stainless steel
- Weight: 120 g/m²
- Surface conductivity: 100-800 ohm (square resistance R□)

Grounding

Due to the surface conductivity this fabric **can be grounded** to shield low frequency (LF) electric fields.

Screening attenuation

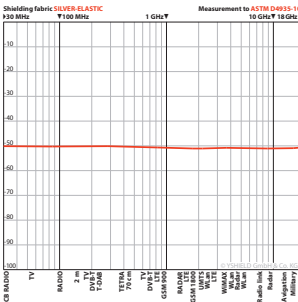
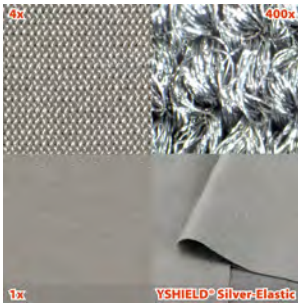
The screening attenuation is **regularly tested in our own EMC laboratory.** We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEE Std 1128-1998, ASTM A698/A698M-07.** Please find the test report at our homepage directly on the product page.

Care

- 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!

SILVER-ELASTIC - Shielding fabric (HF+LF)



Characteristics

SILVER-ELASTIC is a **compact, full silvered spandex fabric** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

This fabric is elastic, to sew articles of clothing, please consider the **shrink** and **extensibility** rates at the „Technical data“.

- **High screening attenuation, especially at high frequencies!**
- **Contactable (groundable) to shield LF electric fields**
- **Textile similar characteristics:** Washable, easy to process. Exception: Do not iron.
- **Quality grade: Very high**

Application

To sew articles of clothing. Due to the high elasticity perfect as close-fitting laundry. **Actually our best apparel fabric.**

Technical data

- **Width: 155 cm, +/- 2 cm**
- **Length: Available by the meter**
- **Shrink** after first wash: 0 % width, 0 % length
- **Extensibility:** 50 % width, 80 % length
- **Attenuation: 50 dB**
- **Color: Silver**
- **This silver-fabric can discolorate and has a limited durability, more under „Information silver-fabrics“**
- Raw materials: 80 % spandex, 20 % silver
- **Weight: 130 g/m²**
- **Surface conductivity: 0.5 ohm (square resistance R□)**

Grounding

Due to the surface conductivity this fabric **can be grounded** to shield low frequency (LF) electric fields.

Screening attenuation

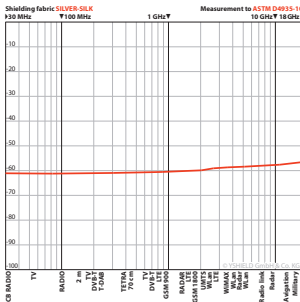
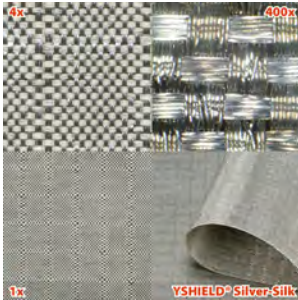
The screening attenuation is **regularly tested in our own EMC laboratory.** We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEE Std 1128-1998, ASTM A698/A698M-07.** Please find the test report at our homepage directly on the product page.

Care

	Gentle cycle at 30°C
	No ironing
	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!

SILVER-SILK - Shielding fabric (HF+LF)



Characteristics

SILVER-SILK is a **fully silvered parachute silk / nylon fabric** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

- **Very high screening attenuation**
- **Contactable (groundable) to shield LF electric fields**
- **Textile similar characteristics:** Washable, easy to process.
Exception: Do not iron.
- **Quality grade: High**

Application

Preferable in **technical applications** to shield cables, **handy bags, room divider**, etc.. Due to the good washability even sewable in the **inside of articles of clothing**.

Technical data

- **Width: 130 cm, +/- 2 cm**
- **Length: Available by the meter, 100 meter rolls**
- **Attenuation: 60 dB**, two-layer 76 dB
- **Color: Silver**
- **This silver-fabric can discolorate and has a limited durability, more under „Information silver-fabrics“**
- **Raw materials: 80 % nylon, 20 % silver**
- **Weight: 45 g/m²**
- **Surface conductivity: 0.2 ohm (square resistance R_□)**

Grounding

Due to the surface conductivity this fabric **can be grounded** to shield low frequency (LF) electric fields.

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

- Gentle cycle at 30°C
- No ironing
- 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!

SILVER-GRID - Shielding fabric (LF)

Paints

Sheet products

Fabrics

Textile products

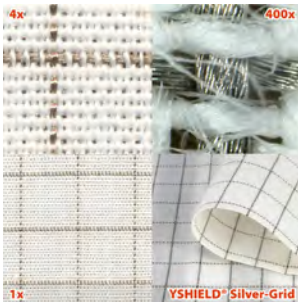
Canopies

Grounding

Measurement

Electro

Prices



Characteristics

SILVER-GRID is a **cotton fabric with a silver thread** for the shielding of low-frequency electric fields (LF).

Compared to a competitor product, SILVER-GRID has a tighter silver-mesh with a lower resistance for better grounding.

- **Contactable (groundable) to shield LF electric fields**
- **Textile characteristics:** Washable, easy to iron and process
- **Quality grade: Very high**

Application

The perfect fabric for groundable products, so-called "Earthing". For bedding, ticks, sheets, chair or floor underlays, etc.. With just 13 dB HF attenuation only limited suitable for HF shielding.

Technical data

- **Width: 150 cm**, +/- 2 cm
- **Length: Available by the meter**, 100 meter rolls
- **Attenuation LF: 40 dB**
- Attenuation HF: 13 dB
- Color: White
- Raw materials: 95 % cotton, 4 % polyester, 1 % silver
- Weight: 130 g/m²
- Conductivity: 15 ohm / 100 cm

Grounding

Due to the surface conductivity this fabric **can be grounded** to shield low frequency (LF) electric fields.

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



Gentle cycle at 30°C



Iron without steam at degree 1



No drying in tumble dryers

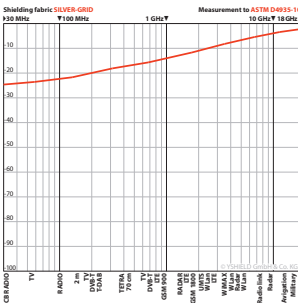


No bleaching



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!



TEXCARE - Washing detergents

Characteristics

Special washing detergents for the care of our shielding textiles with silver- and stainless steel threads.

The special recipes developed by us, preserves the shielding fabrics and achieves the shielding attenuation on washing. **Perfect cleanses and hygiene yet at 30°C.**

The only authorized washing detergents we can recommend for all our shielding fabrics. Play it safe and use it!

Background

As we made extensive washing tests with many different laundry detergents, we found out that **some laundry detergents are bad for the shielding attenuation.** In addition we got many customers feedback, that e.g. soap nuts would cause smell with silver fabrics. **For this reasons we have developed laundry detergents together with a manufacturer of eco-detergents,** that will not react with our shielding fabrics anymore.

For allergy sufferers

TEXCARE detergents not only protect our shielding textiles and the environment: **They contain no fragrances, colouring agents, complexing agents, preservatives, enzymes, genetic engineering, petrochemicals, all ingredients are 100 % biodegradable.**

TEXCARE - Liquid detergent

OUR RECOMMENDATION



YSHIELD® Texcare

Yield / Dosage / Application

1 liter yield for 20 loads. The dosage is independent of the water hardness. Pour **50 ml TEXCARE per wash** in the detergent drawer or put it straight in the drum. Select delicate program with **washing at 30°C.** Please take a note on the care label of the fabric also, respective to ironing and drying! Tip: If you wish some „fresh“ smell, just add some drops of an essential oil.

Ingredients

Soap from rapeseed oil 5-15 %, sugar surfactant 5-15 %, coconut oil alcohol sulphate 5-15 %, vegetable alcohol (ethanol) 1-5 %, sulphated castor oil < 1 %, citrate < 1 %, water up to 100 %.

EC 648/2004: Aqua, Potassium Soap, Alkylpoly-glucoside C8–16, Sodium C 8–14 Fatty Alcohol Sulfate, Alcohol, Sulfated Castor Oil, Potassium Citrate.

TEXCARE - Powder detergent

OUR RECOMMENDATION



YSHIELD® Texcare

Yield / Dosage / Application

1 kg yield for 20 loads. The dosage is independent of the water hardness. Pour **50 g TEXCARE per wash** in the detergent drawer or put it straight in the drum. Select delicate program with **washing at 30°C.** Please take a note on the care label of the fabric also, respective to ironing and drying! Tip: If you wish some „fresh“ smell, just add some drops of an essential oil.

Ingredients

Zeolite 15–30 %, Soap from vegetable oils 15–30 %, Citrate 15–30 %, Sugar surfactants 5–15 %, Sodium carbonate 5–15 %, Silicates 1–5 %, Sodium bicarbonate 1–5 %, Organic Quillaja < 1 %, Powder humidity 10–15 %.

EC 648/2004: Zeolite, sodium soap, sodium citrate, coco glucoside, sodium carbonate, sodium silicate, sodium bicarbonate, Quillaja saponaria.

HAL - Silvered hook-and-loop fastener



YSHIELD® HAL

Characteristics

For **sewing reclosable openings** in canopies, mobile pockets, shielding bags, EMC tents, intelligent clothing, etc.. Suitable for all shielding fabrics and nettings. Due to the **full silvering** the surface is consistently conductive with a good resistance even over the gap! Ideally, the fasteners are sewed up with our silvered sewing yarns. The reverse side is without any glue!

Technical data

- **Width:** 30 mm
- **Length:** Available by the meter, 25 meter rolls
- **Highest quality from Germany** due to the following certifications and approvals: ROHS, REACH, ISO 9001:2000
- Surface conductivity: 1.3 ohm (square resistance R□)
- Material: Polyamid with a 99 % pure silver plating
- Durability: Approx. 5000 x opening and closing
- Temperature resistance: 90 °C

ZIP - Silvered zip fastener



YSHIELD® ZIP

Characteristics

For **sewing reclosable openings** in canopies, mobile pockets, shielding bags, EMC tents, intelligent clothing, etc.. Suitable for all shielding fabrics and nettings. Due to the **full silvering** the surface is consistently conductive with a good resistance even over the gap! Ideally, the zip fasteners are sewed up with our silvered sewing yarns.

Technical data

- **Width:** 32 mm
- **Length:** Available by the meter
- **Highest quality from Germany** due to the following certifications and approvals: ROHS, REACH, ISO 9001:2000
- Surface conductivity: 1.3 ohm (square resistance R□)
- Material: Polyamid with a 99 % pure silver plating
- Durability: Approx. 5000 x opening and closing
- Temperature resistance: 90 °C



YSHIELD® FULDA

YSHIELD® WERRA



YSHIELD® ILLNER

There is no slider included. Please order suitable sliders. **Fulda** is a classical slider with one handle. **Werra** is a turn-over slider, the handle can be used on both sides. **Illner** has handles on both sides.

Y300 - Silvered ply yarn



1x

4x

YSHIELD® YARN 300 dtex

Characteristics

As a **2-ply yarn for sewing shielding fabrics and conductive nettings**, if a high attenuation is needed between textile seams. Further to sew and embroider **functional textiles** (heatings, sensors), as antenna, conductor, etc. **We ourselves use this yarn** in a zigzag machine to sew on the hook-and-loop fastener HAL and sew in the zip fastener ZIP in all of our groundable textile products.

Technical data

- **Length:** 14625 LM
- **Cone:** 23 cm
- **dtex:** 300 silvered
- **Resistance:** 200 Ohm/m
- Tensile strength: 34 cN / tex
- Beak elongation: 28 %
- Certifications and approvals: ROHS, REACH, ISO 9001:2000

Curtains - At no extra charge



Custom made curtains at no extra charge are especially popular among end customers. You only pay for the linear meters of the fabric! Per curtain we need and surcharge 15 cm seam. Retailers pay a small service charge, see pricelist.

Which service is for free?

1) Curtains with a **heading tape on top** and a **lead weight at the bottom**. 2) Curtains with a **drawstring on top** and a **lead weight at the bottom**. 3) Ideally, the curtains have a rectangular shape. However, we also try to sew other shapes or wishes (e.g. hook-and-loop fasteners) upon request without any extra charge! 4) Curtains with several loops are not free of charge. If you are interested, we would be pleased to make you an individual offer.

