



**Shielding of electromagnetic fields**



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## About us

By using our products, you can **professionally and successfully** shield electromagnetic fields (electrosmog). Application areas are mainly appliances, machines, separate walls, complete rooms and buildings, as well as complex industrial and military appliances. We supply all our products with screening **attenuation reports up to 40 GHz**. Clients in more than 150 countries rely on our products.

### Facts

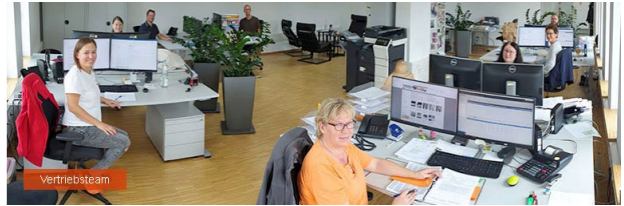
- Family-run company with environmentally and socially sustainable corporate management
- 2100 m<sup>2</sup> building space on a 7000 m<sup>2</sup> real estate
- 90 % export quota in more than 150 countries

### Philosophy

- **Proprietary products:** Our strength is the development and production of our own products. Carbon coatings, textile products, mechanical components. When it comes



Firmengebäude



Vertriebsteam

to trade products we work closely together with the suppliers.

- **Only the best:** We have only reliable products in our assortment. There are good reasons why several measuring devices, fabrics, nettings or clothing are not part of our assortment.

- **Shielding attenuation:** We have own professional measuring equipment, see our "services".
- **Everything from stock:** Many products have a production time up to 4-12 months. "Available from stock" means we'll ship on the same/next working day, even bigger quantities.

## Services

### Order development

We have been developing and producing **carbon coatings** since 2003 to shield electromagnetic fields and **carbon heating coatings** since 2009 for industrial customers. Don't waste your time with lengthy in-house developments, we for sure already have your favoured formula in our portfolio.



Labor Farbentwicklung

### Job order production

In case the formula is suitable, we can immediately start with the production in our **ultramodern production facility** – from 300 liter uniquely up to several tons a day.



Farbproduktion mit VISCOJET Mischern, YSTRAL Inline-Dispergiern, VOLLRATH Universal-Misch-Dissolver, Pulvermischer...

### Expert reports attenuation

We have **vector network analysers** by Rohde & Schwarz **up to 40 GHz**, TEM cells according to ASTM D4935-10 as well as a measuring cabin according to IEEE Std 299-2006 on site. We offer our measuring equipment plus our know-how at low costs for all interested parties. We are looking forward to receiving your enquiry!



Messplatz ASTM

## Overview - Shielding paints

|                                                            | HSF54                                                                                                                                                                                         | HSF64                                                                                                                                                                                                              | MAX54                                                                                                                                                                                                                                               | PRO54                                                                                                                                                                                                                                                    | TEC54                                                                                                                                                                                          | NSF34                                                                                                                                                  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brief description                                          | <b>Standard shielding paint with the best allround properties. One paint for almost all applications. TÜV-SÜD certified.</b><br>High shielding, adhesion and hardness with fine pigmentation. | <b>Standard shielding paint without preservatives on basis of dispersion silicate, minimalistic formulation. TÜV-SÜD certified.</b><br>High ecology with fine pigmentation. Limitations at adhesion and shielding. | <b>Special shielding paint with the focus on maximum shielding, if every single dB counts.</b><br>Limitations at hardness and abrasion resistance. Because of the sweetish smell, usage only in rooms that are occupied at first after application. | <b>Special shielding paint with the focus on hardness and abrasion resistance due to carbon fibers. TÜV-SÜD certified.</b><br>Limitations at shielding. Because of the sweetish smell, usage only in rooms that are occupied at first after application. | <b>Special carbon paint with the focus on technical application procedures.</b><br>With the fine 5 µm pigmentation for screen printing, blanket and roller coating, dipping, rinsing, airless. | <b>Standard shielding paint for low-frequency electrical fields. TÜV-SÜD certified.</b><br>To shield electrical devices, fuse boxes, power lines, etc. |
| <b>As shielding paint to shield electromagnetic fields</b> |                                                                                                                                                                                               |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          |                                                                                                                                                                                                |                                                                                                                                                        |
| Usage                                                      | Room / building shielding.                                                                                                                                                                    | Room / building shielding.                                                                                                                                                                                         | Room / building shielding.                                                                                                                                                                                                                          | Room / building shielding.                                                                                                                                                                                                                               |                                                                                                                                                                                                | Room / building shielding.                                                                                                                             |
| Screening HF / LF                                          | HF / LF                                                                                                                                                                                       | HF / LF                                                                                                                                                                                                            | HF / LF                                                                                                                                                                                                                                             | HF / LF                                                                                                                                                                                                                                                  |                                                                                                                                                                                                | ~ / LF                                                                                                                                                 |
| Screening 1 layer ①                                        | <b>39 dB</b>                                                                                                                                                                                  | <b>32 dB</b>                                                                                                                                                                                                       | <b>43 dB</b>                                                                                                                                                                                                                                        | <b>32 dB</b>                                                                                                                                                                                                                                             | <b>30 dB</b>                                                                                                                                                                                   | <b>40 dB (99 %)</b>                                                                                                                                    |
| Screening 2 layers ①                                       | <b>49 dB</b>                                                                                                                                                                                  | <b>40 dB</b>                                                                                                                                                                                                       | <b>53 dB</b>                                                                                                                                                                                                                                        | <b>40 dB</b>                                                                                                                                                                                                                                             | <b>38 dB</b>                                                                                                                                                                                   | ---                                                                                                                                                    |
| Screening 3 layers ①                                       | <b>59 dB</b>                                                                                                                                                                                  | <b>48 dB</b>                                                                                                                                                                                                       | <b>63 dB</b>                                                                                                                                                                                                                                        | <b>48 dB</b>                                                                                                                                                                                                                                             | <b>46 dB</b>                                                                                                                                                                                   | ---                                                                                                                                                    |
| Coverage                                                   | 5 - 7.5 m²/l                                                                                                                                                                                  | 5 - 7.5 m²/l                                                                                                                                                                                                       | 5 - 7.5 m²/l                                                                                                                                                                                                                                        | 5 - 7.5 m²/l                                                                                                                                                                                                                                             |                                                                                                                                                                                                | 7.5 - 10 m²/l                                                                                                                                          |
| Scope of application                                       | Interior, exterior                                                                                                                                                                            | Interior                                                                                                                                                                                                           | Interior, exterior                                                                                                                                                                                                                                  | Interior, exterior                                                                                                                                                                                                                                       |                                                                                                                                                                                                | Interior, exterior                                                                                                                                     |
| Substrates                                                 | Almost all                                                                                                                                                                                    | All absorbent                                                                                                                                                                                                      | Almost all                                                                                                                                                                                                                                          | Almost all                                                                                                                                                                                                                                               |                                                                                                                                                                                                | Almost all                                                                                                                                             |
| Moisture-resistance                                        | High                                                                                                                                                                                          | Normal                                                                                                                                                                                                             | High                                                                                                                                                                                                                                                | Very high                                                                                                                                                                                                                                                |                                                                                                                                                                                                | High                                                                                                                                                   |
| Sd-value                                                   | 0.1 m                                                                                                                                                                                         | 0.05 m                                                                                                                                                                                                             | 0.1 m                                                                                                                                                                                                                                               | 0.1 m                                                                                                                                                                                                                                                    |                                                                                                                                                                                                | 0.1 m                                                                                                                                                  |
| Applicable with                                            | Paint roller, airless (> 0.2 mm)                                                                                                                                                              | Paint roller, airless (> 0.2 mm)                                                                                                                                                                                   | Paint roller, airless (> 0.4 mm)                                                                                                                                                                                                                    | Paint roller, airless (> 0.4 mm)                                                                                                                                                                                                                         |                                                                                                                                                                                                | Paint roller, airless (> 0.1 mm)                                                                                                                       |
| <b>As coating in technical applications</b>                |                                                                                                                                                                                               |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          |                                                                                                                                                                                                |                                                                                                                                                        |
| Application                                                | Screen printing, roller / blanket coating, spraying                                                                                                                                           |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          | Screen printing, roller / blanket coating, spraying                                                                                                                                            | Screen printing, roller / blanket coating, spraying                                                                                                    |
| Thickness 200 µm ②                                         | ~ 1.5 Ω/□                                                                                                                                                                                     | ~ 2.7 Ω/□                                                                                                                                                                                                          | ~ 0.8 Ω/□                                                                                                                                                                                                                                           | ~ 2.7 Ω/□                                                                                                                                                                                                                                                | ~ 2.5 Ω/□                                                                                                                                                                                      | ~ 30 Ω/□                                                                                                                                               |
| Thickness 150 µm ②                                         | ~ 2.5 Ω/□                                                                                                                                                                                     |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          | ~ 3.5 Ω/□                                                                                                                                                                                      | ~ 40 Ω/□                                                                                                                                               |
| Thickness 100 µm ②                                         | ~ 4 Ω/□                                                                                                                                                                                       |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          | ~ 7 Ω/□                                                                                                                                                                                        | ~ 70 Ω/□                                                                                                                                               |
| <b>Ecology and certifications</b>                          |                                                                                                                                                                                               |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          |                                                                                                                                                                                                |                                                                                                                                                        |
| Ecology                                                    | High                                                                                                                                                                                          | Very high                                                                                                                                                                                                          | Normal                                                                                                                                                                                                                                              | Normal                                                                                                                                                                                                                                                   | Normal                                                                                                                                                                                         | High                                                                                                                                                   |
| Odor                                                       | <b>Dispersion typical,</b><br>after drying free of odor                                                                                                                                       | <b>Very low,</b><br>after drying free of odor                                                                                                                                                                      | <b>Sweetish,</b><br>after drying free of odor                                                                                                                                                                                                       | <b>Sweetish,</b><br>after drying free of odor                                                                                                                                                                                                            | <b>Sweetish,</b><br>after drying free of odor                                                                                                                                                  | <b>Dispersion typical,</b><br>after drying free of odor                                                                                                |
| VOC content ③                                              | 0.18 g/l                                                                                                                                                                                      | 0.17 g/l                                                                                                                                                                                                           | 0.19 g/l                                                                                                                                                                                                                                            | 0.19 g/l                                                                                                                                                                                                                                                 | 0.18 g/l                                                                                                                                                                                       | 0.20 g/l                                                                                                                                               |
| Full declaration ③④ preservation                           | 64 ppm BIT<br>34 ppm INN<br>3 ppm MIT                                                                                                                                                         | 0 ppm BIT<br>0 ppm INN<br>0 ppm MIT                                                                                                                                                                                | 64 ppm BIT<br>34 ppm INN<br>3 ppm MIT                                                                                                                                                                                                               | 58 ppm BIT<br>15 ppm INN<br>2 ppm MIT                                                                                                                                                                                                                    | 64 ppm BIT<br>34 ppm INN<br>3 ppm MIT                                                                                                                                                          | 69 ppm BIT<br>9 ppm INN<br>2 ppm MIT                                                                                                                   |
| Certification                                              | <b>TÜV-SÜD</b>                                                                                                                                                                                | <b>TÜV-SÜD</b>                                                                                                                                                                                                     | ---                                                                                                                                                                                                                                                 | <b>TÜV-SÜD</b>                                                                                                                                                                                                                                           | ---                                                                                                                                                                                            | <b>TÜV-SÜD</b>                                                                                                                                         |
| Fire behaviour                                             | DIN EN 13501-1                                                                                                                                                                                | DIN 4102-1                                                                                                                                                                                                         |                                                                                                                                                                                                                                                     | DIN 4102-1                                                                                                                                                                                                                                               | ---                                                                                                                                                                                            | ---                                                                                                                                                    |
| <b>Physical and chemical properties</b>                    |                                                                                                                                                                                               |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          |                                                                                                                                                                                                |                                                                                                                                                        |
| Color                                                      | Black                                                                                                                                                                                         | Gray                                                                                                                                                                                                               | Black                                                                                                                                                                                                                                               | Black                                                                                                                                                                                                                                                    | Gray                                                                                                                                                                                           | Black                                                                                                                                                  |
| Binder                                                     | Acrylate                                                                                                                                                                                      | Silicate, acrylate                                                                                                                                                                                                 | Acrylate                                                                                                                                                                                                                                            | Acrylate                                                                                                                                                                                                                                                 | Acrylate                                                                                                                                                                                       | Acrylate                                                                                                                                               |
| Pigmentation d90                                           | 50 µm                                                                                                                                                                                         | 50 µm                                                                                                                                                                                                              | 100 µm                                                                                                                                                                                                                                              | 100 µm                                                                                                                                                                                                                                                   | 5 µm                                                                                                                                                                                           | 5 µm                                                                                                                                                   |
| Adhesive strength                                          | <b>5.7 N/mm²</b>                                                                                                                                                                              | <b>3.6 N/mm²</b>                                                                                                                                                                                                   | <b>3.5 N/mm²</b>                                                                                                                                                                                                                                    | <b>8.4 N/mm²</b>                                                                                                                                                                                                                                         | <b>8.4 N/mm²</b>                                                                                                                                                                               | <b>12.2 N/mm²</b>                                                                                                                                      |
| Viscosity (Brookfield)                                     | ~ 2800 mPas                                                                                                                                                                                   | ~ 2000 mPas                                                                                                                                                                                                        | ~ 2600 mPas                                                                                                                                                                                                                                         | ~ 2600 mPas                                                                                                                                                                                                                                              | ~ 2600 mPas                                                                                                                                                                                    | ~ 1200 mPas                                                                                                                                            |
| Temperature max.                                           | 60° C                                                                                                                                                                                         | 60° C                                                                                                                                                                                                              | 60° C                                                                                                                                                                                                                                               | 60° C                                                                                                                                                                                                                                                    | 60° C                                                                                                                                                                                          | 60° C                                                                                                                                                  |
| pH value                                                   | 8                                                                                                                                                                                             | 11.6                                                                                                                                                                                                               | 8                                                                                                                                                                                                                                                   | 8                                                                                                                                                                                                                                                        | 8                                                                                                                                                                                              | 8                                                                                                                                                      |
| Density                                                    | 1.22 kg / l                                                                                                                                                                                   | 1.26 kg / l                                                                                                                                                                                                        | 1.21 kg / l                                                                                                                                                                                                                                         | 1.13 kg / l                                                                                                                                                                                                                                              | 1.11 kg / l                                                                                                                                                                                    | 1.06 kg / l                                                                                                                                            |
| MFFT                                                       | 5° C                                                                                                                                                                                          | 5° C                                                                                                                                                                                                               | 5° C                                                                                                                                                                                                                                                | 5° C                                                                                                                                                                                                                                                     | 5° C                                                                                                                                                                                           | 5° C                                                                                                                                                   |
| Frost/thaw resistance                                      | 5 cycles                                                                                                                                                                                      | 5 cycles                                                                                                                                                                                                           | 5 cycles                                                                                                                                                                                                                                            | 5 cycles                                                                                                                                                                                                                                                 | 5 cycles                                                                                                                                                                                       | 5 cycles                                                                                                                                               |
| Delivery sizes                                             | 1 / 5 liter                                                                                                                                                                                   | 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                                                                                                                                                                                      | 12 months                                                                                                                                              |