Fabric widths

Our shielding fabrics have widths from 130 cm to 260 cm. **We can use the width either as height or width of a curtain.** As regards width, about 8 cm will be lost due to the edging. About 15 cm will be lost in height and width. **Consequently, width and height of a fabric depend on the fabric width!** Example: If you want to cover an area of 400 cm (width) x 230 cm (height): 1) With Naturell you need 4.0 linear meters (LM) as the 250 cm of the Naturell are sufficient for the required height of 230 cm. 2) With Silver-Tulle you need 6.9 linear meters for 3 curtains. **If you need assistance in calculating the measures of your curtain(s), we will be pleased to help you!**

Front side / Back side

Some fabrics (e.g. Silver-Twin, Steel-Twin) have a light front side and a dark back side with metal threads. **By default, the light side faces the room.** Please let us know if you would like to hang the fabric the other way round.

Dimensions / Size accuracy

We understand your stated dimensions as final dimensions (sewed curtains incl. heading tape or drawstring, hemmed edges, etc.). If you wish **drapery you should add 20-50 %** for the width! For most fabrics we achieve a **size accuracy of +/- 2 cm**. Stretchy fabrics (e.g. Silver-Tulle, Perspective) are more difficult to sew, **size accuracy can be up to +/- 5 cm!**

Best possible shielding

As a general point, it should be noted that **shielding as such is more important than a perfect optic!** 1) Curtains must cover the complete window, window sill included. In front of doors they must contact the floor! Only in this way will it be possible to achieve a continuous shielding as unshielded gaps will be covered also. 2) Always cover window apertures in such a way that the walls next to them are covered as well (20-40 cm). Only if the inner wall shielding (e.g. shielding paint) overlaps with the shielding fabric you will achieve a good result. 3) If possible, curtains are to be put up with only little distance to the wall. The larger the gap, the more electromagnetic radiation may get through it.



Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices

45

Silver fabrics - Information

Discoloration

Fabrics with silver threads will discolor over time! Sometimes the fabrics are yet discolored, when we get it from the manufacturer. This process is absolutely normal for silver fabrics. The reasons for this are direct sunlight, heat from the radiator, splashes from the cleaning water, sweat, etc. **Stained places have no negative effects on the screening attenuation at all and they are no quality defect!** If you cannot accept any discolorations you should have a look at the list on page 1 and 2, where you will find various fabrics which are not subject to discolorations. The following are (admittedly extreme) examples of such discolorations:

Durability

Fabrics which consist of nonprotected silver threads (Silver-Tulle, Silver-Light, Silver-Twin, Silver-Elastic) show a limited stability. The life period of those fabrics is depending on the frequency of movement. Examples:

1) Washing: A regularly wash, at low temperature (30°C) and gentle cycle, using our washing detergent **TEXCARE** is without any problems for the fabrics. Please consider our washing test.

2) Curtains: Curtains made of silver fabrics will last for many years, as long as they are not drawn many times a day.

3) Canopies: Canopies will stay stable if they are not completely wrapped away daily, e.g. for fluffing up the feather beds. Used on daily journeys and being wrapped in a suitcase every day, your canopy will stay stable only for a few months. Alternative: Choose a canopy made of the fabric Voile, those canopies will stay stable at longest, as the silver threads are isolated and swathed. Use our blanket or a sleeping bag made of the fabric Steel-Gray for travelling.

4) Clothing: If you wear our hoodies/underpants made of Silver-Elastic once a week in case of emergency, they will stay stable for many years. If the hoodies/underpants are

used as pajamas it is very likely, that caused through the sweat, the fabric is spoilt within a few months. Alternative: For permanent use we recommend a blanket or underwear made of the fabric Steel-Gray. Due to its stainless steel threads this fabric will last for a long time.

Nanosilver

More and more textiles for neurodermatitis, sports textiles, etc. contain nanosilver. Due to their size, these tiny silver nano particles can penetrate through the skin into each cell. The Federal Environment Agency warns about major knowledge gaps. **Thick layers of „metallic silver“ on the other hand is safe for the environment and human health. All our silver yarns and silvered textiles are coated with 99% „metallic silver“.** Even if particles should come off one day due to heavy use (e.g. clothing, bedding) they are far too big to penetrate through the skin!



Silver-Light
Hanging in the sun
for some months

Silver-Net
Hanging in the sun
for one year

Silver-Tulle
Lying on a heater
for some months

Silver-Silk
Hanging in the sun
for one year

Wash resistance - Information

Shielding fabrics loose their attenuation during washing and in case of movement. As there is still considerable misinformation on this, we publish here our **ninth washing test** (August 2016).

Washing and drying

We have washed all known fabrics on the market 50 times at 30°C. We did the test on two washing machines parallel (Bosch and Samsung) and averaged the results. We used our special detergent **TEXCARE**.

Measuring method

Measurement to standard **ASTM D4935-10**. The orange bar stands for the attenuation before washing in dB at 1 GHz. Each further bar stands for 10 wash cycles.

Conclusion

The good washing results of all our fabrics at 30°C are related to the fact, that we have removed all unstable fabrics from our product range over the years. The results with competitive fabrics (not in the diagram) are partly much worse.

For 60°C washing temperature we have 3 fabrics in our product range: Steel-Twin, Steel-Gray and Silver-Silk.

Washing tips

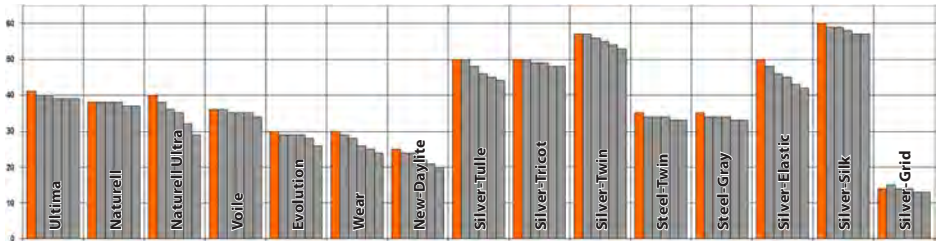
Washing detergent: In previous washing tests we tested different kinds of detergents (cheap, ecological, liquid, powder, etc.). Due to this detergent tests we only can recommend our own washing detergent **TEXCARE**,

which is the only one to preserves all fabrics best!

Drying: The best way is to simply hang up the washing for drying. High temperatures in a dryer will destroy the fabrics. If you choose to use a dryer, you will have to keep the temperature low.

Ironing: It will be best to not iron the fabrics. If you must iron the fabric, as e.g. for Naturell which is wrinkling very much, always iron at low temperature, at degree 1, with less steam.

Result at 30°C



TKE - Headgear (HF)

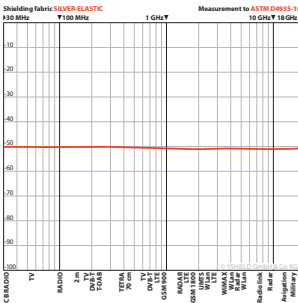
OUR RECOMMENDATION



YSHIELD® TKE



YSHIELD® TKE



Characteristics

The modern alternative to a headscarf! This headgear (a fabric sleeve) can be worn in several ways: as a cap or as protection of nose, mouth and neck or for a complete protection of the head by using 2 pieces. Silver-Elastic is **very flexible** and perfectly adapting to the shape of the head. Due to the **high content of silver**, Silver-Elastic is **very durable** and has an excellent attenuation of 50 dB.

Technical data

- Diameter 24 cm, length 40 cm
- Attenuation: 50 dB
- Color: Silver
- This silver-fabric can discolorate and has a limited durability, more under „Information silver-fabrics“
- Raw materials: 80 % spandex, 20 % silver
- Surface conductivity: 0.5 ohm (square resistance R□)

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

- Gentle cycle at 30°C
- No ironing
- 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!

How to put on the headgear

- A headgear is usually worn as „pirate bandana“.
- Turn the inside out so that the seam is visible.
- Put the headgear on your head (middle image).
- Hold the underside of the headgear. Now take the upper side and pull it back over your head with your other hand. Finally, cover your head.



TKG, TKW - Headscarfs (HF)



YSHIELD® TKG



YSHIELD® TKW

Shielding headscarfs from **2 fabrics in 2 shapes**. First-class workmanship and quality. **Three-cornered as typical headscarf (picture above), quadratic as Bandana (picture below).**

Characteristics Steel-Gray

Stable and long-lasting! Steel-Gray is **not so soft on the skin**. The stainless steel threads feels like a little scratchy woolen sweater, but as headscarf over the hairs this doesn't bother. Because of the electrically conductive surface on both sides, low-frequency fields will connect less and can be conducted away more easily. Many electro-sensitive people give priority to fabrics that are groundable!

Characteristics Wear

Wear is the classical fabric of Swiss-Shield. **Very soft and comfortable against the skin.** Electrically non-conductive.

Technical data

- **Size three-cornered:**
120 x 85 x 85 cm
- **Size quadratric:**
70 x 70 cm

Steel-Gray:

- **Attenuation: 35 dB**
- **Raw materials:** 40 % cotton, 30 % polyester, 30 % stainless steel
- **Color:** Gray

Wear:

- **Wear attenuation: 30 dB**
- **Wear raw materials:** 90 % cotton, 9.5 % copper, 0.5 % silver
- **Color:** White

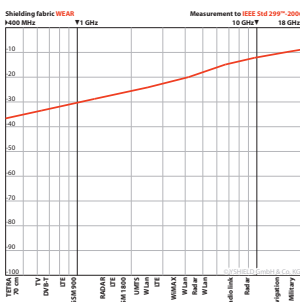
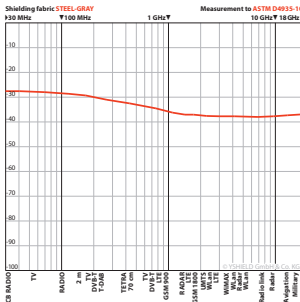
Screening attenuation

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Care

	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!



TDG - Blanket (HF)

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices



YSHIELD® TDG



YSHIELD® TDG



YSHIELD® TDG

Characteristics

Shielding thin **blanket made from Steel-Gray** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

Steel-Gray is a compact woven **cotton/polyester/stainless-steel fabric**. Steel-Gray contains very fine stainless steel threads, that feels on the skin like a little scratchy woolen sweater. But on the couch with clothing or in the bed with a pyjama nothing scratches.

Nevertheless we use this fabric, because its very wash-resistant and much more durable than all other fabrics!

Application

This blanket was created to protect yourself, easy and fast, on the **couch**, in the **bed**, on **holiday**, on **business trips** or while **playing console** games.

Technical data

- **Size: 200 cm x 140 cm**
- **Attenuation: 35 dB**
- Raw materials: 40 % cotton, 30 % polyester, 30 % stainless steel
- Color: Gray

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Care



Gentle cycle at 30°C



Iron without steam at degree 1



No drying in tumble dryers

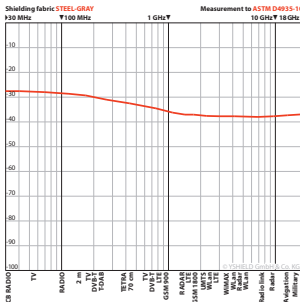


No bleaching



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!



TSB - Sleeping bag (HF)

OUR RECOMMENDATION



Characteristics

Shielding **sleeping bag made from Steel-Gray** for the shielding of high-frequency radiation (HF).

The **sleeping bag is sewn from Steel-Gray**. The zipper is collateral fitted at mid length and is silvered to provide an integrated shielding. The **inner cover, made of cotton fabric**, is removable and fixed with a hook and loop fastener. The inner cover will ensure your scratch free sleep, even without pajamas. If required the head area can be tightened with an elastic cord, so that only the face is uncovered. In comparison to common sleeping bags this shielding sleeping bag is designed with generous measurements for a comfortable, permanent use.

The fabric **Steel-Gray** was chosen as it is, due to its stainless steel threads, **considerably durable and more stable** even with strong movement, than fabrics with silver threads would be. On the skin Steel-Gray feels a bit like a scratchy woolen sweater. Without inner cover or pajama on, this could bother you.

Application

This sleeping bag is a competitive alternative to canopies and perfect to be used for travelling.

Technical data

- **Size: Width 90 cm, length 220 cm**
- **Attenuation: 35 dB**
- Raw materials: 40 % cotton, 30 % polyester, 30 % stainless steel
- Color: Gray, white

Grounding

To shield low frequency electrical fields this sleeping bag could be grounded. You need: 1 x GS, 1 x GP, 1 x GC500.

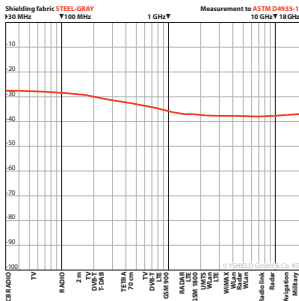
Screening attenuation

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

Care

	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!



TEO - Hoodie from Silver-Elastic (HF)

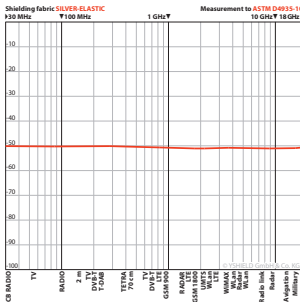
OUR RECOMMENDATION



YSHIELD® TEO



YSHIELD® TEO+TEU



HF and LF shielding **hooded long sleeve shirt**. To wear as **thin sweater**, on top, or directly on the skin as **pyjama top** together with our long underpants TEU (bottom picture). Top-quality individual pieces produced by us, no mass production!

Application

Perfect at home, on holiday or business trips!

Characteristics Silver-Elastic

- Silver-Elastic is a very elastic fabric which fits each body shape easily. Therefore it is not visible through outer clothing.
- Silver-Elastic has a very high washability without attenuation loss, see our „washing test“ on the fabric pages.
- Despite the metal surface, Silver-Elastic is soft and comfortable against the skin.
- Unlike common fabrics whose main focus is to „look good“, our hoodies contain a high content of an expensive silver thread. This thread gets discolored in the course of time, stripes or spots are no quality defect!
- Silver-Elastic is electrically conductive on both sides which is why low-frequency fields will connect less and can be conducted away more easily. Many electrosensitive people give priority to fabrics that are groundable!

Technical data

- European sizes: S, M, L, XL, XXL
- Shielding attenuation: 50 dB
- Color: Silver
- Raw materials: 80 % spandex, 20 % silver
- Weight: 130 g/m²
- Surface conductivity: 0.5 ohm (square resistance R□)

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page

Care

	Gentle cycle at 30°C
	No ironing
	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!

Sizes



TEU - Underpants from Silver-Elastic (HF)

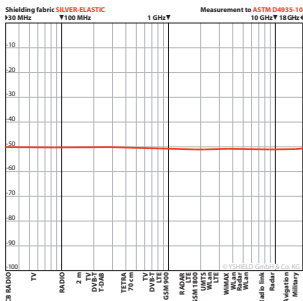
OUR RECOMMENDATION



YSHIELD® TEU



YSHIELD® TEU+TEU



HF and LF shielding **long underpants**. To wear as **thin underpants** under one's other clothing, or as **pyjama** together with our hoodie TEU (bottom picture). Top-quality individual pieces produced by us, no mass production! Perfect at home, on holiday or business trips!

Application

Perfect at home, on holiday or business trips!

Characteristics Silver-Elastic

- Silver-Elastic is a very elastic fabric which fits each body shape easily. Therefore it is not visible through outer clothing.
- Silver-Elastic has a very high washability without attenuation loss, see our „washing test“ on the fabric pages.
- Despite the metal surface, Silver-Elastic is **soft and comfortable against the skin**.
- Unlike common fabrics whose main focus is to „look good“, our hoodies contain a high content of an expensive silver thread. This thread gets discolored in the course of time, stripes or spots are no quality defect!
- Silver-Elastic is electrically conductive on both sides which is why low-frequency fields will connect less and can be conducted away more easily. Many electrosensitive people give priority to fabrics that are groundable!

Technical data

- European sizes: **S, M, L, XL, XXL**
- Shielding attenuation: **50 dB**
- Color: Silver
- Raw materials: 80 % spandex, 20 % silver
- Weight: 130 g/m²
- Surface conductivity: 0.5 ohm (square resistance R□)

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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page

Care

	Gentle cycle at 30°C
	No ironing
	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!

Sizes

S: 52-70 cm
 M: 55-83 cm
 L: 63-84 cm
 XL: 70-94 cm
 XXL: 77-109 cm



S: 95 cm
 M: 97 cm
 L: 101 cm
 XL: 107 cm
 XXL: 111 cm

Earthing - Overview

Background

The latest US trend is the conjunction of the body with the earth, so called Earthing. We are a technical company and do not comment on health aspects, we suggest specialist literature by Clinton Ober, Stephen Sinatra or Martin Zucker, for information.

Fabric Silver-Grid

We use our fabric Silver-Grid. In comparison to competitive products this fabric provides a tighter silvernet with a lower resistance, which leads to a better earthing. Silver-Grid consists of **95 % unbleached cotton and 5 % silver-threads**.

Correct grounding

- You will achieve the best and "most natural contact to earth" by inserting the grounding rod GR-40 into the ground, in front of your house. Alternatively use a

grounding plug GX for socket outlets.

- Rod or plug are connected with grounding cables GC. Most suitable for grounding plug GX are short cables e.g. GC-200 or GC-500. For exterior use with grounding rod GR-40 you will have to use 1–2 longer cables GC-1000 plus cable distributor GC-E.
- **Silvered hoop and loop fasteners are sewed onto all Earthing products.** For connecting cables GC with the hook and loop fastener, you will need the Velcro plate GV.
- Important: Under bad conditions electrical fields (bedside lamp, clock radio, etc.) will couple on and will worsen the situation. **We recommend a measurement analysis with a LF-meter** (e.g. ME3030B).

Technical data

- **Color:** White with a silvery checked pattern

- **Raw materials:** 95 % cotton, 4 % polyester, 1 % silver
- **Weight:** 130 g/m²
- **Conductivity:** 15 Ohm / 100 cm

Care

	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!

Earthing - Products

ES2 - Sheet single bed



YSHIELD® ES2

Sheet for single beds. The sheet is layed on the mattress, you sleep directly on it. **Size: 140 x 240 cm (55.1 x 94.5 inches).**

ES3 - Sheet double bed



YSHIELD® ES3

Sheet for double beds. The sheet is layed on the mattress, you sleep directly on it. Because of the 150 cm width fabric, there is a seam exactly in the middle. **Size: 240 x 240 cm (94.5 x 94.5 inches).**

ED1 - Duvet cover



YSHIELD® ED1

Duvet cover for normal size blankets. A zip fastener is sewed in at the bottom. **Size: 135 x 200 cm (53.1 x 78.7 inches).**

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

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EP1 - Pillow cover normal



YSHIELD® EP1

Pillow cover for normal size pillows. A zip fastener is sewed in at the bottom. **Size: 80 x 80 cm (31.5 x 31.5 inches).**

EP2 - Pillow cover small



YSHIELD® EP2

Pillow cover for half size pillows. A zip fastener is sewed in at the bottom. **Size: 80 x 40 cm (31.5 x 15.7 inches).**

ESC - Sleeping cover



YSHIELD® ESC

Sleeping cover. Single layer sleeping bag with zip fastener, Sewed very generous. **Size: 90 x 200-240 cm (35.4 x 78.7-94.5 inches).**

ESB - Blanket



YSHIELD® ESB

Blanket. On the couch, in the bed, on holiday or on business trips. **Size: 140 x 200 cm (55.1 x 78.7 inches).**

EU1 - Sofa cushion big



YSHIELD® EU1

Sofa cushion big. With a Oeko-Tex® filling cushion made from 100 % cotton (cover) and dug/goose feathers (filling). **Size: 60 x 40 cm (23.6 x 15.7 inches).**

EU2 - Sofa cushion small



YSHIELD® EU2

Sofa cushion small. With a Oeko-Tex® filling cushion made from 100 % cotton (cover) and dug/goose feathers (filling). **Size: 40 x 40 cm (15.7 x 15.7 inches).**

EU3 - Seat cushion



YSHIELD® EU3

Seat cushion for chairs or couches. Filled with a 3 cm thick foam material. **Size: 45 x 45 cm (17.7 x 17.7 inches).**













Canopies - Overview

General properties

Shielding canopies provide a simple and low-cost method for a complete shielding of beds. We sew different models out of different fabrics. On the following pages you can find an overview. For shielding of below, we recommend our floor mats.

Floor mats

We also recommend shielding the canopies from below, to achieve a complete faraday cage. Our floor mats are layed under the bed, or better under a carpet. With the sewn in ground connection sockets, compatible to our grounding system, low-frequency electric fields (LF) can be shielded easily (e.g. from the ceiling lightning from below).

	Box shape double bed	Box shape single bed	Pyramidal single bed
Voile			
Silver-Tulle			
Naturell			
New-Daylite			

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

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Prices

Canopies - Fabrics

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

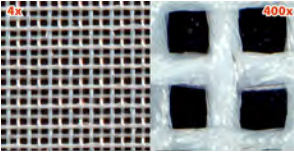
Measurement

Electro

Prices

Voile

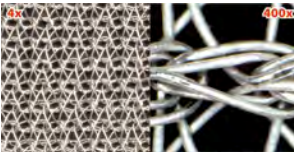
EX STOCK



Our favourite fabric from Swiss Shield® with good allround features, if you need a high attenuation! Good light- and air permeability, good look through, mechanically stable and crease resistant. Disadvantage: Anyway none! Attenuation **36 dB** at 1 GHz. Not groundable.

Silver-Tulle

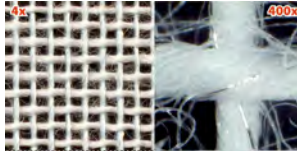
EX STOCK



Full silvered high-end fabric with a maximum high attenuation! Reasonable light- and air permeability, mechanically stable, crease resistant. Very high washing resistance. Disadvantage: Due to the 20 % silver content only the price. Attenuation **50 dB** at 1 GHz. **Groundable** with our grounding plate Velcro GV.

Naturell

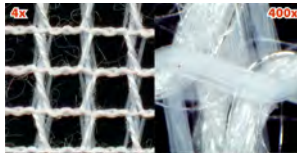
UPON REQUEST



Our classic fabric from Swiss Shield® made from ecological cotton with high attenuation. Acceptable light- and air permeability. Disadvantage: Like other cotton fabrics not crease resistant after washing. Attenuation **38 dB** at 1 GHz. Not groundable.

New-Daylite

UPON REQUEST



Our classic fabric from Swiss Shield® with good allround features! High light- and air permeability, mechanically stable, crease resistant. Disadvantage: Due to the mesh width only limited attenuation at high frequencies. Attenuation **25 dB** at 1 GHz. Not groundable.

Canopies - Models

Box shape - double bed



This box shaped canopy offers a **spacious ambience**. For double beds up to 220 cm width. Bed-making is easily possible without lifting the canopy away.

- **Width: 220 cm, depth: 220 cm, height: 220 cm** (All sizes depending on the fabric with +/- 10 % tolerance)
- **Entries:** Two overlapping openings
- **Mounting:** By four points on the ceiling. Any kinds of bars (not included in delivery) can be inserted into the sewed fabric tunnel to stabilize the canopy installation.
- **Scope of supply:** Canopy, mounting accessories

Box shape - single bed



This box shaped canopy offers a **spacious ambience**. For single beds up to 120 cm width. Bed-making is easily possible without lifting the canopy away.

- **Width: 120 cm, depth: 220 cm, height: 220 cm** (All sizes depending on the fabric with +/- 10 % tolerance)
- **Entry:** One overlapping opening
- **Mounting:** By four points on the ceiling. Any kinds of bars (not included in delivery) can be inserted into the sewed fabric tunnel to stabilize the canopy installation.
- **Scope of supply:** Canopy, mounting accessories

Pyramidal shape - single bed



This paramidal shape canopy is desirable, if you need **fast mounting** or if you have a **roof pitch**. Only suitable for single beds up to 100 cm width, since otherwise the slope gets too big. Disadvantage: Offers only limited free space and you have to lift the canopy away for bed-making.