① dB = screening attenuation: 10 dB = 90 %; 20 dB = 99 %; 30 dB = 99.9 %; 40 dB = 99.99 %, 50 dB = 99.999 %; ...

② Film thickness given as wet film; Measured with Schütz-Messtechnik MR-1 and 4-point-probe.

③ Values taken from the inspection report YSHIELD-191203 from TÜV-SÜD.

④ ppm = parts per million (millionth percentages); Permitted value according to TÜV-SÜD from 2020 are 500 ppm.

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

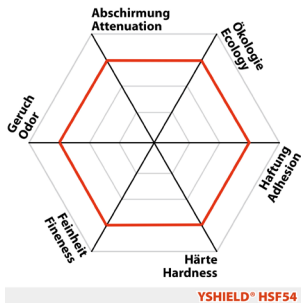
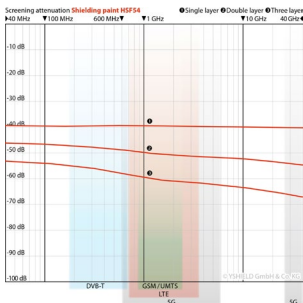
Prices

## HSF54 - Standard shielding paint (HF+LF)

### UNIVERSAL CLASSIC



YSHIELD® HSF54



### As shielding paint for rooms and buildings

Shielding paint for shielding high-frequency radiation (HF) and low-frequency electric fields (LF).

**Standard shielding paint with the best allround properties. One paint for almost all applications. TÜV-SÜD certified. High shielding, adhesion and hardness with fine pigmentation.**

Breathable, solvent-free, plasticizer-free and low-emission. With phenomenal physical and chemical properties, along with high ecology.

#### Underground

Excellent adhesion on almost all substrates interior and exterior.

#### Top coating

Preferably covered with plastic bonded **water-based emulsion paints**, dispersion silicate paints, facade paints or silicon resin paints.

#### Grounding

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

#### Optional: Fiber additive AF3

For crack bridging and a better grounding we advise our fiber additive AF3 with long conductive carbon fibers.

### As coating in technical applications

With the fine pigmentation of 50 µm, high film hardness, good substrate wetting, high adhesive tensile strenght and newtonian rheology ... our customers discovered **more and more technical applications** through the years:

Technical shielding of parts, devices, machines or facilities. Manufacturing of absorber materials, pressure sensors, screen printing on heating films or gypsum boards.

#### Screening attenuation

Single layer **39 dB**  
Double layer **49 dB**  
Three layer **59 dB**

#### Frost resistance

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

#### Ingredients

Water, natural graphite, pure acrylics dispersion, carbon black, additives, preservative (BIT, INN, MIT).

#### Technical data

Please find detailed data in the table overview and the technical data sheet.

#### Ready for 5G

Our shielding paints have an almost linear screening attenuation for a very large frequency range including both 5G frequency spectrums FR1 (600 MHz - 6 GHz) and FR2 (24 GHz - 40 GHz).

#### Safety up to 40 GHz

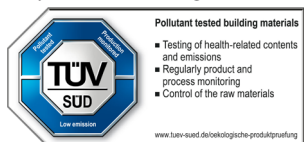
We have a professional EMC-laboratory according to various standards up to 40 GHz on site. You'll find the measuring curves and reports from 40/600 MHz - 40 GHz in the internet on the corresponding product pages.

#### No nanotechnology

Our shielding paints are developed in accordance with strict ecological criteria. We use the carbon black with the lowest emission possible on the market and untreated natural graphite. We consciously do not use graphene, a nanomaterial where the hazard potential is still completely unknown.

#### TÜV-SÜD certification

We have our shielding paints monitored by TÜV-Süd. The whole **production process** including **quality control, emission behaviour** and economical use of **preserving agents** is subject to monitoring.

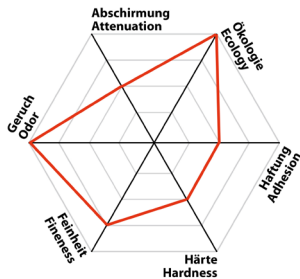
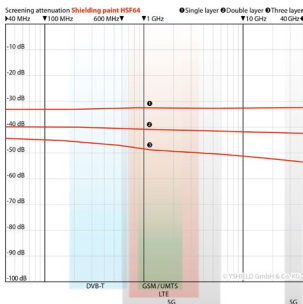


## HSF64 - Standard shielding paint (HF+LF)

### DISPERSION SILICATE WITHOUT PRESERVATION



YSHIELD® HSF64



YSHIELD® HSF64

### As shielding paint for rooms and buildings

Shielding paint for shielding high-frequency radiation (HF) and low-frequency electric fields (LF).

**Standard shielding paint without preservatives on basis of dispersion silicate, minimalistic formulation. TÜV-SÜD certified. High ecology with fine pigmentation. Limitations at adhesion and shielding.**

Breathable, solvent-free, plasticizer-free, low-emission and without preservation agent.

#### Underground

Adhesion on almost all absorbent substrates interior.

#### Top coating

Preferably covered with plastic bonded **water-based emulsion paints**, dispersion silicate paints or silicon resin paints.

#### Grounding

Must be grounded! We recommend interior the **grounding strap EB2** plus **grounding plate GW**.

#### Screening attenuation

Single layer **32 dB**  
Double layer **40 dB**  
Three layer **48 dB**

#### Frost resistance

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

#### Ingredients

Water, potassium silicate, natural graphite, carbon black, pure acrylics dispersion, additives, NO preservation agent.

#### Technical data

Please find detailed data in the table overview and the technical data sheet.

#### Ready for 5G

Our shielding paints have an almost linear screening attenuation for a very large frequency range including both 5G frequency spectrums FR1 (600 MHz - 6 GHz) and FR2 (24 GHz - 40 GHz).

#### Safety up to 40 GHz

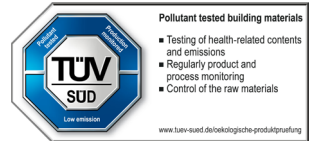
We have a professional EMC-laboratory according to various standards up to 40 GHz on site. You'll find the measuring curves and reports from 40/600 MHz - 40 GHz in the internet on the corresponding product pages.

#### No nanotechnology

Our shielding paints are developed in accordance with strict ecological criteria. We use the carbon black with the lowest emission possible on the market and untreated natural graphite. We consciously do not use graphene, a nanomaterial where the hazard potential is still completely unknown.

#### TÜV-SÜD certification

We have our shielding paints monitored by TÜV-Süd. The whole **production process** including **quality control, emission behaviour** and economical use of **preserving agents** is subject to monitoring.



## MAX54 - Special shielding paint (HF+LF)

### MAXIMUM SHIELDING



YSHIELD® MAX54

Breathable, solvent-free, plasticizer-free and low-emission. With phenomenal physical and chemical properties, along with high ecology.

#### Underground

Excellent adhesion on almost all substrates interior and exterior.

#### Top coating

Preferably covered with plastic bonded **water-based emulsion paints**, dispersion silicate paints, facade paints or silicon resin paints.

#### Grounding

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

#### Optional: Fiber additive AF3

For crack bridging and a better grounding we advise our fiber additive AF3 with long conductive carbon fibers.

#### Screening attenuation

Single layer **43 dB**  
Double layer **53 dB**  
Three layer **63 dB**

#### Frost resistance

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

#### Ingredients

Water, natural graphite, pure acrylics dispersion, carbon black, additives, preservative (BIT, INN, MIT).

#### Technical data

Please find detailed data in the table overview and the technical data sheet.

#### Ready for 5G

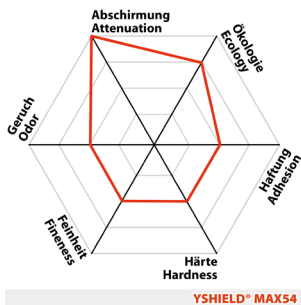
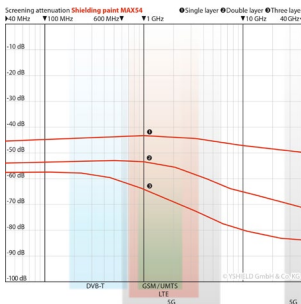
Our shielding paints have an almost linear screening attenuation for a very large frequency range including both 5G frequency spectrums FR1 (600 MHz - 6 GHz) and FR2 (24 GHz - 40 GHz).

#### Safety up to 40 GHz

We have a professional EMC-laboratory according to various standards up to 40 GHz on site. You'll find the measuring curves and reports from 40/600 MHz - 40 GHz in the internet on the corresponding product pages.

#### No nanotechnology

Our shielding paints are developed in accordance with strict ecological criteria. We use the carbon black with the lowest emission possible on the market and untreated natural graphite. We consciously do not use graphene, a nanomaterial where the hazard potential is still completely unknown.



### As shielding paint for rooms and buildings

Shielding paint for shielding high-frequency radiation (HF) and low-frequency electric fields (LF).

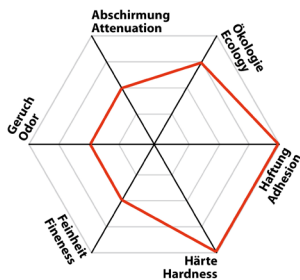
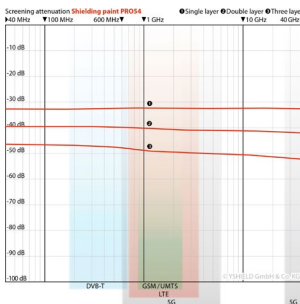
**Special shielding paint with the focus on maximum shielding, if every single dB counts. Limitations at hardness and abrasion resistance. Because of the sweetish smell, usage only in rooms that are not occupied while application.**

## PRO54 - Special shielding paint (HF+LF)

### HARD AND RELIABLE



YSHIELD® PRO54



YSHIELD® PRO54

### As shielding paint for rooms and buildings

Shielding paint for shielding high-frequency radiation (HF) and low-frequency electric fields (LF).

**Special shielding paint with the focus on hardness and abrasion resistance due to carbon fibers. TÜV-SÜD certified. Limitations at shielding. Because of the sweetish smell, usage only in rooms that are not occupied while application.**

Breathable, solvent-free, plasticizer-free and low-emission. With phenomenal physical and chemical properties, along with high ecology.

#### Underground

Excellent adhesion on almost all substrates interior and exterior.

#### Top coating

Preferably covered with plastic bonded **water-based emulsion paints**, dispersion silicate paints, facade paints or silicon resin paints.

#### Grounding

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

#### Optional: Fiber additive AF3

For crack bridging and a better grounding we advise our fiber additive AF3 with long conductive carbon fibers.

#### Screening attenuation

Single layer **32 dB**  
Double layer **40 dB**  
Three layer **48 dB**

#### Frost resistance

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

#### Ingredients

Water, pure acrylics dispersion, carbon fibers, natural graphite, carbon black, additives, preservative (BIT, INN, MIT).

#### Technical data

Please find detailed data in the table overview and the technical data sheet.

#### Ready for 5G

Our shielding paints have an almost linear screening attenuation for a very large frequency range including both 5G frequency spectrums FR1 (600 MHz - 6 GHz) and FR2 (24 GHz - 40 GHz).

#### Safety up to 40 GHz

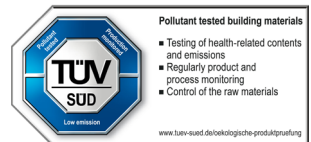
We have a professional EMC-laboratory according to various standards up to 40 GHz on site. You'll find the measuring curves and reports from 40/600 MHz - 40 GHz in the internet on the corresponding product pages.

#### No nanotechnology

Our shielding paints are developed in accordance with strict ecological criteria. We use the carbon black with the lowest emission possible on the market and untreated natural graphite. We consciously do not use graphene, a nanomaterial where the hazard potential is still completely unknown.

#### TÜV-SÜD certification

We have our shielding paints monitored by TÜV-Süd. The whole **production process** including **quality control**, **emission behaviour** and economical use of **preserving agents** is subject to monitoring.

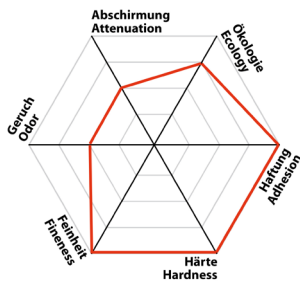
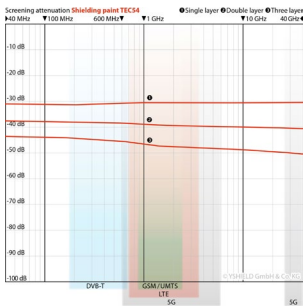


## TEC54 - Special shielding paint (HF+LF)

### FOR TECHNICAL COATING PROCESSES



YSHIELD® TEC54



YSHIELD® TEC54

### As coating in technical applications

**Special carbon paint with the focus on technical application procedures. With the fine 5 µm pigmentation for screen printing, blanket and roller coating, dipping, rinsing, airless.**

Technical shielding of parts, devices, machines or facilities. Manufacturing of absorber materials, pressure sensors, screen printing on heating films or gypsum boards.

#### Electrical resistance

Wet film 200 µm: ~2,5 Ω/□

Wet film 150 µm: ~3,5 Ω/□

Wet film 100 µm: ~7 Ω/□

To adjust the resistance or the viscosity please find our additives POLY5 and VISC5 in the internet.

#### Screening attenuation

Single layer **30 dB**

Double layer **38 dB**

Three layer **46 dB**

#### Frost resistance

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

#### Ingredients

Water, natural graphite, pure acrylics dispersion, carbon black, additives, preservative (BIT, INN, MIT).

#### Technical data

Please find detailed data in the table overview and the technical data sheet.

#### Ready for 5G

Our shielding paints have an almost linear screening attenuation for a very large frequency range including both 5G frequency spectrums FR1 (600 MHz - 6 GHz) and FR2 (24 GHz - 40 GHz).

#### Safety up to 40 GHz

We have a professional EMC-laboratory according to various standards up to 40 GHz on site. You'll find the measuring curves and reports from 40/600 MHz - 40 GHz in the internet on the corresponding product pages.

#### No nanotechnology

Our shielding paints are developed in accordance with strict ecological criteria. We use the carbon black with the lowest emission possible on the market and untreated natural graphite. We consciously do not use graphene, a nanomaterial

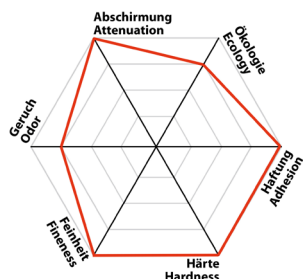
where the hazard potential is still completely unknown.

## NSF34 - Standard shielding paint (LF)

### FOR ELECTRICAL FIELDS ONLY



YSHIELD® NSF34



YSHIELD® NSF34

### As shielding paint for rooms and buildings

Shielding paint for shielding low-frequency electric fields (LF) only. No magnetic fields are shielded.

**Standard shielding paint for low-frequency electrical fields. TÜV-SÜD certified. To shield electrical devices, fuse boxes, power lines, etc.**

Breathable, solvent-free, plasticizer-free and low-emission. With phenomenal physical and chemical properties, along with high ecology.

### Underground

Excellent adhesion on almost all substrates interior and exterior.

### Top coating

Preferably covered with plastic bonded **water-based emulsion paints**, dispersion silicate paints, facade paints or silicon resin paints.

### Grounding

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

### Optional: Fiber additive AF3

For crack bridging and a better grounding we advise our fiber additive AF3 with long conductive carbon fibers.

### As coating in technical applications

With the fine pigmentation of 5 µm, high film hardness, good substrate wetting, high adhesive tensile strength and newtonian rheology ... our customers discovered **more and more technical applications** through the years:

Technical shielding of parts, devices, machines or facilities. Manufacturing of absorber materials, pressure sensors, screen printing on heating films or gypsum boards.

### Screening attenuation

Single layer **40 dB = 99 %**

### Frost resistance

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

### Ingredients

Water, pure acrylics dispersion, carbon black, natural graphite, additives, preservative (BIT, INN, MIT).

### Technical data

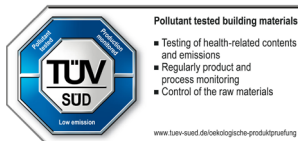
Please find detailed data in the table overview and the technical data sheet.

### No nanotechnology

Our shielding paints are developed in accordance with strict ecological criteria. We use the carbon black with the lowest emission possible on the market and untreated natural graphite. We consciously do not use graphene, a nanomaterial where the hazard potential is still completely unknown.

### TÜV-SÜD certification

We have our shielding paints monitored by TÜV-Süd. The whole **production process** including **quality control**, **emission behaviour** and economical use of **preserving agents** is subject to monitoring.



## 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**.

#### Ingredients

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

#### 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.

### AR42 - Paint stirrer

#### IMPORTANT FOR OUR 1-LITER BINS



YSHIELD® AR42

#### Characteristics

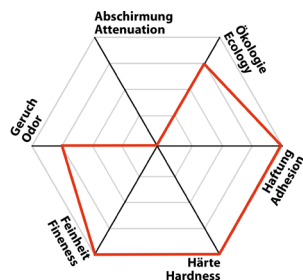
New paint stirrer to mix up our shielding paints in 1 and 5 liter containers. **None of the usual paint stirrers will fit in the 42 mm opening of our 1 liter containers.** That is why we have developed a stirrer by ourselves. **Made from soja-plastics** and printed on our industrial-3D-printers.

## DKL90 - Dispersion glue

### FOR OUR NETTINGS AND FLEECES



YSHIELD® DKL90



YSHIELD® DKL90

#### Characteristics

**Special coordinated dispersion glue for binding our sheet materials** to walls, ceilings, floors, doors, etc.. **Electrically conductive**, that the materials don't get isolated for grounding.

#### Processing

Processing is identical with the processing of a glue for tapestry! The wall area and reverse of the material that will be glued needs to be precoated with a paint roller. Insert the material wet-on-wet and press it down with a wallpaper roller.

For ecological reasons we don't use plasticizers or retarding agents, thus the DKL90 dries very quickly – especially on surfaces that have not been primed before. Therefore, you **need to work fast and on very small surfaces** so that the glue does not start to dry – it needs still to be wet while being inserted.