- **Bottom circumference: 1150 cm, height: 240 cm** (All sizes depending on the fabric with +/- 10 % tolerance)
- **Entry:** Through the overlapping opening
- **Mounting:** By one point on the ceiling
- **Scope of supply:** Canopy, mounting accessories, 100 cm ring

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices

U1S/U2S - Floor mats

Paints

Sheet products

Fabrics

Textile products

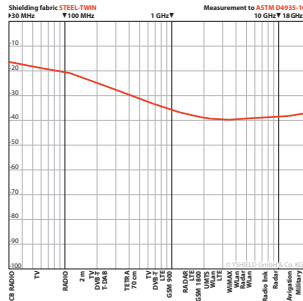
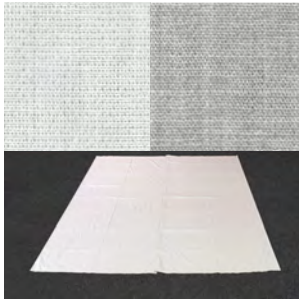
Canopies

Grounding

Measurement

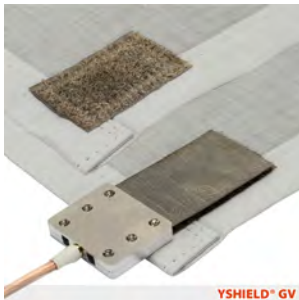
Electro

Prices



Technical data

- **Attenuation: 35 dB**
- **Size single bed (U1S):**
Width 140 cm, length: 250 cm
- **Size double bed (U2S):**
Width 270 cm, length: 250 cm
- **Scope of supply single bed (U1S): 1 sheet Steel-Twin.**
Grounding: 1 plate GV, 1 cable GC500, 1 plug GD have to be ordered separately.
- **Scope of supply double bed (U2S): 2 sheets Steel-Twin.**
The two sheets are layed 10 cm overlapping. Grounding: 2 plates GV, 2 cables GC20/GC500, 1 plug GD have to be ordered separately.
- With sewed on Velcro-areas for our grounding plate GV.



With **35 dB attenuation** optimal for all canopies made from NEW-DAYLITE, EVO-ULTRA, VOILE, NATURELL.

Made from our shielding fabric STEEL-TWIN. The stainless-steel-side should face towards the floor, the white cotton-side upwards.

Directly layed under the canopy, the sewed edges would be too thick under a carpet.

YSHIELD® GV

Functional equipotential bonding (FEB)

Large shielding measures with shielding materials are no electrical equipment but „new conductive parts“ according to IEC 826-03-03 or IEC 195-06-11 and thereby a new method of DIN VDE 0100-100:2009-06. By connecting the material(s) to the potential equalization they are inherent part of the electrical system. Generally accepted rules of technology have to be respected.

The state of the technology differentiates between protective equipotential bonding and functional equipotential bonding (FEB). The protective equipotential bonding (green/yellow cable) is a protective measure and ensures that, in the event of a fault, sufficient fault current flows to operate the disconnection device (e.g. line circuit breaker). **The functional equipotential bonding (transparent cable) has the function to „reduce the emission of low-frequency electrical fields“, i.e. prevents from leaking electrical field.**

- **Grounding/earthing measures are only permitted in TN-S, TT and IT networks. Grounding measures must never be executed in network forms with combined PEN-wiring!**
- **A leakage/fault circuit breaker with ≤ 30 mA must be installed!**
- **DIN EN 62305-3 (VDE 185-305-3:2006-10) applies to buildings with outer lightning protection system.**

Proper grounding sequence

1 The FEB-balancing circuit has to be connected **directly to the FEB-busbar with a 4 mm² cable** in the electric circuit distributor (fuse box).

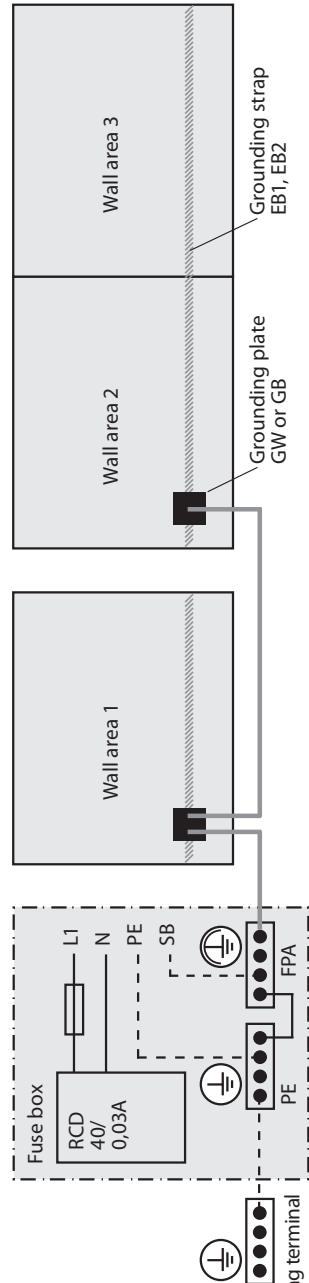
2 In exceptional cases, the FEB-balancing circuit can be connected to a „**suitable protective earth conductor or balancing line**“. This exemption clause is important to make earthing possible without the need for making modifications to the fuse box.

3 Grounding with a **2,5 mm² cable at a protective conductor** in the electric installation.

4 Grounding with our **grounding plug GP** by screwing in the power socket. Our grounding plug must be installed by a licenced electrician!

5 Metallic pipe systems or detached grounding rods which are not included in the potential equalization of the building are of limited suitability. It is nevertheless possible to use them in network forms with combined PEN-wiring. Please be sure to follow all local laws and standards.

Installation of a functional equipotential bonding is as follows:



Main earthing terminal

Paints

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New grounding components



What is new?

Covering caps: White covering caps have been added to many new grounding plates. The covers are looking better and serve as protection against an accidental unplug of the cables.

Improved connectors: The new 4mm gold plugs are fixed very firm and contact safe in the tight 3.8 mm connectors.

Flat design: Instead the previous height of 14 mm the new grounding plates are 6 mm high only and with the covering caps 8 mm only.

GW - Grounding plate Wall



Grounding plate for shielding paints, nettings, fleeces, etc. for interior use. Quadratic design for mounting next to an electrical outlet.

Per serie of connected areas there is one GW required.
 3 connection sockets.

Scope of delivery

Grounding plate 75 x 75 x 6 mm, covering cap 80 x 80 x 8 mm, 4 screws, 4 dowels, 3 solder plugs; Cable is not included, we recommend our pre-assembled cables GC.

GB - Grounding plate Baseboard



Grounding plate for shielding paints, nettings, fleeces, etc. for interior use. Slim design for mounting in the baseboard area.

Per serie of connected areas there is one GB required.
 4 connection sockets.

Scope of delivery

Grounding plate 150 x 30 x 6 mm, covering cap 155 x 35 x 8 mm, 3 screws, 3 dowels, 4 solder plugs; Cable is not included, we recommend our pre-assembled cables GC.

GE - Grounding plate Exterior



Grounding plate for shielding paints for exterior use. The cover cap is glued waterproof on the underground.

Per serie of connected areas there are two GE required.
 1 connection point for cables up to 6 mm².

Scope of delivery

Grounding plate 75 x 75 x 6 mm, covering cap 85 x 85 x 8 mm, seal adhesive, 4 screws, 4 dowels, 1 cable lug, cable is not included.

YSHIELD® GW

YSHIELD® GW

YSHIELD® GB

YSHIELD® GE

GT - Grounding plate Tube



YSHIELD® GT

Grounding plate for earthed installations (e.g. heating tubes).

Stable construction compared with strip earth bands. 3 connection sockets.

Scope of delivery

Grounding plate 80 x 46 x 6 mm, covering cap 85 x 60 x 8 mm, 2 worm drive clamps 12 to 25 mm, 3 solder plugs; Cable is not included, we recommend our pre-assembled cables GC.

GM - Grounding plate Magnet



YSHIELD® GM

Grounding plate for canopies, fabrics, fleeces, nettings, etc. The both plates are bound together from two strong magnets.

You don't need a hole in the material, if you tripping on the cable thin fabrics like Silver-Tulle don't tear. 4 connection sockets.

Scope of delivery

2 grounding plates 28 x 28 x 6/3 mm, 4 solder plugs; Cable is not included, we recommend our pre-assembled cables GC.

GS - Grounding plate Screw



YSHIELD® GS

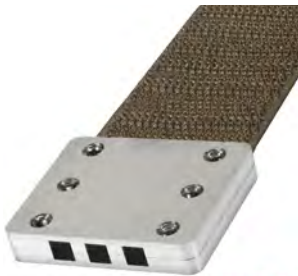
Grounding plate for canopies, fabrics, fleeces, nettings, etc. The both plates are screwed together.

On this you have to make a hole in the material. 4 connection sockets.

Scope of delivery

2 grounding plates 28 x 28 x 6/3 mm, 4 solder plugs; Cable is not included, we recommend our pre-assembled cables GC.

GV - Grounding plate Velcro



YSHIELD® GV

Grounding plate with a silvered Velcro fastener "hook".

All our groundable products (canopied, floor mats, blanket, sleeping bag, bedding, etc.) have stitched on 2-4 pieces of a silvered Velcro fastener "loop". Press GV on it, ready. 3 connection sockets.

Scope of delivery

Grounding plate 34 x 28 mm with 5 cm silvered Velcro fastener "hook", 3 solder plugs. Cable is not included, we recommend our pre-assembled cables GC.

GP - Grounding plug



YSHIELD® GP

Grounding plug for CEE-7/4 and CEE-7/7 socket-outlets. For German and French Schuko systems.

The plug can just be loose pushed in, but should be better screwed together with the socket cover. 4 connection sockets.

Scope of delivery

Grounding plug 38 x 26 mm, covering cap 55 x 42 x 8 mm, 2 screws for standard socket outlets, 4 solder plugs; Cable is not included, we recommend our pre-assembled cables GC.

GC - Grounding cables



YSHIELD® GC-500

Grounding cables to connect our grounding components.

With soldered 4 mm gold plugs on both sides. This cables provide a protection against unplugging together with the cover caps.

Scope of delivery

Cable 2.5 mm transparent, highly flexible; Available lengths:

- GC-20 (20 cm)
- GC-100 (1 m)
- GC-200 (2 m)
- GC-500 (5 m)
- GC-1000 (10 m)

MCL - Grounding set



YSHIELD® MCL



YSHIELD® MCL

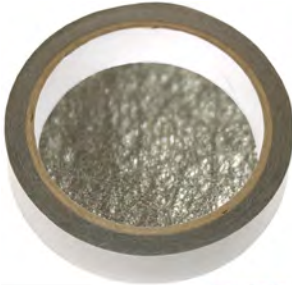
Grounding set for our magnetic shielding film MCL61.

The MCL61 surface is electrically insulated. Whilst screwing down the cable lug, the chopper disks will perforate the polyester film and arrange electrical contact thereby.

Scope of delivery

10 x screw, 10 x dowel, 10 x chopper disk, 10 x cable lug 1.5-2.5 mm²

EB1 - Grounding strap



YSHIELD® EB1

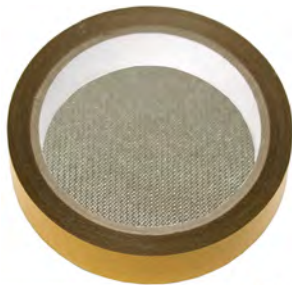
Self-adhesive grounding strap with conductive glue for application under and over nettings, fleeces.

On basis of our fleece HNV80. To electrically connect the limited width of the materials. The strap sticks relatively poor on difficult undergrounds (e.g. plasterboards), they have to be pretreated with a primer.

Technical data

- Adhesive force 3 N/cm
- Self-adhesive
- Corrosion resistant
- Width 2 cm
- Thickness 0.1 mm
- Length 10 m

EB2 - Grounding strap



YSHIELD® EB2

Self-adhesive grounding strap with non-conductive glue for application under shielding paints.