#### Technical data

- **Specially for the following materials:** HNG80, HNV100, NCV95
- **Delivery sizes:** 5 liter
- **Coverage:** 17.5 m<sup>2</sup> - 25 m<sup>2</sup>, depending on the underground
- **Ingredients:** Water, pure acrylics dispersion, carbon black, natural graphite, additives, preservative (BIT, INN, MIT).
- **Color:** Black
- **Surface conductivity:** 50 ohm (square resistance R<sub>□</sub>)
- **Viscosity (Brookfield):** 2600 mPas

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices

## Project examples

### Shielding of data centers, e.g. at APPLE



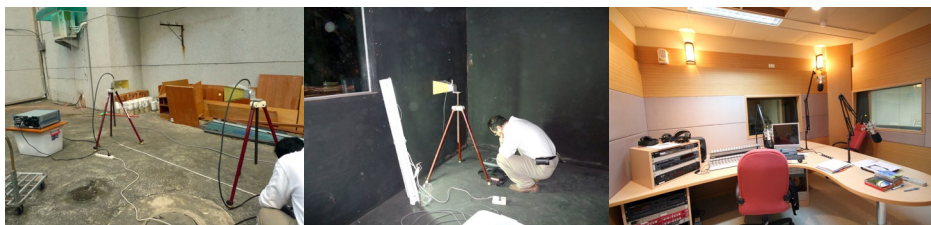
### Shielding of airport terminals



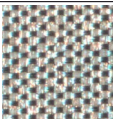
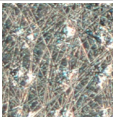
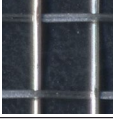
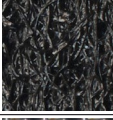
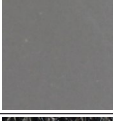
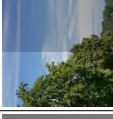
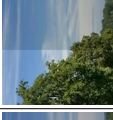
### Shielding of development departments, e.g. at ASUS, AMAZON



### Shielding of recording studios

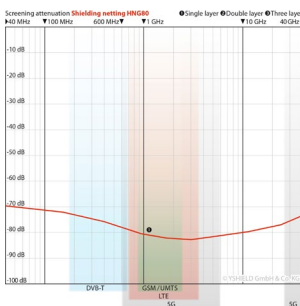
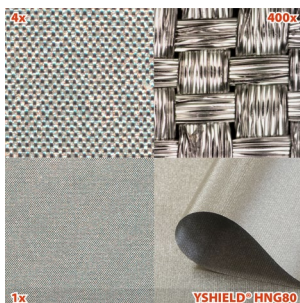


## Overview - Nettings, fleeces, films

|                                | <b>HNG80</b><br>Netting<br>Polyester                                                | <b>HNV100</b><br>Fleece<br>Polyester                                               | <b>V4A10</b><br>Gauze<br>Stainless steel                                                           | <b>V4A03</b><br>Gauze<br>Stainless steel                                                           | <b>NCV95</b><br>Fleece<br>Polyester                                               | <b>MCL61</b><br>Magnetic film<br>Cobalt                                           | <b>RDf62</b><br>Windowfilm                                                        | <b>RDf72</b><br>Windowfilm                                                        |
|--------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Picture (magnified)            |  |  |                   |                   |  |  |  |  |
| Shielding HF/LF/MF             | HF / LF / -                                                                         | HF / LF / -                                                                        | HF / LF / -                                                                                        | HF / LF / -                                                                                        | - / LF / -                                                                        | HF / LF / MF                                                                      | HF / - / -                                                                        | HF / - / -                                                                        |
| Shielding attenuation          | 80 dB                                                                               | 100 dB                                                                             | 40 dB                                                                                              | 50 dB                                                                                              | LF = 40 dB<br>(99 %)                                                              | MF = 30 dB                                                                        | 19 dB                                                                             | 30 dB                                                                             |
| Ecology                        | Normal                                                                              | Normal                                                                             | <b>Very high</b>                                                                                   | <b>Very high</b>                                                                                   | Normal                                                                            | Normal                                                                            | -                                                                                 | -                                                                                 |
| Base material                  | Polyester<br>netting                                                                | Polyester<br>fleece                                                                | Stainless steel<br>gauze V4A                                                                       | Stainless steel<br>gauze V4A                                                                       | Polyester<br>fleece                                                               | Cobalt based<br>alloy                                                             | -                                                                                 | -                                                                                 |
| Coating                        | Copper, nickel                                                                      | Copper, nickel                                                                     | -                                                                                                  | -                                                                                                  | Carbon laquer                                                                     | Laminating film                                                                   | Metal                                                                             | Metal                                                                             |
| Width                          | 90 cm                                                                               | 90 cm                                                                              | 90 cm                                                                                              | 90 cm                                                                                              | 95 cm                                                                             | 61 cm                                                                             | 76/152 cm                                                                         | 76/152 cm                                                                         |
| Weight                         | 75 g/m <sup>2</sup>                                                                 | 70 g/m <sup>2</sup>                                                                | 280 g/m <sup>2</sup>                                                                               | 200 g/m <sup>2</sup>                                                                               | 90 g/m <sup>2</sup>                                                               | 265 g/m <sup>2</sup>                                                              | -                                                                                 | -                                                                                 |
| Thickness                      | 0.075 mm                                                                            | 0.16 mm                                                                            | 0.32 mm                                                                                            | 0.16 mm                                                                                            | 0.55 mm                                                                           | 0.1 mm                                                                            | 0.04 mm                                                                           | 0.75 mm                                                                           |
| Tensile strenght               | High: 90 lbf                                                                        | Normal: 50 lbf                                                                     | Very high                                                                                          | Very high                                                                                          | Normal:<br>55-260 N/mm                                                            | -                                                                                 | -                                                                                 | -                                                                                 |
| Color                          | Gray/Brown                                                                          | Gray/Brown                                                                         | Gray                                                                                               | Gray                                                                                               | Black                                                                             | Silver                                                                            | Light gray                                                                        | Light green                                                                       |
| Electr. resistance             | 20 mΩ/□                                                                             | 10 mΩ/□                                                                            | 100 mΩ/□                                                                                           | 30 mΩ/□                                                                                            | 100 Ω/□                                                                           | -                                                                                 | -                                                                                 | -                                                                                 |
| Moisture resistance            | Bad                                                                                 | Bad                                                                                | <b>Very good</b>                                                                                   | <b>Very good</b>                                                                                   | Good                                                                              | Good                                                                              | -                                                                                 | -                                                                                 |
| Corrosion resistance           | Bad because<br>of copper                                                            | Bad because<br>of copper                                                           | Typically<br>good for V4A                                                                          | Typically<br>good for V2A                                                                          | Good because<br>of carbon                                                         | Good because<br>of laminate                                                       | -                                                                                 | -                                                                                 |
| Windproof                      | No                                                                                  | No                                                                                 | No                                                                                                 | No                                                                                                 | No                                                                                | Yes                                                                               | -                                                                                 | -                                                                                 |
| Waterproof                     | No                                                                                  | No                                                                                 | No                                                                                                 | No                                                                                                 | No                                                                                | Yes                                                                               | -                                                                                 | -                                                                                 |
| Application area<br>(examples) | Interior: Wall,<br>ceiling, floor                                                   | Interior: Wall,<br>ceiling, floor                                                  | Interior/exte-<br>rior: Drywall<br>installations,<br>ventilated<br>facades,<br>flush-mount-<br>ing | Interior/exte-<br>rior: Drywall<br>installations,<br>ventilated<br>facades,<br>flush-mount-<br>ing | Interior: Wall,<br>ceiling, floor,<br>loose laying                                | Interior:<br>Shielding of<br>low frequency<br>magnetic<br>fields                  | As window<br>film                                                                 | As window<br>film                                                                 |
| Processing<br>(examples)       | Glueing,<br>stapling,<br>laying                                                     | Glueing,<br>stapling,<br>laying                                                    | Plastering,<br>spackling,<br>stapling                                                              | Plastering,<br>spackling,<br>stapling                                                              | Glueing,<br>stapling,<br>laying                                                   | Glueing,<br>laying                                                                | Glue with<br>FMK30 and<br>FVR10                                                   | Glue with<br>FMK30, FVR10<br>and FL4                                              |
| Rework ability<br>(examples)   | Wall paints,<br>glueing<br>of sheet<br>materials                                    | Wall paints,<br>glueing<br>of sheet<br>materials                                   | Putty, plaster,<br>boards                                                                          | Putty, plaster,<br>boards                                                                          | Wall paints,<br>glueing<br>of sheet<br>materials                                  | Wall paints,<br>glueing<br>of sheet<br>materials                                  | -                                                                                 | -                                                                                 |

## HNG80 - Polyester netting (HF+LF)

### OUR RECOMMENDATION



### Characteristics

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

**Our cheap standard product for walls, ceilings and floors.** Commercial product for data centers, laboratories, TEMPEST rooms, ... now available for private use.

### Application

**Interior** for walls, ceilings and floors. As intermediate wallpaper, for drywall constructions, loosely laid, to shield devices, etc.

### Technical data

- **Width: 90 cm**
- **Length: By the meter / 100 m roll**
- **Attenuation: 80 dB** (production-related +/- 5 dB)
- **Weight: 75 g/m<sup>2</sup>**
- **Material thickness: 0.075 mm**
- **Color: Gray / Brown**
- **Tensile strength: 90 lbf**
- **Materials: Polyester, copper, nickel**
- **Surface conductivity: 0.02 ohm (square resistance R<sub>□</sub>)**

### Processing

In case of processing as an intermediate wallpaper, **for glueing** we recommend our dispersion glue DKL90. The wall and the backside of the material are coated with a paint roller. Insert the material wet on wet, fix it manually (with disposable gloves) and use a gummed roller to get a crease-free surface. Work quickly and strip by strip only, so that the DKL90 glue does not dry. A crease-free bonding is only possible on perfectly plane surfaces.

Further the material can be **laid loosely**, e.g. under floor coverings or can be **stapled**, e.g. in drywall constructions.

**Always overlapp** the single strips, so that they connect electrically for grounding.

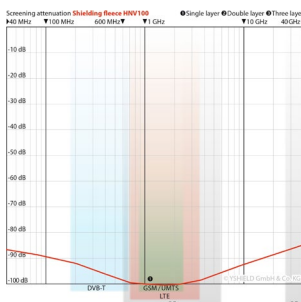
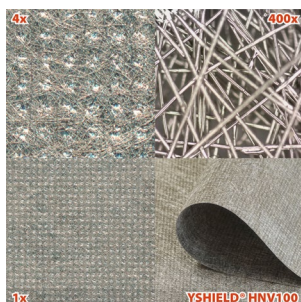
### Grounding

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.

## HNV100 - Polyester fleece (HF+LF)



### Characteristics

HNV100 is a **thermally bonded fine metallized polyester fleece** for the shielding of high-frequency radiation (HF) and low-frequency electric fields (LF).

**Our highest shielding professional product for walls, ceilings and floors.** Commercial product for data centers, laboratories, TEMPEST rooms, ... now available for private use.

### Application

**Interior** for walls, ceilings and floors. As intermediate wallpaper, for drywall constructions, loosely laid, to shield devices, etc.

### Technical data

- **Width: 90 cm**
- **Length: By the meter / 100 m roll**
- **Attenuation: 100 dB** (production-related +/- 5 dB)
- **Weight: 70 g/m<sup>2</sup>**
- **Material thickness: 0.16 mm**
- **Color: Gray / Brown**
- **Tensile strength: 50 lbf**
- **Materials: Polyester, copper, nickel**
- **Surface conductivity: 0.01 ohm (square resistance R□)**

### Processing

In case of processing as an intermediate wallpaper, **for glueing** we recommend our dispersion glue DKL90. The wall and the backside of the material are coated with a paint roller. Insert the material wet on wet, fix it manually (with disposable gloves) and use a gummed roller to get a crease-free surface. Work quickly and strip by strip only, so that the DKL90 glue does not dry. A crease-free bonding is only possible on perfectly plane surfaces.

Further the material can be **laid loosely**, e.g. under floor coverings or can be **stapled**, e.g. in drywall constructions.

**Always overlap** the single strips, so that they connect electrically 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

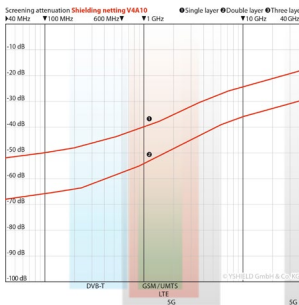
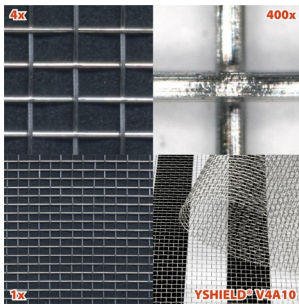
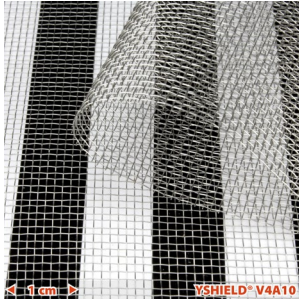
The screening attenuation is **regularly tested in our own EMC laboratory**. We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

### 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".

## V4A10 - Stainless steel gauze V4A (HF+LF)

### 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: 90 cm**
- **Length: By the meter / 25 m roll**
- **Attenuation: 40 dB**, two-layer 55 dB
- **Mesh width: 1.0 mm**, wire diameter: 0.16 mm, material thickness: 0.32 mm, open area 70 %
- **Weight: 280 g/m<sup>2</sup>**
- **Color: Silver**
- **Fire-proof material, A1 according DIN 4102:1994**
- **Surface conductivity: 0.1 ohm (square resistance R<sub>□</sub>)**

### Processing

In case processing the V4A10 under plaster you should work with a preferably fine and organic filler. Under floor coverings (laminate, parquet, PVC coating, etc.) 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 overlap 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

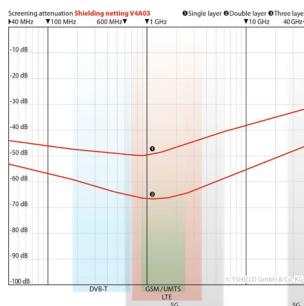
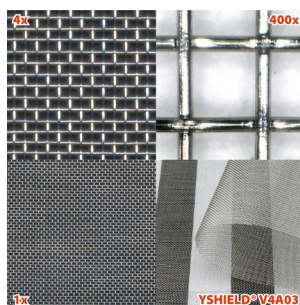
Due to the highly conductive surface this material can be **contacted and grounded easily to shield low frequency (LF) electric fields**.

### 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
- Length: By the meter / 25 m roll
- Attenuation: 50 dB, two-layer 65 dB
- Mesh width: 0.3 mm, wire diameter: 0.08 mm, material thickness: 0.16 mm, open area 54 %
- Weight: 200 g/m<sup>2</sup>
- Color: Silver
- Fire-proof material, A1 according DIN 4102:1994
- Surface conductivity: 0.03 ohm (square resistance R<sub>□</sub>)

### Processing under plaster

In case processing the V4A10 under plaster you should work with a preferably fine and organic filler. Under floor coverings (laminat, parquet, PVC coating, etc.) 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 overlap 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.

### Processing as flyscreen

In case processing as **flyscreen**, the application is identical to that of a regular flyscreen in commercial tenter frames.

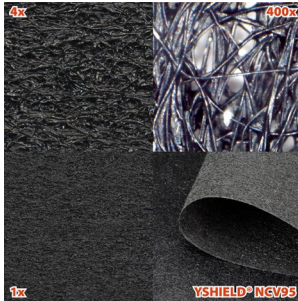
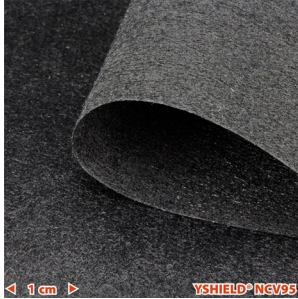
### Grounding

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: 40 dB (99 %)**
- Weight: 90 g/m<sup>2</sup>
- 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<sub>□</sub>)

### 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.

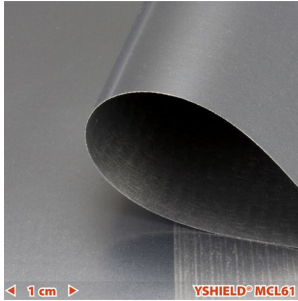
### Grounding

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

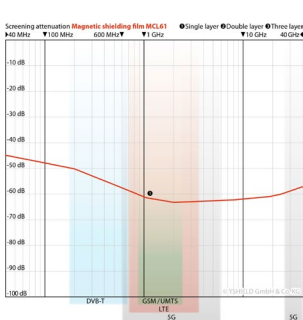
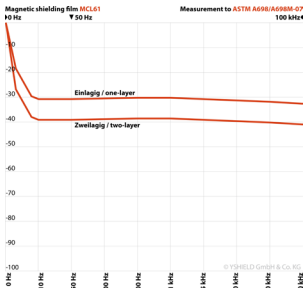
### Screening attenuation

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 **laminate 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: 60 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 m<sup>2</sup>), 20 m (1 m<sup>2</sup>), 100 m (5 m<sup>2</sup>)
- **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: 60 dB**
- **Weight:** 180 g/m<sup>2</sup>; **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

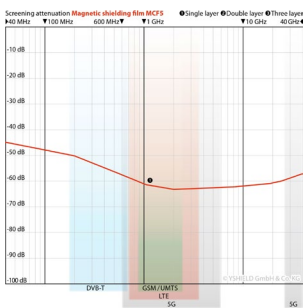
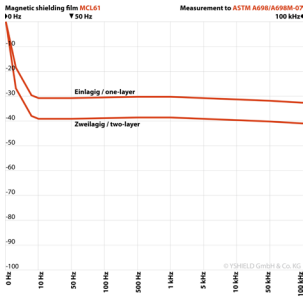
**Warning: The cutting edges are sharp as a knife!** Best use our plastic scraper FVR10 to press it on the adhesive tapes or into the glue, this is the safe way to keep your fingers! There is no self adhesive version available. However, bonding is easily possible: Please use a double sided adhesive tape 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

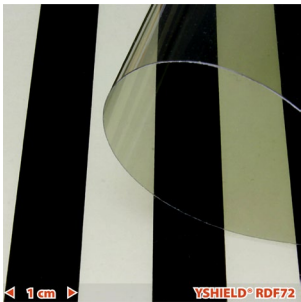
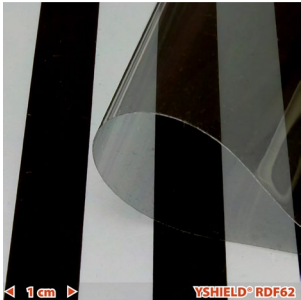
Due to the conductive surface this material **can be contacted and grounded easily** to shield low frequency (LF) electric fields.

### 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**

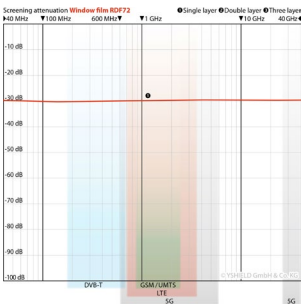
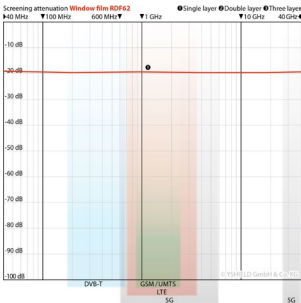
**RDFxx** are precious-metal coated and self-adhesive films for the shielding of high-frequency radiation (HF). ● **RDF62-Clear** has a perfect ratio between quality, light transmission, color of daylight and good attenuation. ● **RDF72-Premium** is our premium film consisting of 10 metal layers for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

**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.

**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**

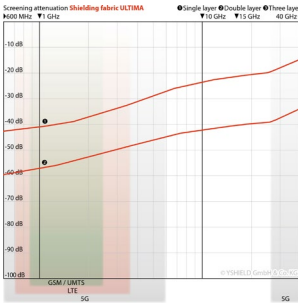
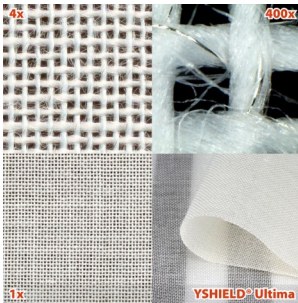


## Overview - Shielding fabrics

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**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 57 dB**
- Color: Ecru-White
- Raw materials: 82 % cotton, 17 % copper, 1 % silver
- Weight: 85 g/m<sup>2</sup>
- 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       |

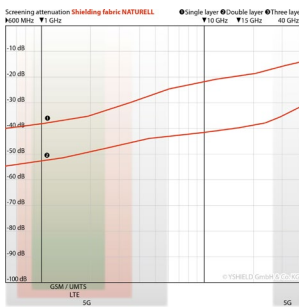
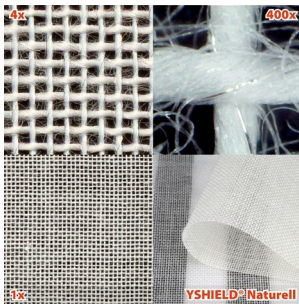
Cleaning with our special washing detergent **TEXCARE**.  
No handwashing! For allergy sufferers: Every new fabric smells, wash before its first usage!

**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 - 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/m<sup>2</sup>
- 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

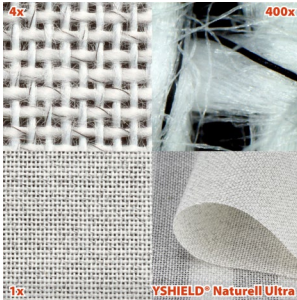
|  |                                |
|--|--------------------------------|
|  | Gentle cycle at 30°C           |
|  | Iron without steam at degree 1 |
|  | No drying in tumble dryers     |
|  | No bleaching                   |
|  | No chemical dry-cleaning       |

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: 38 dB**, two-layer 46 dB
- **Color: Ecru-White**
- **Raw materials: 81 % cotton, 17 % copper, 1 % silver, 1 % carbon**
- **Weight: 115 g/m<sup>2</sup>**

### 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.

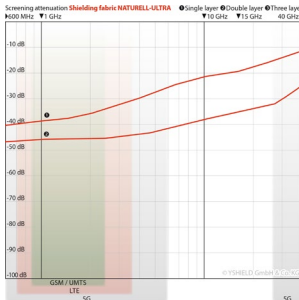
### Care

|  |                                |
|--|--------------------------------|
|  | 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!