On basis of our netting HNG80. To bridge cracks in the underground. The strap sticks very well even on difficult undergrounds when painting over.

Technical data

- Adhesive force 10 N/cm
- Self-adhesive
- Corrosion resistant
- Width 2 cm
- Thickness 0.2 mm
- Length 10 m

EB3 - Grounding strap



YSHIELD® EB3

Self-adhesive fleece with conductive glue. Identical with EB1, but width of 10 cm.

Application like grounding straps EB1 or EB2 if a higher discharge capacity is needed, or as self-adhesive fleece for small-area shielding of slots, notches, openings, cables, etc.. On basis of our fleece HNV80 with 80 dB, see the corresponding catalog page!

Technical data

- Adhesive force 3 N/cm
- Self-adhesive
- Corrosion resistant
- Width 10 cm
- Thickness 0.15 mm
- Length: by the linear meter

ELB - Perforated stainless steel tape



YSHIELD® ELB

Grounding tape for stainless steel gauzes under plaster or at drywall constructions.

To connect the single elements, this steel tape is fixed often as possible across the single elements on the underground, especially on the overlapping locations.

Technical data

- Resistant to corrosion
- Delivered in a convenient unwinding box
- Length 10 m
- Width 1.4 cm
- Thickness 0.7 mm
- Hole spacing 16 mm
- Hole diameter 6 mm;

GR-40 - Grounding rod



Stainless steel grounding rod 40 cm for groundable fabric products.

This grounding rod is suitable for portable products (canopies Bxx, earthing-products Exx, etc.). It is not allowed to ground stationary shielding products (paints, nettings, fleeces, wallpapers, etc.) with this plug.

We recommend this grounding rod especially for our earthing-products Exx.

Therewith you achieve a more real and natural earth contact.

Scope of delivery

Stainless steel rod 40 cm with connection plate, heat shrink tubing with a glue inside to seal the connections waterproof after mounting; Cable is not included, we recommend our pre-assembled cable GC-1000 (10 meters).

GR-50, GR-100 - Grounding rods



Stainless steel grounding rod to connect other grounding components.

In many countries without the network types TT or TNS a ground connection is hardly possible. This rod is hammered in the grounding earth outside a house. Stainless steel rod (t-form) in 2 lengths: GR-50 with a length of 50 cm (only recommended for mobile applications) and GR-100 with a

length of 100 cm (for permanent mounting). 2 connection points (socket for cables GC, M6 screw for own grounding cables).

Scope of delivery

Stainless steel rod, heat shrink tubing with a glue inside to seal the connections waterproof after mounting, cable lug; Cable is not included, we recommend our pre-assembled cables GC.

GX - Grounding plugs

OUR RECOMMENDATION



Grounding plugs for groundable fabric products like earthing-products, canopies, sleeping bag, bedding, etc.

This plugs are suitable for portable products (canopies Bxx, earthing-products Exx, etc.). It is not allowed to ground stationary shielding products (paints, nettings, fleeces, wallpapers, etc.) with this plugs.

Subsequent you find the corresponding plug types for all countries. Please consider that in many countries some types are used simultaneously. If you are not sure, we recommend our set GX-W with all plug types and an adapter.

GX-W (Set for all countries)



Set with a basis and eight plug-on adapters: Type B, D, E, F, G, I, J, L, M.

GX-B (Type B, NEMA-5)



American Samoa, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, **Canada**, Cayman Islands, Colombia, Costa Rica, Cuba, Curaçao, Dominican Republic, Ecuador, El Salvador, French Polynesia, Guam, Guatemala, Guyana, Haiti, Honduras, Jamaica, **Japan**, Jordan, Lebanon, Liberia, Mexico, Micronesia, Montserrat, Nicaragua, Niger, Palau, Panama, Peru, Philippines, Puerto Rico, **Saudi Arabia**, **Taiwan**, Thailand, Trinidad &

Tobago, Turkmenistan, **United States**, Venezuela.

GX-D (Type D, IA6A3)



Bangladesh, Bhutan, Botswana, Chad, Congo, Dominica, French Guiana, Ghana, Guadeloupe, Guyana, **India**, Iraq, Jordan, Lebanon, Libya, Macau, Madagascar, Maldives, Martinique, **Monaco**, Myanmar, Namibia, Nepal, Niger, Nigeria, Pakistan, Qatar, Senegal, Sierra Leone, Sri Lanka, Sudan, Tanzania, **United Arab Emirates**, Yemen, Zambia, Zimbabwe.

GX-EF (Type EF, CEE 7/7)



Afghanistan, Albania, Algeria, American Samoa, Andorra, Armenia, Aruba, **Austria**, Azerbaijan, Belarus, **Belgium**, Benin, Bhutan, Bosnia and Herzegovina, **Bulgaria**, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Comoros, Congo, **Croatia**, **Czech Republic**, **Denmark**, Djibouti, Egypt, Equatorial Guinea, **Estonia**, Ethiopia, **Finland**, **France**, French Guiana, French Polynesia, Georgia, **Germany**, **Greece**, Greenland, Guadeloupe, Guinea, **Hungary**, Iceland, Indonesia, Iran, **Italy**, Jordan, Kazakhstan, Kosovo, Kyrgyzstan, Laos, Latvia, Liberia, Libya, Lithuania, Luxembourg, Macau, Macedonia, Madagascar, Mali, Martinique, Moldova, **Monaco**, Mongolia, Montenegro, Morocco, Mozambique,

Myanmar, **Netherlands**, New Caledonia, Niger, North Korea, **Norway**, Portugal, Romania, **Russia**, Senegal, Serbia, Slovakia, Slovenia, South Africa, South Korea, **Spain**, Suriname, Sweden, Syria, Tajikistan, Thailand, Tunisia, Turkey, Turkmenistan, Ukraine, Uruguay.

GX-G (Type G, BS 1363)



Bahrain, Bangladesh, Belize, Bhutan, Botswana, Brunei, Cyprus, Dominica, Falkland Islands, Gambia, Ghana, Gibraltar, Grenada, Guernsey, Guyana, **Hong Kong**, Indonesia, Iraq, Ireland, Isle of Man, Jersey, Jordan, Kenya, Kuwait, Lebanon, Macau, Malawi, Malaysia, Maldives, Malta, Mauritius, Myanmar, Nigeria, Oman, Pakistan, Qatar, **Saudi Arabia**, Seychelles, Sierra Leone, Singapore, Solomon Islands, Sri Lanka, Tanzania, Uganda, **United Arab Emirates**, **United Kingdom**, Vanuatu, Vietnam, Yemen, Zambia, Zimbabwe.

GX-I (Type I, AS/NZS 3112, GB 1002, IRAM 2073)



American Samoa, **Australia**, **China**, Cook Islands, Fiji, Kiribati, Nauru, New Zealand, Papua New Guinea, Samoa, Solomon Islands, Tajikistan, Tonga, Tuvalu, Uruguay, Vanuatu.

GX-J (Type J, SEV 1011)



Jordan, Liechtenstein, Madagascar, Maldives, Rwanda, **Switzerland**.

GX-L (Type L, CEI 23-50)



Chile, Eritrea, Ethiopia, **Italy**, Libya, Maldives, San Marino, Syria, Uruguay.

GX-M (Type M, BS 546)



Bhutan, Botswana, **India**, **Israel**, Lesotho, Macau, Malaysia, Mozambique, Namibia, Nepal, Pakistan, South Africa, Sri Lanka, Swaziland.

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices

Measurement technique - We have the overall view

Customers with installed room shielding should verify the existing pollution in regular intervals anyway! New installed mobile phone base stations or new equipment in your house could belatedly change the load situation.

We have a good overview of all analyzers on the market and keep all relevant devices available, for tests at our site.

Tests show, how unbelievable strong the results of the analyzers differ, regarding test **reading, accuracy, quality and handling.** If one for example tries to measure a cordless phone under defined terms, one will obtain measurements between $0.0 \mu\text{W}/\text{m}^2$ and $3000 \mu\text{W}/\text{m}^2$. The accurate value, as



measured with a spectrum analyzer, is $100 \mu\text{W}/\text{m}^2$. **Devices from Gigahertz Solutions show the most accurate**

results when averaged by several sources. This is why we favour to sell those devices.

Meters - Various manufacturers

Beyond Gigahertz-Solutions, there are particular **devices of other producers with special**

features: Either they are very small and used e.g. for travelling, very low priced referring to a

frequency of 8 GHz or they join EMF and RF measuring functions.

TM-190 - Meter (HF+LF)



TM-190 (YSHIELD® Edition)

Basic device for the measurement of high frequency electromagnetic fields (RF) in a frequency range of 50 MHz - 3.5 GHz and low frequency electric and magnetic fields (EMF) at 50-60 Hz. **Not recommended for electro-sensitive persons, the sensitivity starts not until**

$30 \mu\text{W}/\text{m}^2$. From our professional view not a real "measurement" device, because its limited accuracy and sensitivity. However this cheap device is anyhow cool and small enough for every baggage.

Important

There is only an english manual available. Don't buy this device if you cannot understand and accept an english manual. **Item location Germany.** Inside the EU you don't have to pay customs duties or taxes.

Technical data

- Electromagnetic fields (HF) from 50 MHz bis 3.5 GHz
- Low-frequency electrical fields (LF) from 50-60 Hz

- Low-frequency magnetic fields (NF) from 50-60 Hz
- Displayable units for magnetic fields: mG und μT
- Displayable units for electrical fields: V/m
- Displayable units for electromagnetic fields: $\mu\text{W}/\text{m}^2$ - mW/m^2 , $\mu\text{W}/\text{cm}^2$ - mW/cm^2 , mV/m - V/m , dBm
- Battery: 3 x 1.5V AAA, 8 hours battery life time
- Size: 11.5 x 6 x 2.1 cm
- Weight: 120 g
- Scope of delivery: Meter TM-190, batteries, english manual

TM-195 - Meter (HF)



TM-195 (YSHIELD® Edition)

Basic device for the measurement of high frequency electromagnetic fields (RF) in a frequency range of 50 MHz - 3.5 GHz. **Not recommended for**

electrosensitive persons, the sensitivity starts not until at $10 \mu\text{W}/\text{m}^2$. However a cheap alternative for little money.

Important

There is only an english manual available. Don't buy this device if you cannot understand and accept an english manual. **Item location Germany.** Inside the EU you don't have to pay customs duties or taxes.

Technical data

- Frequency range: 50 MHz - 3.5 GHz

- Sensitivity: $4 \mu\text{W}/\text{m}^2$ - $600,000 \mu\text{W}/\text{m}^2$
- Units: mV/m, V/m, $\mu\text{A}/\text{m}$, mA/m, $\mu\text{W}/\text{m}^2$, mW/m², $\mu\text{W}/\text{cm}^2$
- Triple axis antenna (X, Y, Z)
- Data logger up to 200 samples
- Calibration factor
- Battery: 9 V, 10-15 hours runtime
- Dimensions: 6 x 6 x 19.5 cm
- Weight: 200 g
- Scope of delivery: Meter TM-195, battery 9 V, english manual, carrying bag

TM-196 - Meter (HF)



TM-196 (YSHIELD® Edition)

Basic device for the measurement of high frequency electromagnetic fields (RF) with an extra wide frequency range from 10 MHz - 8 GHz. **Not**

recommended for electrosensitive persons, the sensitivity starts not until at $10 \mu\text{W}/\text{m}^2$. However a cheap alternative for 8 GHz.

Important

There is only an english manual available. Don't buy this device if you cannot understand and accept an english manual. **Item location Germany.** Inside the EU you don't have to pay customs duties or taxes.