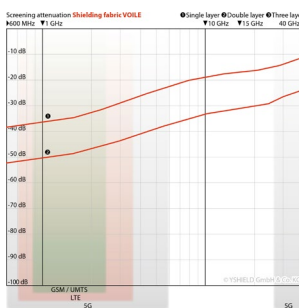
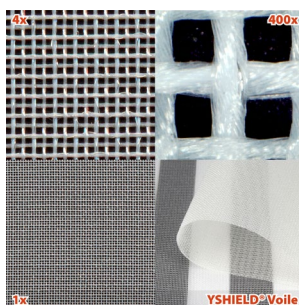
### About Swiss Shield®

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 50 dB**
- **Color: White**
- **Raw materials: 83 % polyester, 16 % copper, 1 % silver**
- **Weight: 55 g/m<sup>2</sup>**

### 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

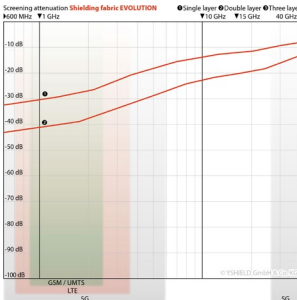
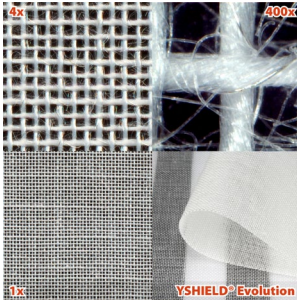
|  |                                |
|--|--------------------------------|
|  | Gentle cycle at 30°C           |
|  | Iron without steam at degree 1 |
|  | Drying at low temperature      |
|  | No bleaching                   |
|  | No chemical dry-cleaning       |

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®!**

## 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 42 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: 25 dB**, two-layer 35 dB
- **Color:** White; dyeing possible
- **Raw materials:** 90 % cotton, 9.5 % copper, 0.5 % silver
- **Weight:** 70 g/m<sup>2</sup>

### 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.

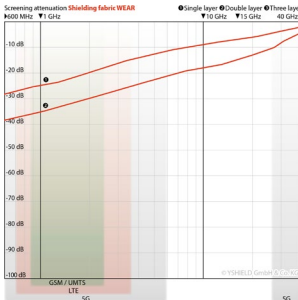
### Care

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

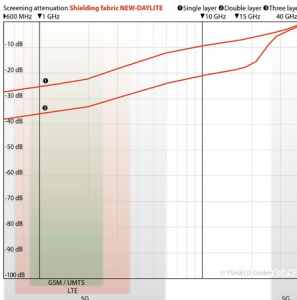
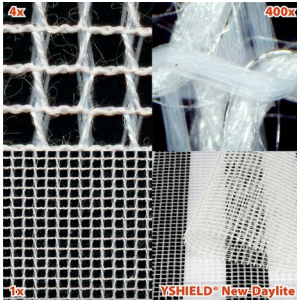
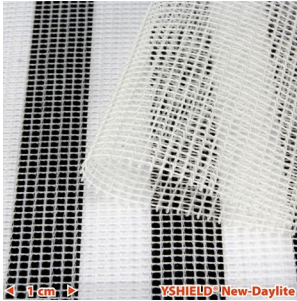
Cleaning with our special washing detergent **TEXCARE**. No handwashing! For allergy sufferers: Every new fabric smells, wash before its first usage!

### 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® 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 35 dB**
- **Color: White**
- **Raw materials: 78 % polyester (Trevira), 21 % copper, 1 % silver**
- **Weight: 65 g/m<sup>2</sup>**
- **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 |
|  | 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 loose 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: 130-140 cm, +/- 2 cm**
- **Length: Available by the meter, 100 meter rolls**
- **Attenuation: 50 dB, two-layer 70 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/m<sup>2</sup>**
- **Surface conductivity: 0.8 ohm (square resistance R<sub>□</sub>)**

### Grounding

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

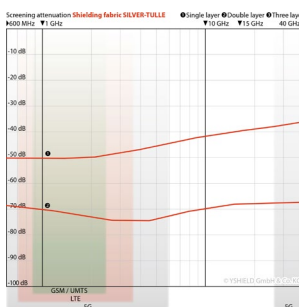
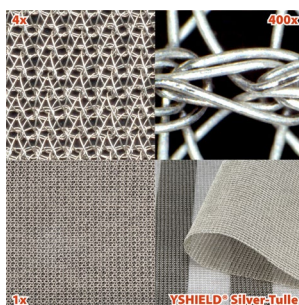
### Screening attenuation

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.

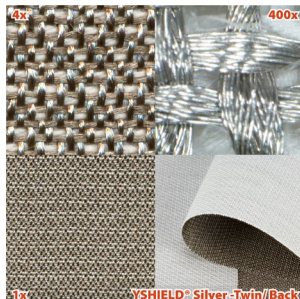
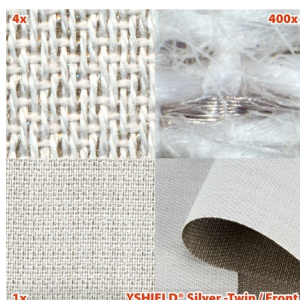
### Care

|  |                            |
|--|----------------------------|
|  | 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/m<sup>2</sup>**
- **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.

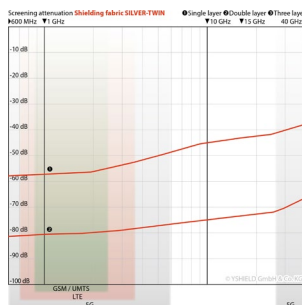
### Screening attenuation

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.

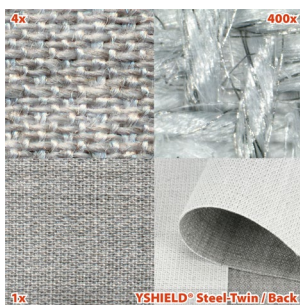
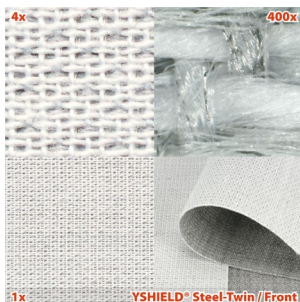
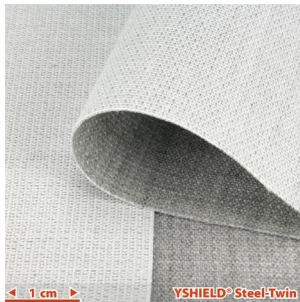
### Care

|  |                                |
|--|--------------------------------|
|  | 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!



## 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: 41 dB, two-layer 55 dB**
- **Color: Frontside light gray, backside silver**
- **Raw materials: 68 % cotton, 17 % polyester, 15 % stainless steel**
- **Weight: 190 g/m<sup>2</sup>**
- **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.

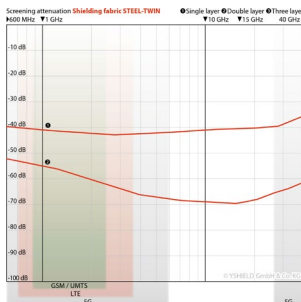
## Screening attenuation

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

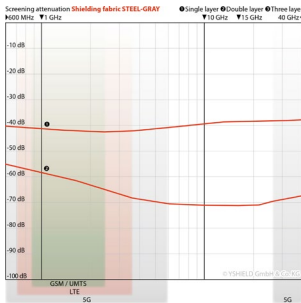
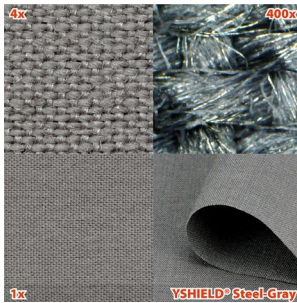
|                                                                                   |                                   |
|-----------------------------------------------------------------------------------|-----------------------------------|
|  | Gentle cycle<br>at 30°C           |
|  | Iron without<br>steam at degree 1 |
|  | No drying in<br>tumble dryers     |
|  | No bleaching                      |
|  | No chemical<br>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: 41 dB, two-layer 57 dB
- Color: Gray
- Raw materials: 40 % cotton, 30 % polyester, 30 % stainless steel
- Weight: 120 g/m<sup>2</sup>
- Surface conductivity: 100-800 ohm (square resistance R<sub>□</sub>)

### Grounding

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

### Screening attenuation

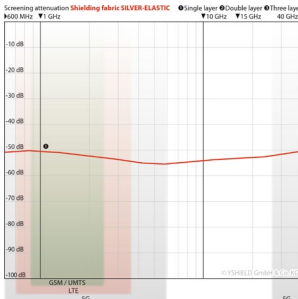
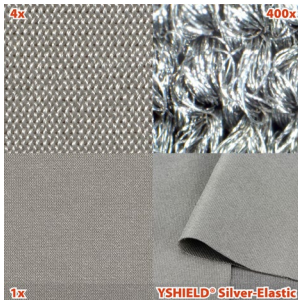
The screening attenuation is **regularly tested in our own EMC laboratory**. We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

### 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/m<sup>2</sup>
- **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

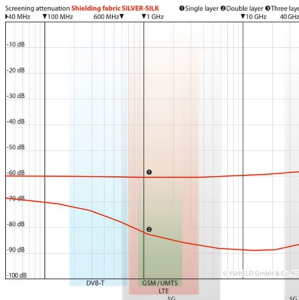
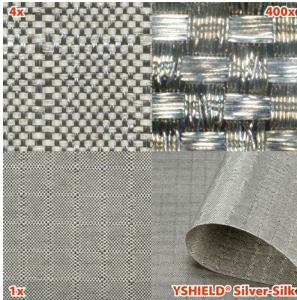
The screening attenuation is **regularly tested in our own EMC laboratory**. We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

### 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/m<sup>2</sup>**
- **Surface conductivity: 0.2 ohm (square resistance R<sub>□</sub>)**

### Grounding

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

### Screening attenuation

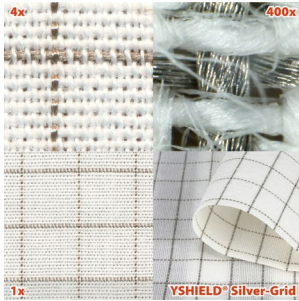
The screening attenuation is **regularly tested in our own EMC laboratory**. We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

### 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-GRID - Shielding fabric (LF)



### 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 higher 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/m<sup>2</sup>
- Conductivity: 15 ohm / 100 cm

### Grounding

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

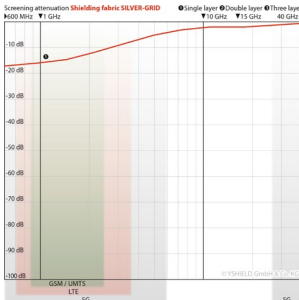
### Screening attenuation

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, 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!



## 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 cleanness 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 delectates 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 delectates 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  $R_{\square}$ )
- 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.

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.

### 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  $R_{\square}$ )
- 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

## 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.



## 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 lose 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.

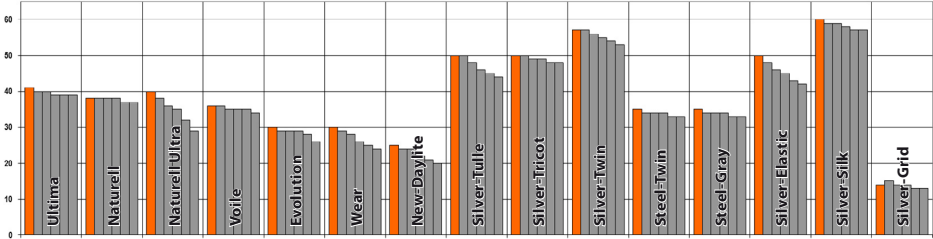
## Washing tips

**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

### 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.

### Care

|  |                            |
|--|----------------------------|
|  | Gentle cycle at 30°C       |
|  | No ironing                 |
|  | No drying in tumble dryers |
|  | No bleaching               |
|  | No chemical dry-cleaning   |

### Technical data

- **Diameter 24 cm, lenght 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, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

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

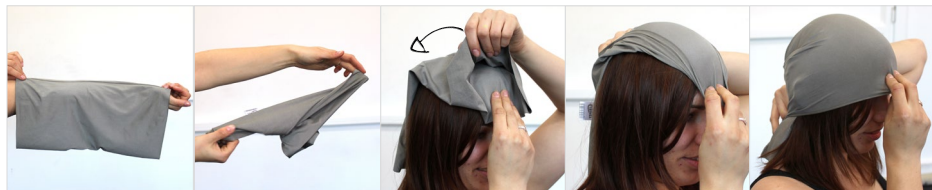
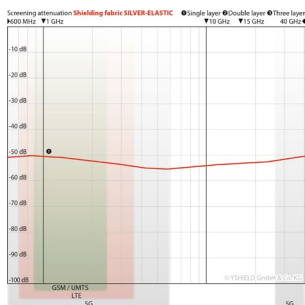
- A headgear is usually worn as „pirate bandana“.
- Turn the inside out so that the seam is visible.
- Put the headgear on your head (middle image).
- Hold the underside of the headgear. Now take the upper side and pull it back over your head with your other hand. Finally, cover your head.



YSHIELD® TKE



YSHIELD® TKE



## 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.

### 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!

### Technical data

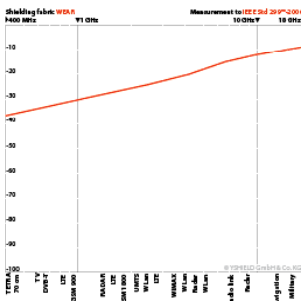
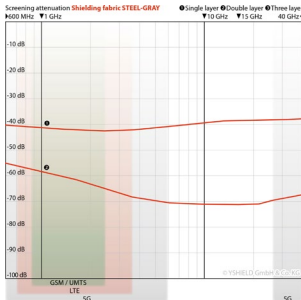
- **Size three-cornered:** 120 x 85 x 85 cm
- **Size quadratic:** 70 x 70 cm

### Steel-Gray:

- **Attenuation:** 41 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



## TDG - Blanket (HF)



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: 41 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

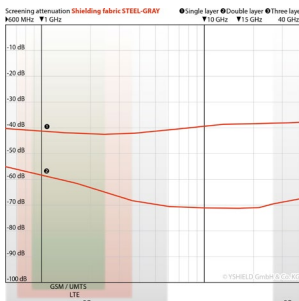


No bleaching



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**



YSHIELD® TSB



YSHIELD® TSB



YSHIELD® TSB

**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 it's stainless steel threats, **considerably durable and more stable** even with strong movement, than fabrics with silver threats 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, lenght 220 cm**
- **Attenuation: 41 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.

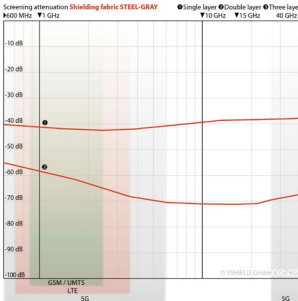
**Screening attenuation**

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!



Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices

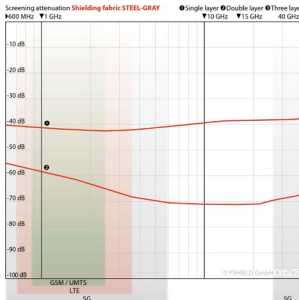
## TBL - Bedding (HF)



YSHIELD® TBL



YSHIELD® TBL



### Characteristics

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

**The bedding set includes a sheet and a duvet cover.** The sheet is made of Steel-Gray and can be covered with a common sheet if required. The duvet cover is sewed two-sided: With the Steel-Gray side (gray fabric) used downwards for a better shielding, as the shielding fabrics will lay on top of each other. With the cotton fabric side (white fabric) used downwards with a decreased shielding but less scratchy. The set is not including a pillow case, this is not necessary anyway because of the included sheet.

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

### Application

This bedding is a **cheap alternative to canopies**.

### Technical data

- **Size sheet:** 240 cm x 140 cm
- **Size duvet cover:** 200 cm x 135 cm
- **Attenuation:** 41 dB
- Raw materials: 40 % cotton, 30 % polyester, 30 % stainless steel
- Color: Gray, white

### Grounding

To shield low frequency electrical fields this bedding could be grounded. You need: 2 x GS, 1 x GP, 1 x GC100, 1x GC500. Because of the cables in your bed a grounding is not advised.

### 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)

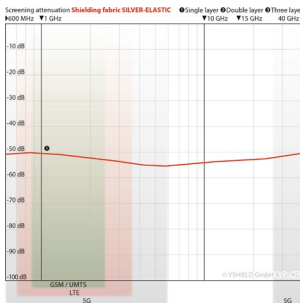
### OUR RECOMMENDATION



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/m<sup>2</sup>
- Surface conductivity: 0.5 ohm (square resistance R□)

### Screening attenuation

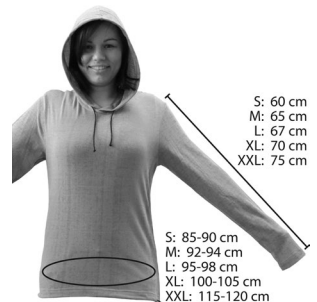
The screening attenuation is **regularly tested in our own EMC laboratory**. We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page

### 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



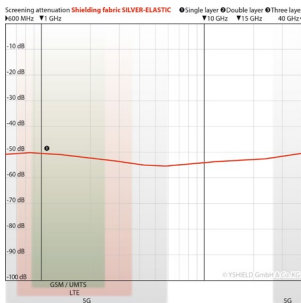
## OUR RECOMMENDATION



**YSHIELD® TEU**



## YSHIELD® TEO+TEU



HF and LF shielding **long underpants**. To wear as **thin underpants** under one's other clothing, or as **pyjama** together with our hoodie TEO (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

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S, M, L, XL, XXL
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## Care

|                                                                                   |                               |
|-----------------------------------------------------------------------------------|-------------------------------|
|  | Gentle cycle<br>at 30°C       |
|  | No ironing                    |
|  | No drying in<br>tumble dryers |
|  | No bleaching                  |
|  | No chemical<br>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-thread**.

### 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/m<sup>2</sup>
- **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).**

## 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**

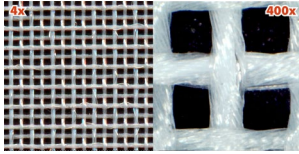
**We also recommend shielding the canopies from below, to achieve a complete faraday cage.** Our floor mats are layed under the bed, or better under a carpet. With the sewn in ground connection sockets, compatible to our grounding system, low-frequency electric fields (LF) can be shielded easily (e.g.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

|              | Box shape double bed                                                               | Box shape single bed                                                               | Pyramidal single bed                                                               |
|--------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Voile        |   |   |   |
| Silver-Tulle |   |   |   |
| Naturell     |  |  |  |

## Canopies - Fabrics

### Voile

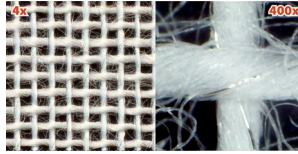
#### EX STOCK



**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.

### Naturell

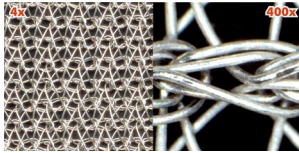
#### EX STOCK



**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.

### 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.

## 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 pyramidal 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

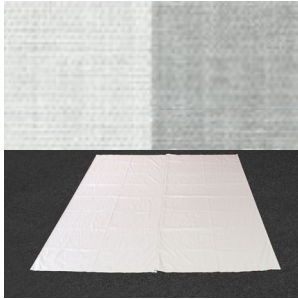
Grounding

Measurement

Electro

Prices

## U1S/U2S - Floor mats

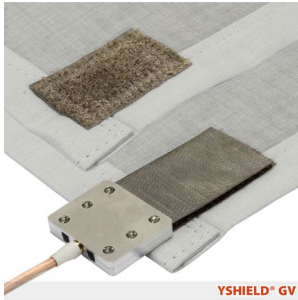


With **41 dB attenuation** optimal for all canopies made from NEW-DAYLITE, EVO-ULTRA, VOILE, NATURELL.

### Made from our shielding fabric STEEL-TWIN.

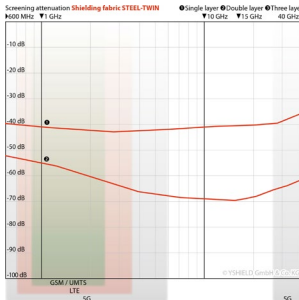
The stainless-steel-side should face towards the floor, the white cotton-side upwards.

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



### 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 seperately.
- **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 seperately.
- With sewed on Velcro-areas for our grounding plate GV.



## Functional equipotential bonding (FEB)

Large shielding measures with shielding materials are no electrical equipment but „new conductive parts“ according to IEV 826-03-03 or IEV 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  $\leq 30$  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  $4 \text{ mm}^2$  cable** in the electric circuit distributor (fuse box).

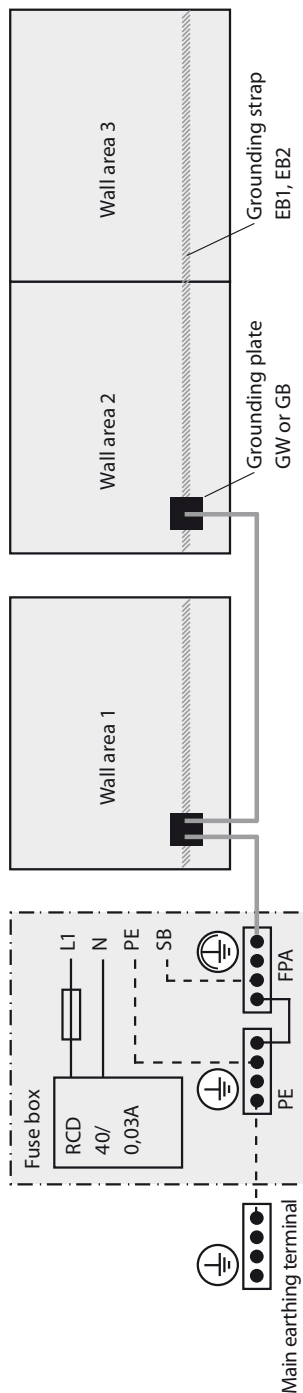
**2** In exceptional cases, the FEB-balancing circuit can be connected to a „suitable protective earth conductor or balancing line“. This exemption clause is important to make earthing possible without the need for making modifications to the fuse box.

**3** Grounding with a  **$2,5 \text{ mm}^2$  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:



## New grounding components



YSHIELD® GW

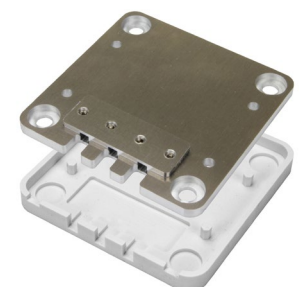
### What is new?

**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



YSHIELD® GW

**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



YSHIELD® GB

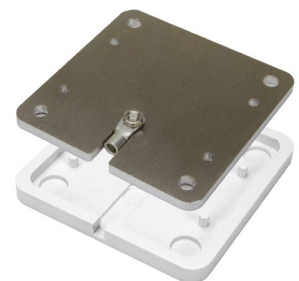
**Grounding plate for shielding paints, nettings, fleeces, etc. for interior use. Slim design for mounting in the baseboard area.**

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



YSHIELD® GE

**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 mm<sup>2</sup>.

### 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.

## 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.**

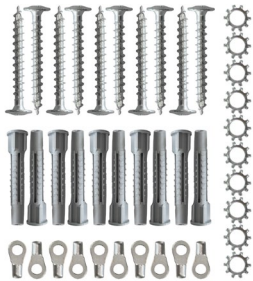
With soldered 4 mm gold plugs on both sides. This cables provide a protection against unplugging together with the cover caps.

### 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 mm<sup>2</sup>

## EBX10 | EBX50 - Grounding strap



YSHIELD® EBX

**Self-adhesive grounding strap with conductive glue to bridge cracks in the underground for a long-term grounding.**

On basis of our fleece HNV80. Due to the electrically conductive glue, it can be glued not only UNDER, but also ON shielding paints, fleeces or nettings. Sticks even on difficult undergrounds. For application we recommend our plastic scraper FVR10.