Technical data

- Frequency range: 10 MHz - 8 GHz

- Sensitivity: $4 \mu\text{W}/\text{m}^2$ - $300,000 \mu\text{W}/\text{m}^2$
- Units: mV/m, V/m, $\mu\text{A}/\text{m}$, mA/m, $\mu\text{W}/\text{m}^2$, mW/m², $\mu\text{W}/\text{cm}^2$
- Triple axis antenna (X, Y, Z)
- Data logger up to 200 samples
- Calibration factor
- Battery: 9 V, 10-15 hours runtime
- Dimensions: 7,7 x 8 x 38 cm
- Weight: 180 g
- Scope of delivery: Meter TM-196, battery 9 V, english manual, carrying case

ESI 24 - Indicator (HF+LF)



ESI 24 (YSHIELD® Edition)

Elementary analyzer for the use by laymen, to provide a **quick overview of the load situation.** Concrete measured values wont

be displayed, the measurements are indicated with **LEDs in ample colors corresponding to the standard of building biology.**

ESI 24: The top-device of the series for HF+LF. During standard mode, the 3 types of fields (electric fields, magnetic fields, electromagnetic fields) are indicated with each 6 LEDs. Whilst using the high-definiton mode for high-frequency fields, all 18 LEDs will be available for a particularized display.

Technical data

- Low-frequency electrical fields (LF) from 16 Hz to 3 kHz
- Low-frequency magnetic fields (NF) from 16 Hz to 3 kHz
- Electromagnetic fields (HF) from 50 MHz to 10 GHz
- Operating modes: Standard mode, high resolution mode HF, location mode, hold mode
- Power supply: 9 V battery
- Operating time: 10 to 15 hours with a 9 V battery
- Size: 140 x 63 x 30 mm
- Scope of delivery: Detector, battery, operating manuals in German and English.

ESI 23 - Indicator (HF+LF)



ESI 23 (YSHIELD® Edition)

Elementary analyzer for the use by laymen, to provide a **quick overview of the load situation**. Concrete measured values wont be displayed, the measurements are inticated with **LEDs in ample colors corresponding to the standard of building biology**.

ESI 23: The cheapest device of the series for HF+LF. The 3 types of fields (electric fields, magnetic fields, electromagnetic fields) are indicated with each 5 LEDs.

Technical data

- Low-frequency electrical fields (LF) from 16 Hz to 3 kHz
- Low-frequency magnetic fields (NF) from 16 Hz to 3 kHz
- Electromagnetic fields (HF) from 50 MHz to 6 GHz
- Operating mode: Standard.
- Power supply: 9 V battery
- Operating time: 10 to 15 hours with a 9 V battery
- Size: 140 x 63 x 30 mm
- Scope of delivery: Detector, battery, operating manuals in German and English.

ESI 22 - Indicator (LF)



ESI 22 (YSHIELD® Edition)

Elementary analyzer for the use by laymen, to provide a **quick overview of the load situation**. Concrete measured values wont be displayed, the measurements are inticated with **LEDs in ample colors corresponding to the standard of building biology**.

ESI 22: Cheap device for LF only. The 2 types of fields (electric fields, magnetic fields) are indicated with each 5 LEDs.

Technical data

- Low-frequency electrical fields (LF) from 16 Hz to 3 kHz
- Low-frequency magnetic fields (NF) from 16 Hz to 3 kHz
- Operating mode: Standard.
- Power supply: 9 V battery
- Operating time: 10 to 15 hours with a 9 V battery
- Size: 140 x 63 x 30 mm
- Scope of delivery: Detector, battery, operating manuals in German and English.

ESI 21 - Indicator (HF)



ESI 21 (YSHIELD® Edition)

Elementary analyzer for the use by laymen, to provide a **quick overview of the load situation**. Concrete measured values wont be displayed, the measurements are inticated with **LEDs in ample colors corresponding to the standard of building biology**.

ESI 21: Cheap device of the series for HF only. The field type (electromagnetic fields) is indicated with 10 LEDs.

Technical data

- Electromagnetic fields (HF) from 50 MHz to 8 GHz
- Operating mode: Standard.
- Power supply: 9 V battery
- Operating time: 10 to 15 hours with a 9 V battery
- Size: 140 x 63 x 30 mm
- Scope of delivery: Detector, battery, operating manuals in German and English.

Meters HF - Gigahertz-Solutions

HF32D - Meter (HF)



YSHIELD® HF 32D

It allows a straight forward assessment of the exposure, a determination of suitable remedial actions, as well as a control of their effectiveness. Simple handling for technical amateurs.

Technical data

- Measuring range: $1 \mu\text{W}/\text{m}^2$ up to $1,999 \mu\text{W}/\text{m}^2$.
- Frequency range: 800 MHz up to 2,500 MHz.
- Accuracy: 6 dB, 9 digits.

- Field strength proportional audio signal: The higher the measuring value, the faster the acoustic signal.
- Peak value indication.
- Included in delivery: EMR meter device, attachable, direction-finding log.-per. antenna incl. antenna cable, Alkaline Mangan battery, detailed instruction manual (english), factual background information issuing "electric smog".

HF35C - Meter (HF)

OUR RECOMMENDATION



YSHIELD® HF 35C

It allows a straight forward assessment of the exposure, a determination of suitable remedial actions, as well as a control of their effectiveness. Simple handling for technical amateurs.

Technical data

- Measuring range: $0.1 \mu\text{W}/\text{m}^2$ up to $1,999 \mu\text{W}/\text{m}^2$.
- Frequency range: 800 MHz up to 2,500 MHz.
- Accuracy: 6 dB, 9 digits.
- Identification of pulsed radiation sources (mobile radio: GSM, UMTS / G3, cordless

- telephones (DECT), WLAN (Bluetooth), radar surveillance stations, etc. by means of an acoustic signal proportional to the modulation frequency.
- Peak value as well as average value (switchable).
- Included in delivery: EMR meter device, attachable, direction-finding log.-per. antenna incl. antenna cable, Alkaline Mangan battery, detailed instruction manual (english), factual background information issuing "electric smog".

HF38B - Meter (HF)



YSHIELD® HF 38B

Technical data

- Measuring range: $0.01 \mu\text{W}/\text{m}^2$ up to $19,990 \mu\text{W}/\text{m}^2$.
- Frequency range: 800 MHz up to 2,500 MHz (3,300 Mhz with additional tolerance).
- Accuracy: 6 dB, 7 digits.
- Improved antenna-h/v-decoupling and minimised ripple compared to HF35C.
- Clearly simplified measurements due to "peak-hold" function.
- Identification of pulsed radiation sources (mobile radio: GSM, UMTS / G3, cordless telephones (DECT), WLAN (Bluetooth), radar surveillance stations, etc. by means of an acoustic signal proportional to the modulation frequency.

- Peak value as well as average value (switchable).
- Included in delivery: EMR meter device, attachable, direction-finding log.-per. antenna incl. antenna cable, Alkaline Mangan battery, detailed instruction manual (english), factual background information issuing "electric smog".

It allows a semi-professional assessment of the exposure, a determination of suitable remedial actions as well as a control of their effectiveness. Simple handling for users with basic knowledge.

Meters NF - Gigahertz-Solutions

ME3030B - Meter (LF)



YSHIELD® ME 3030B

It allows an uncomplicated evaluation of the exposure, a determination of suitable remedial actions, as well as a control of their effectiveness. Simple handling for amateurs.

Technical data

- Measuring range: 1 nT/Vm up to 2,000 nT/Vm.
- Frequency range: 16 Hz up to 2 kHz.
- Accuracy: 2 %, 20 digits.

- An acoustic signal proportional to the field strength with "Geiger-counter-effect" helps identifying regions with increased exposure.
- Included in delivery: Measurement device, Alkaline Mangan battery, detailed instruction manual with factual background information issuing "electro smog".

ME3830B - Meter (LF)

OUR RECOMMENDATION



YSHIELD® ME 3830B

It allows an uncomplicated evaluation of the exposure according to construction biologist standard, a determination of suitable remedial actions, as well as a control of their effectiveness. Simple handling for amateurs.

Technical data

- Measuring range: 1 nT/Vm up to 2,000 nT/Vm.
- Frequency range: 16 Hz up to 100 kHz.
- Accuracy: 2 %, 14 digits.

- An acoustic signal proportional to the field strength with "Geiger-counter-effect" helps identifying regions with increased exposure.
- Included in delivery: Measurement device, Alkaline Mangan battery, detailed instruction manual with factual background information issuing "electro smog".

ME3840B - Meter (LF)



YSHIELD® ME 3840B

allows an easy allocation of the electrosmog frequencies to the traction power or the mains power as well as to the artificial harmonics, thus facilitating an especially precise consultation of remedial actions and an easy control of their effectiveness.

A switchable internal filter module as in the professional devices, allowing a numeric differentiation of traction power and mains supply as well as the artificial higher frequencies. A useful aspect considering the even lower precautionary values for higher frequencies.

Technical data

- Measuring range: 1 nT/Vm up to 2,000 nT/Vm.

- Frequency range: 5 Hz up to 100 kHz.
- Switchable internal filter module as in the professional devices (16 Hz, 50 Hz high-pass, 2 kHz high-pass).
- Accuracy: 2 %, 14 digits.
- An acoustic signal proportional to the field strength with "Geiger-counter-effect" helps identifying regions with increased exposure.
- Included in delivery: Measurement device, Alkaline Mangan battery, detailed instruction manual with factual background information issuing "electro smog".

The link between amateur and professional instruments! This device is especially popular among medics and alternative practitioners, as it offers a perfect combination of easy handling and professional measurement possibilities. It

Meter sets HF+LF - Gigahertz-Solutions

MK10 - Meter set (HF+LF)



YSHIELD® MK 10

Basic devices. Set from two devices for EMF and RF.

- Low frequency (EMF): 16 Hz - 2 kHz
- High frequency (RF): 800 MHz - 2.7 GHz

The **basic equipment containing the HF32D and ME3030B** in a rugged plastic case, allows an easy evaluation of the personal exposure to HF- and LF- electrosmog according to the guidelines and recommended safe values of the "Standard of Building Biology Measuring Techniques".

MK20 - Meter set (HF+LF)



YSHIELD® MK 20

OUR RECOMMENDATION

Standard devices. According to the building biology standard. Set of two devices for EMF and RF.

- Low frequency (EMF): 16 Hz - 100 kHz
- High frequency (RF): 800 MHz - 2.7 GHz

Contains the instruments **ME3830B and HF35C in a rugged plastic case and allows an easy evaluation of the personal exposure to HF- and LF-electrosmog** according to the guidelines and recommended safe values of the "Standard of Building Biology Measuring Techniques". With the very useful feature of an acoustic analysis for a reliable identification of various HF-sources.

MK30 - Meter set (HF+LF)



YSHIELD® MK 30

Standard devices. Link between standard and prof. devices. Set of two devices for EMF and RF.

- Low frequency (EMF): 5 Hz - 100 kHz
- High frequency (RF): 800 MHz - 3.3 GHz

The both devices contained in this measuring kit are a perfect combination of the easily operated devices for technical amateurs with the **additional analytical possibilities offered by the devices for professional evaluations**. This is the top-selling kit for doctors and healers looking for a competent overview over the total emf-pollution either for themselves or for their patients, but who neither have the daily practice nor the time to

get acquainted in the necessary manner with the technology of a professional measurement device.

The **HF38B**, for instance, already features the frequency range, the peak-hold function and the antenna of the professional series. And the **ME3840B** is already equipped with the switchable frequency filter for a clear differentiation of traction supply and mains supply as well as the corresponding artificial harmonics. The devices come well protected in a plastic case with shaped foam filler for a safe transportation.

Accessories - Gigahertz-Solutions

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices

Plastic case K5

YSHIELD® K5

Plastic case 33 x 27 x 8 cm for HF32D, HF35C, HFW35C and all LF-devices. To our HF-devices, an additional LF-device fits in the case!

Plastic case K2

YSHIELD® K2

Plastic case 33 x 27 x 16 cm for all HF- and LF-devices. 2 devices fits in the case!

Attenuator DG20

YSHIELD® DG20

Allows a measurement of major exposures. For high exposures.

- Reduces the sensitivity of the measuring device by a factor of 100 (= 20 dB).
- Adaptor plug to be connected to the antenna input socket.

TCO3 probe (NFA)

YSHIELD® TCO3

For measurements of E-fields in line with the regulations at locations of difficult access, such as bedroom measurements or low-field electrical installation inspections. Only for NFA1000.

(H)05VV-F3G - Shielded flexible cable



YSHIELD® (H)05VV-F3G

Wire count / cross section	Outer diameter	Color	Current load acc. to IEC 320-1
3 x 0.75 mm ²	6.6 mm	Weiß	6 A
3 x 1.5 mm ²	8.4 mm	Weiß	16 A

Application

Shielded, very flexible cable for non-fixed electrical devices for the protection against low-frequency electric fields (LF). To reduce the magnetic field, the conductors are twisted 15 times per meter!

Technical data

- Nominal voltage : 250 V / 50 Hz
- **Protection class 1 (with ground wire)**

Construction

- 1 Copper conductors fine-stranded
- 2 Insulation: Polyvinylchloride
- 3 Drain wire: Copper: 0.34 mm²
- 4 Screen: Plastic-coated aluminum band
- 5 Outer sheath: Polyvinylchloride;



Shielded installation cables

With cables (H)05VV-F3G for the protection against low-frequency electric fields (LF). To reduce the magnetic field, the conductors are twisted 15 times per meter!

Common technical data

- **Nominal voltage:** 250 V / 50 Hz
- **Protection class 1 (with ground wire)**
- Current load **0.75 mm²: 6 A**
- Current load **1.0 mm²: 10 A**
- Current load **1.5 mm²: 16 A**

For the following countries

All **cables, power cords, multiple socket outlets and wall installation sockets** are usable in the following „Schuko“ countries:

CEE-7/4 (German system):
 Afghanistan, Algeria, Andorra, Austria, Bosnia-Herzegovina, Bulgaria, Croatia, Estonia, Finland, Germany, Greece, Hungary, Iceland, Indonesia, Italy, Korea, Latvia, Lithuania, Luxembourg, Macedonia, Moldova, Montenegro, Netherlands, Norway, Portugal, Romania, Russia, Serbia, Slovenia, South Korea, Spain, Sweden, Syria, Turkey, Ukraine;

CEE-7/7 (French system):
 Belgium, Czech Republic, France, Monaco, Morocco, Poland, Slovakia, Tunisia;

Power cord D2806



Length 2 m, Color black,
 wire diameter 1.0 mm²

Plug with free end D2828



Length 2 m, Color black,
 wire diameter 1.0 mm²

Power cord D3662



Length 3 m, Color white,
 wire diameter 1.0 mm²

Plug with free end D3368



Length 3 m, Color black,
 wire diameter 0.75 mm²

Adapter D3223



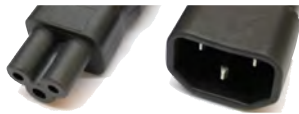
Adapter (for D2806)
 C13 to two pole C7

Plug with free end D3381



Length 2 m, Color white,
 wire diameter 0.75 mm²

Adapter D3245



Adapter (for D2806)
 C13 to three pole C5

Plug with free end D2920



Length 4 m, Color white,
 wire diameter 0.75 mm²

Extension cable D3640



Length 3 m, Color black,
 wire diameter 1.5 mm²

Extension cable D3425



Length 5m, Color white,
 wire diameter 1.5 mm²

Shielded installation boxes

Cavity-wall box 59 mm D4461



Shielded with conductive vacuum coating. Connection wire 1.5 mm², solid, isolated. One gang box or switch box for plate thickness from 7-35 mm. Standard mounting distances.

Lamp connection box D4606



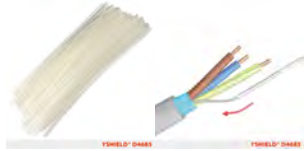
Shielded with conductive vacuum coating. Connection wire 1.5 mm², solid, isolated. Connection box for lamps. Diameter 35 mm, Depth 45 mm. Standard mounting distances.

Push-wire connector D4628



5 x 1.0 mm² up to 2.5 mm². Transparent. 50 pieces. Quick attachment.

Insulation sleeve D4685



Length 10 cm. Transparent for drain wire. 100 pieces. For insulation of the blank drain wire of the installation cables.

Cavity wall box 47 mm D4483



Shielded with conductive vacuum coating. Connection wire 1.5 mm², solid, isolated. One gang box or switch box for plate thickness from 7-35 mm. Standard mounting distances.

In-wall box 61 mm D4426



Shielded with conductive vacuum coating. Connection wire 1.5 mm², solid, isolated. With snap-lock coupling, as one gang box or switch box under plaster. Standard mounting distances.

Junction case D4505



Shielded with conductive vacuum coating. Connection wire 1.5 mm², solid, isolated. Junction casing for hollow or brick walls. 107 x 107 x 53 mm. Standard mounting distances.

In-wall box 41 mm D4448



Shielded with conductive vacuum coating. Connection wire 1.5 mm², solid, isolated. With snap-lock coupling, as one gang box or switch box under plaster. Standard mounting distances.

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Shielded Multiple socket outlet 4x



YSHIELD® D6700

Professional quality! 4 schuko inserts switched. Casing: Robust anodized aluminium frame. 2-poled switch. Socket outlets black, 45° positioned with children protection. Shielded **power connection cord: 2 meter, 3 x 1.0 mm².** Integrated decoupling filter. Connection voltage: 250 V / 50 Hz. Current load: 10 A. Size: 317 x 52 x 45 mm.

Optional feature is the mounting angle D6867!

Shielded Multiple socket outlet 6x



YSHIELD® D6744

Professional quality! 9 schuko inserts switched. Casing: Robust anodized aluminium frame. 2-poled switch. Socket outlets black, 45° positioned with children protection. Shielded **power connection cord: 2 meter, 3 x 1.5 mm².** Integrated decoupling filter. Display for over voltage protection funktion. Connection voltage: 250 V / 50 Hz. Current load: 16 A. Size: 572 x 52 x 45 mm.

Optional feature is the mounting angle D6867!

Shielded Multiple socket outlet 9x



YSHIELD® D6788

Professional quality! 4 schuko inserts switched, 2 schuko inserts unswitched. Casing: Robust anodized aluminium frame. 2-poled switch. Socket outlets black, 45° positioned with children protection. Shielded **power connection cord: 2 meter, 3 x 1.0 mm².** Integrated decoupling filter. Display for over voltage protection funktion PRO-TECTOR:

Line filter with an attenuation of 50 dBm; HF-filter over 80 MHz. Connection voltage: 250 V / 50 Hz. Current load: 10 A. Size: 572 x 52 x 45 mm.

Optional feature is the mounting angle D6867!

D6867 - Mounting angle



YSHIELD® D6867

With this mounting angles, all our professional multiple socket outlets D6700, D6766 and D6788 can be **fixed easy in different angles.**

Demand switch

Electricity has become indispensable for every day life. The use of electricity inevitably causes alternating electrical and magnetic fields. The effect of these electrical and magnetic fields on the human organism has been the subject-matter of many international studies with some concerning results. At present, the "safe" levels of electric and magnetic fields are still to be determined, but it is now agreed by many doctors and

scientists that the levels should be reduced on the principle of ALARA (As Low As Reasonably Achievable). Magnetic fields should be measured and any wiring faults corrected. Electric fields can only be reduced by using electrically screened cables or using a "Demand Switch" which remove the high (230 volt) supply when there is no load on the circuit that needs power. This is particularly useful at night-time.

A reliable demand switch optimised according to building biology criteria can substantially reduce your daily exposure without your being inconvenienced. It is for this reason that many experts recommend the decoupling from the mains (often also called "isolation") as a first and important technical step to be implemented when reducing alternating electrical and magnetic fields.

NA7 - Demand switch

OUR TOP-SELLING DEMAND SWITCH WITH VDE MARK



YSHIELD® NA 7

- Innovation: Various granted and pending patents are an impressive proof of our technical superiority in comparison with the state-of-the-art compared with other devices on the market.
- Safety: The Demand Switch NA7 comfort was the first "decoupler" ever to be certified the VDE (the Association for Electrical, Electronic & Information Technologies) certificate for fulfilling the severe safety regulations. VDE identification number: 40000677.
- Practical efficiency: The Gigahertz Solutions Demand Switches have been installed by many experienced electrical engineering technicians for many years. They are on the recommendation lists of renowned building biologists and are in use in thousands of households every day.

Technical data

- Nominal voltage / capacity: 230 VAC +/- 10 %, 16 Amp., 2300 watt filament lamp load.
- Mechanical durability of the relay: approx. 15.000.000 operating cycles.
- Residual ripple (nominal/typical/maximum): < 2 mV / < 4 mV / < 8 mV.
- Monitoring voltage: Building biology compatible DC voltage (max. 8mA / 230 VDC).
- Single-poled disconnection for optimum operator protection. A minimum residual ripple is guaranteed by a low resistance PTC connection to the terminal "neutral".
- Warranty: 2 years.
- Included in delivery: Demand Switch, control lamp, detailed instructions manual.

		1)	2)	Base price
		Net €	Gross €	€ Net
Carbon products Liquid				
HF-Paint PRO54	Unit			
	1 liter	41,93	49,90	41,93 / l
	5 liter	167,98	199,90	33,60 / l
HF-Paint HSF54	Unit			
	1 liter	50,34	59,90	50,34 / l
	5 liter	210,00	249,90	42,00 / l
HF-Paint HSF64	Unit			
	1 liter	50,34	59,90	50,34 / l
	5 liter	210,00	249,90	42,00 / l
HF-Paint HSF74	Unit			
	1 liter	50,34	59,90	50,34 / l
	5 liter	210,00	249,90	42,00 / l
LF-Paint NSF34	Unit			
	1 liter	41,93	49,90	41,93 / l
	5 liter	167,98	199,90	33,60 / l
Conductive glue DKL90	Unit			
	5 liter	58,74	69,90	11,75 / l
Fiber additive AF3	0.09 liter	16,72	19,90	185,81 / l
Primer concentrate GKS	1 liter	16,72	19,90	16,72 / l
Paint stirrer AR40	1 piece	3,28	3,90	
HF-Paints Sample set	4 x 0.1 liter	8,32	9,90	20,80 / l
Fleeces, nettings				
Stainless steel gauze V4A10-100	Unit	Net €	Gross €	Base price
	LM/1.0m width	10,00	11,90	10,00 / m ²
	Roll/25 LM	210,00	249,90	8,40 / m ²
Stainless steel gauze V4A03-100	Unit			
	LM/0,9m width	11,68	13,90	12,98 / m ²
	Roll/25 LM	252,02	299,90	10,08 / m ²
Stainless steel gauze V4A03-150	Unit			
	LM/1.5m width	20,92	24,90	13,95 / m ²
	Roll/25 LM	462,10	549,90	12,32 / m ²
Polyester netting HNG80-66	Unit			
	LM/0.66m width	11,68	13,90	17,70 / m ²
	Roll/20 LM	210,00	249,90	15,91 / m ²
	Roll/100 LM	1008,32	1199,90	15,28 / m ²
Polyester netting HNG80-130	Unit			
	LM/1.30m width	25,13	29,90	19,33 / m ²
	Roll/20 LM	462,10	549,90	17,77 / m ²
	Roll/100 LM	2184,79	2599,90	16,81 / m ²
Polyester netting HNG100-66	Unit			
	LM/0.66m width	20,08	23,90	30,43 / m ²
	Roll/20 LM	378,07	449,90	28,64 / m ²
	Roll/100 LM	1848,66	2199,90	28,01 / m ²
Polyester netting HNG100-130	Unit			
	LM/1.30m width	41,93	49,90	32,26 / m ²
	Roll/20 LM	798,24	949,90	30,70 / m ²
	Roll/100 LM	3865,46	4599,90	29,73 / m ²
Nylon fleece HNV80	Unit			
	LM/1,0m width	18,40	21,90	18,40 / m ²
	Roll/20 LM	336,05	399,90	16,80 / m ²
Nylon fleece NCV95	Unit			
	LM/0.95m width	10,00	11,90	10,53 / m ²
	Roll/20 LM	167,98	199,90	8,84 / m ²

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		Net €	Gross €	€ Net
Magnetic shielding				
Magnetic shielding film MCL61	Unit			
	LM/0.61m width	83,95	99,90	137,62 / m ²
Magnetic shielding film MCF5	Unit			
	LM/5 cm width	16,72	19,90	334,45 / m ²
	Roll/20 LM	167,98	199,90	167,98 / m ²
	Roll/100 LM	630,17	749,90	126,03 / m ²
Shielding window films				
Window film RDF62-152	Unit			
	LM/1.52m width	50,34	59,90	33,12 / m ²
Window film RDF62-76	Unit			
	LM/0.76m width	25,13	29,90	33,06 / m ²
Window film RDF72-152	Unit			
	LM/1.52m width	142,77	169,90	93,93 / m ²
Window film RDF72-76	Unit			
	LM/0.76m width	71,34	84,90	93,87 / m ²
Mounting concentrate FMK30	1 piece / 30 ml	4,12	4,90	137,25 / l
Bonding scraper 10 cm FVR10	1 piece	6,64	7,90	
Edge sealant FKV50	1 piece / 50 ml	16,72	19,90	334,45 / l
Grounding accessories				
Grounding plate Wall GW	1 piece	16,72	19,90	
Grounding plate Baseboard GB	1 piece	16,72	19,90	
Grounding plate Exterior GE	1 piece	25,13	29,90	
Grounding plate Tubel GT	1 piece	16,72	19,90	
Grounding plate Magnet GM	1 piece	16,72	19,90	
Grounding plate Screw GS	1 piece	16,72	19,90	
Grounding plate Velcro GV	1 piece	12,52	14,90	
Grounding plug GP	1 piece	16,72	19,90	
Grounding plug GX (B to M)	1 piece	16,72	19,90	
Grounding plug GX-W	1 piece	33,53	39,90	
Grounding set MCL	1 piece	8,32	9,90	
Grounding rod 40 cm GR-40	1 piece	16,72	19,90	
Grounding rod 50 cm GR-50	1 piece	33,53	39,90	
Grounding rod 100 cm GR-100	1 piece	41,93	49,90	
Grounding strap EB1	10 m/width 2 cm	16,72	19,90	1,67 / m
Grounding strap EB2	10 m/width 2 cm	16,72	19,90	1,67 / m
Grounding strap EB3	1 LM/width 10 cm	8,32	9,90	8,32 / m
Perforated stainless steel tape ELB	10 meter	16,72	19,90	1,67 / m
Grounding cable 20 cm GC-20	1 piece	7,48	8,90	37,39 / m
Grounding cable 100 cm GC-100	1 piece	8,32	9,90	8,32 / m
Grounding cable 200 cm GC-200	1 piece	9,16	10,90	4,58 / m
Grounding cable 500 cm GC-500	1 piece	10,00	11,90	2,00 / m
Grounding cable 1000 cm GC-1000	1 piece	12,52	14,90	1,25 / m
Shielding fabrics				
Fabric SwissShield Voile	Unit			
	LM/2.5m width	100,76	119,90	40,30 / m ²
Fabric SwissShield Naturell	Unit			
	LM/2.5m width	92,35	109,90	36,94 / m ²
Fabric SwissShield Naturell Ultra	Unit			
	LM/2.5m width	100,76	119,90	40,30 / m ²
Fabric SwissShield Ultima	Unit			
	LM/2.5m width	100,76	119,90	40,30 / m ²
Fabric SwissShield Evolution	Unit			
	LM/2.5m width	79,75	94,90	31,90 / m ²
Fabric SwissShield Evo-Ultra	Unit			
	LM/2,0m width	83,95	99,90	41,97 / m ²
Fabric SwissShield New-Daylite	Unit			
	LM/2.6m width	67,14	79,90	25,82 / m ²
Fabric SwissShield Wear	Unit			
	LM/1.5m width	58,74	69,90	39,16 / m ²
Fabric Silver-Twin	Unit			
	LM/1.5m width	83,95	99,90	55,97 / m ²
Fabric Silver-Tulle	Unit			
	LM/1.4m width	75,55	89,90	53,96 / m ²
Fabric Black-Tricot	Unit			
	LM/1.37m width	62,94	74,90	45,94 / m ²
Fabric Silver-Elastic	Unit			
	LM/1.6m width	92,35	109,90	57,72 / m ²
Fabric Steel-Twin	Unit			
	LM/1.5m width	33,53	39,90	22,35 / m ²
Fabric Steel-Gray	Unit			
	LM/1.5m width	33,53	39,90	22,35 / m ²
Fabric Silver-Silk	Unit			
	LM/1.3m width	58,74	69,90	45,18 / m ²
Fabric Silver-Grid	Unit			
	LM/1.5m width	33,53	39,90	22,35 / m ²
Curtains sewing to your size	1 piece	0,00	0,00	
Liquid detegent TEXCARE	1 liter	12,52	14,90	12,52 / l
Powder detegent TEXCARE	1 kg	12,52	14,90	12,52 / kg

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		1)	2)	Base price
		Net €	Gross €	€ Net
Shielding canopies				
	Unit			
New-Daylite , pyramidal	1 piece	672,18	799,90	
New-Daylite , box single	1 piece	798,24	949,90	
New-Daylite , box double	1 piece	966,30	1149,90	
Voile , pyramidal	1 piece	798,24	949,90	
Voile , box single	1 piece	966,30	1149,90	
Voile , box double	1 piece	1218,40	1449,90	
Naturell , pyramidal	1 piece	798,24	949,90	
Naturell , box single	1 piece	966,30	1149,90	
Naturell , box double	1 piece	1218,40	1449,90	
Naturell-Ultra , pyramidal	1 piece	882,27	1049,90	
Naturell-Ultra , box single	1 piece	1050,34	1249,90	
Naturell-Ultra , box double	1 piece	1302,44	1549,90	
Ultima , pyramidal	1 piece	882,27	1049,90	
Ultima , box single	1 piece	1050,34	1249,90	
Ultima , box double	1 piece	1302,44	1549,90	
Silver-Tulle , pyramidal	1 piece	882,27	1049,90	
Silver-Tulle , box single	1 piece	1092,35	1299,90	
Silver-Tulle , box double	1 piece	1428,49	1699,90	
Floor mat U15 from Steel-Twin	1 piece	109,16	129,90	
Floor mat U25 from Steel-Twin	2 pieces	210,00	249,90	124,95 / pc.
Spare ring for pyramidal canopies	1 piece	25,13	29,90	
Textile products				
	Unit	Net €	Gross €	Base price
Sleeping bag Steel-Gray TSB	2 pieces	294,03	349,90	
Bedding Steel-Gray TBL	2 pieces	184,03	219,00	
Headgear Silver-Elastic TKE	1 piece	29,33	34,90	
Headscarfs Steel-Gray TKG	1 piece	29,33	34,90	
Headscarfs Wear TKW	1 piece	41,93	49,90	
Blanket Steel-Gray TDG	1 piece	83,95	99,90	
Hoodie Silver-Elastic TEO	1 piece	235,21	279,90	
Underpants Silver-Elastic TEU	1 piece	167,98	199,90	
Fitted sheet 100x200 TLG100	1 piece	67,14	79,90	
Earthing products				
	Unit	Net €	Gross €	Base price
Sheet single bed ES2	1 piece	100,76	119,90	
Sheet double bed ES3	1 piece	167,98	199,90	
Duvet cover ED1	1 piece	167,98	199,90	
Pillow cover normal EP1	1 piece	109,16	129,90	
Pillow cover small EP2	1 piece	83,95	99,90	
Blanket ESB	1 piece	83,95	99,90	
Sleeping cover ESC	1 piece	167,98	199,90	
Sofa cushion big EU1	1 piece	62,94	74,90	
Sofa cushion small EU2	1 piece	58,74	69,90	
Seat cushion EU3	1 piece	58,74	69,90	
Sewing accessories				
	Unit	Net €	Gross €	Base price
Silvered twisted yarn Y300	14625 LM	252,02	299,90	0,02 / m
Silvered hook-and-loop 30 mm	LM/30 mm width	50,34	59,90	50,34 / m
Silvered zip fastener 32 mm	LM/32 mm width	25,13	29,90	25,13 / m
Slider for zip fastener / Fulda	1 piece	0,84	1,00	
Slider for zip fastener / Werra	1 piece	1,43	1,70	
Slider for zip fastener / Illner	1 piece	1,60	1,90	

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EMR-Meters	Unit	1)	2)	Base price	
		Net €	Gross €	€	Net
LF Analyser ME3030B	1 piece	125,63	149,50		
LF Analyser ME3830B	1 piece	192,86	229,50		
LF Analyser ME3840B	1 piece	250,00	297,50		
RF Analyser HF32D	1 piece	209,66	249,50		
RF Analyser HF35C	1 piece	293,70	349,50		
RF Analyser HFE35C	1 piece	629,75	749,40		
RF Analyser HFW35C	1 piece	330,00	392,70		
RF Analyser HFEW35C	1 piece	939,50	1118,01		
RF Analyser HF38B	1 piece	419,75	499,50		
Set MK10	1 piece	335,71	399,49		
Set MK20	1 piece	461,76	549,49		
Set MK30	1 piece	659,24	784,50		
Plastic case K5 small	1 piece	21,60	25,70		
Plastic case K2 Big	1 piece	36,30	43,20		
Electrosmog Indicator ESI 21	1 piece	83,19	99,00		
Electrosmog Indicator ESI 22	1 piece	83,19	99,00		
Electrosmog Indicator ESI 23	1 piece	142,02	169,00		
Electrosmog Indicator ESI 24	1 piece	200,00	238,00		
RF/EMF Meter TM-190	1 piece	142,77	169,90		
RF Meter TM-195	1 piece	117,56	139,90		
RF Meter TM-196	1 piece	252,02	299,90		
Demand switches	Unit	Net €	Gross €	Base price	
Comfort NA1 with VDE	1 piece	104,40	124,24		
Comfort NA5 with VDE	1 piece	126,90	151,01		
Comfort NA7 with VDE	1 piece	158,10	188,14		
Comfort NA8 with VDE	1 piece	195,60	232,76		
Ultima 8	1 piece	175,60	208,96		
Ultima 8 Time	1 piece	242,50	288,58		

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		1)	2)	Base price	
		Net €	Gross €	€ Net	
Multiple socket outlets					
Professional 4x D6700	Unit				
	1 piece	41,60	49,50		
Professional 6x D6744	1 piece	83,61	99,50		
Professional 9x D6788	1 piece	79,83	95,00		
Mounting brackets for D67... D6867	2 pieces	7,31	8,70		
2-pole switch D3460	1 piece	19,41	23,10		
Prefabricated cables					
Power cord 2 m black D2806	Unit	Net €	Gross €	Base price	
	1 piece	16,64	19,80		
Power cord 3 m white D3662	1 piece	20,42	24,30		
Adapter C13-C7 (2-pol.) D3223	1 piece	8,32	9,90		
Adapter C13-C5 (3-pol.) D3245	1 piece	8,32	9,90		
Extension cable 3 m black D3640	1 piece	22,18	26,40		
Extension cable 5 m white D3425	1 piece	26,05	31,00		
Free end 2 m black D2828	1 piece	13,19	15,70		
Free end 3 m black D3368	1 piece	14,45	17,20		
Free end 2 m white D3381	1 piece	12,77	15,20		
Free end 4 m white D2920	1 piece	18,57	22,10		
Shielded cables					
H05VV-F3G 0.75 mm² white	Unit	Net €	Gross €	Base price	
	1-49 meter	3,37	4,01	3,37 / m	
	50 meter ring	151,18	179,90	3,02 / m	
H05VV-F3G 1.5 mm² white	Unit	Net €	Gross €	Base price	
	1-49 meter	4,08	4,85	4,08 / m	
	50 meter ring	184,79	219,90	3,70 / m	
Shielded installation boxes					
Cavity-wall box 59 mm D4461	Unit	Net €	Gross €	Base price	
	1 piece	8,24	9,80		
Cavity-wall box 47 mm D4483	1 piece	7,23	8,60		
Cavity-wall junction casing D4505	1 piece	26,89	32,00		
Cavity-wall lamp box D4606	1 piece	11,09	13,20		
In-wall box 61 mm D4426	1 piece	6,22	7,40		
In-wall box 41 mm D4448	1 piece	5,46	6,50		
Push-wire connector D4628	50 pieces	8,99	10,70	0,18 / pc(s)	
Insulation sleeve D4685	100 pieces	8,24	9,80	0,08 / pc(s)	

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