### Technical data

- Length EBX10: 10 m
- Length EBX50: 50 m
- Width 25 mm
- Thickness 0.1 mm
- Corrosion resistant
- Materials: Polyester, copper, nickel. Backside conductive acrylic glue with high adhesive strength

## 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



YSHIELD® GR-40

### 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 plugs.

**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



YSHIELD® GR-xxx

### 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



YSHIELD® GX + GC + GV

**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, EF, 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)

**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 and  $\mu\text{T}$
- Displayable units for electrical fields: V/m
- Displayable units for electromagnetic fields:  $\mu\text{W}/\text{m}^2$  -  $\text{mW}/\text{m}^2$ ,  $\mu\text{W}/\text{cm}^2$  -  $\text{mW}/\text{cm}^2$ , 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

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 electrosensitive persons,**

## 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/m<sup>2</sup>,  $\mu\text{W}/\text{cm}^2$
- 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/m<sup>2</sup>,  $\mu\text{W}/\text{cm}^2$
- 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 won't be displayed, the measurements are indicated 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 won't be displayed, the measurements are indicated 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 won't be displayed, the measurements are indicated 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 digit.

- 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

measurement possibilities. It 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

## 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

### 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 <sup>2</sup>   | 6.6 mm         | Weiß  | 6 A                            |
| 3 x 1.5 mm <sup>2</sup>    | 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**

- ❶ Copper conductors fine-stranded
- ❷ Insulation: Polyvinylchloride
- ❸ Drain wire: Copper: 0.34 mm<sup>2</sup>
- ❹ Screen: Plastic-coated aluminum band
- ❺ 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 mm<sup>2</sup>: 6 A**
- Current load **1.0 mm<sup>2</sup>: 10 A**
- Current load **1.5 mm<sup>2</sup>: 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 mm<sup>2</sup>

### Extension cable D3425



**Length 5m, Color white,**  
wire diameter 1.5 mm<sup>2</sup>

### Power cord D3662



**Length 3 m, Color white,**  
wire diameter 1.0 mm<sup>2</sup>

### Plug with free end D2828



**Length 2 m, Color black,**  
wire diameter 1.0 mm<sup>2</sup>

### Adapter D3223



Adapter (for D2806)  
C13 to two pole C7

### Plug with free end D3368



**Length 3 m, Color black,**  
wire diameter 0.75 mm<sup>2</sup>

### Adapter D3245



Adapter (for D2806)  
C13 to three pole C5

### Plug with free end D3381



**Length 2 m, Color white,**  
wire diameter 0.75 mm<sup>2</sup>

### Extension cable D3640



**Length 3 m, Color black,**  
wire diameter 1.5 mm<sup>2</sup>

### Plug with free end D2920



**Length 4 m, Color white,**  
wire diameter 0.75 mm<sup>2</sup>

## Shielded installation boxes

### Cavity-wall box 59 mm D4461



Shielded with conductive vacuum coating. Connection wire 1.5 mm<sup>2</sup>, 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 mm<sup>2</sup>, solid, isolated. Connection box for lamps. Diameter 35 mm, Depth 45 mm. Standard mounting distances.

### Push-wire connector D4628



5 x 1.0 mm<sup>2</sup> up to 2.5 mm<sup>2</sup>. Transparent. 50 pieces. Quick attachment.

### Cavity wall box 47 mm D4483



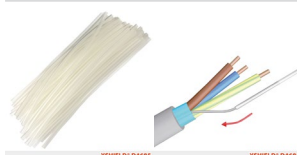
Shielded with conductive vacuum coating. Connection wire 1.5 mm<sup>2</sup>, solid, isolated. One gang box or switch box for plate thickness from 7-35 mm. Standard mounting distances.

### In-wall box 61 mm D4426



Shielded with conductive vacuum coating. Connection wire 1.5 mm<sup>2</sup>, solid, isolated. With snap-lock coupling, as one gang box or switch box under plaster. Standard mounting distances.

### Insulation sleeve D4685



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

### Junction case D4505



Shielded with conductive vacuum coating. Connection wire 1.5 mm<sup>2</sup>, 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 mm<sup>2</sup>, solid, isolated. With snap-lock coupling, as one gang box or switch box under plaster. Standard mounting distances.

Paints

Sheet products

Fabrics

Textile products

Canopies

Grounding

Measurement

Electro

Prices

## 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 mm<sup>2</sup>.**

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 mm<sup>2</sup>.**

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 mm<sup>2</sup>.**

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.

## Price list

15.06.2020

|                                    |                | 1)      | 2)             | Base price             |
|------------------------------------|----------------|---------|----------------|------------------------|
| Shielding paints carbon            | Unit           | Net €   | Gross €        | € Net                  |
| HF-Paint <b>HSF54</b>              | 1 liter        | 50,34   | <b>59,90</b>   | 50,34 / l              |
|                                    | 5 liter        | 210,00  | <b>249,90</b>  | 42,00 / l              |
| HF-Paint <b>HSF64</b>              | 1 liter        | 50,34   | <b>59,90</b>   | 50,34 / l              |
|                                    | 5 liter        | 210,00  | <b>249,90</b>  | 42,00 / l              |
| HF-Paint <b>MAX54</b>              | 1 liter        | 50,34   | <b>59,90</b>   | 50,34 / l              |
|                                    | 5 liter        | 210,00  | <b>249,90</b>  | 42,00 / l              |
| HF-Paint <b>PRO54</b>              | 1 liter        | 50,34   | <b>59,90</b>   | 50,34 / l              |
|                                    | 5 liter        | 210,00  | <b>249,90</b>  | 42,00 / l              |
| HF-Paint <b>TEC54</b>              | 1 liter        | 50,34   | <b>59,90</b>   | 50,34 / l              |
|                                    | 5 liter        | 210,00  | <b>249,90</b>  | 42,00 / l              |
| LF-Paint <b>NSF34</b>              | 1 liter        | 41,93   | <b>49,90</b>   | 41,93 / l              |
|                                    | 5 liter        | 167,98  | <b>199,90</b>  | 33,60 / l              |
| Conductive glue <b>DKL90</b>       | 5 liter        | 83,95   | <b>99,90</b>   | 16,79 / l              |
| Fiber additive <b>AF3</b>          | 0.09 liter     | 16,72   | <b>19,90</b>   | 185,81 / l             |
| Primer concentrate <b>GK5</b>      | 1 liter        | 16,72   | <b>19,90</b>   | 16,72 / l              |
| Polymer <b>POLY5</b>               | 1 liter        | 33,53   | <b>39,90</b>   | 33,53 / l              |
| Thickener <b>VISC5</b>             | 1 liter        | 41,93   | <b>49,90</b>   | 41,93 / l              |
| Paint stirrer <b>AR42</b>          | 1 piece        | 5,80    | <b>6,90</b>    |                        |
| HF-Paints <b>Sample set</b>        | 5 x 0.25 liter | 20,92   | <b>24,90</b>   | 16,74 / l              |
| Fleeces, nettings                  | Unit           | Net €   | Gross €        | Base price             |
| Stainless steel gauze <b>V4A10</b> | LM/0.9m width  | 10,00   | <b>11,90</b>   | 11,11 / m <sup>2</sup> |
|                                    | Roll/25 LM     | 210,00  | <b>249,90</b>  | 9,33 / m <sup>2</sup>  |
| Stainless steel gauze <b>V4A03</b> | LM/0.9m width  | 11,68   | <b>13,90</b>   | 12,98 / m <sup>2</sup> |
|                                    | Roll/25 LM     | 252,02  | <b>299,90</b>  | 11,20 / m <sup>2</sup> |
| Polyester netting <b>HNG80</b>     | LM/0.9m width  | 15,04   | <b>17,90</b>   | 16,71 / m <sup>2</sup> |
|                                    | Roll/100 LM    | 1344,45 | <b>1599,90</b> | 14,94 / m <sup>2</sup> |
| Polyester fleece <b>HNV100</b>     | LM/0.9m width  | 22,61   | <b>26,90</b>   | 25,12 / m <sup>2</sup> |
|                                    | Roll/100 LM    | 2100,76 | <b>2499,90</b> | 23,34 / m <sup>2</sup> |
| Nylon fleece <b>NCV95</b>          | LM/0.95m width | 10,00   | <b>11,90</b>   | 10,53 / m <sup>2</sup> |
|                                    | Roll/20 LM     | 167,98  | <b>199,90</b>  | 8,84 / m <sup>2</sup>  |

1) For all customers outside the EU.

For business customers with sales tax identification number inside the EU.

2) For private customers inside the EU.

**Price list**

**15.06.2020**

|                                            |                  | 1)     | 2)            | Base price              |
|--------------------------------------------|------------------|--------|---------------|-------------------------|
|                                            |                  | Net €  | Gross €       | € Net                   |
| <b>Magnetic shielding</b>                  |                  |        |               |                         |
| Magnetic shielding film <b>MCL61</b>       | Unit             |        |               |                         |
|                                            | LM/0.61m width   | 83,95  | <b>99,90</b>  | 137,62 / m <sup>2</sup> |
| Magnetic shielding film <b>MCF5</b>        | Unit             |        |               |                         |
|                                            | LM/5 cm width    | 16,72  | <b>19,90</b>  | 334,45 / m <sup>2</sup> |
|                                            | Roll/20 LM       | 167,98 | <b>199,90</b> | 167,98 / m <sup>2</sup> |
|                                            | Roll/100 LM      | 630,17 | <b>749,90</b> | 126,03 / m <sup>2</sup> |
| <b>Shielding window films</b>              |                  |        |               |                         |
| Window film <b>RDF62-152</b>               | Unit             |        |               |                         |
|                                            | LM/1.52m width   | 50,34  | <b>59,90</b>  | 33,12 / m <sup>2</sup>  |
| Window film <b>RDF62-76</b>                | Unit             |        |               |                         |
|                                            | LM/0.76m width   | 25,13  | <b>29,90</b>  | 33,06 / m <sup>2</sup>  |
| Window film <b>RDF72-152</b>               | Unit             |        |               |                         |
|                                            | LM/1.52m width   | 142,77 | <b>169,90</b> | 93,93 / m <sup>2</sup>  |
| Window film <b>RDF72-76</b>                | Unit             |        |               |                         |
|                                            | LM/0.76m width   | 71,34  | <b>84,90</b>  | 93,87 / m <sup>2</sup>  |
| Mounting concentrate <b>FMK30</b>          | Unit             |        |               |                         |
|                                            | 1 piece / 30 ml  | 4,12   | <b>4,90</b>   | 137,25 / l              |
| Bonding scraper <b>FVR10</b>               | Unit             |        |               |                         |
|                                            | 1 piece          | 6,64   | <b>7,90</b>   |                         |
| Edge sealant <b>FKV50</b>                  | Unit             |        |               |                         |
|                                            | 1 piece / 50 ml  | 16,72  | <b>19,90</b>  | 334,45 / l              |
| <b>Grounding accessories</b>               |                  |        |               |                         |
| Grounding strap <b>EBX10</b>               | Unit             |        |               |                         |
|                                            | 10 m             | 16,72  | <b>19,90</b>  | 1,67 / m                |
| Grounding strap <b>EBX50</b>               | Unit             |        |               |                         |
|                                            | 50 m             | 58,74  | <b>69,90</b>  | 1,17 / m                |
| Grounding plate Wall <b>GW</b>             | Unit             |        |               |                         |
|                                            | 1 piece          | 16,72  | <b>19,90</b>  |                         |
| Grounding plate Baseboard <b>GB</b>        | Unit             |        |               |                         |
|                                            | 1 piece          | 16,72  | <b>19,90</b>  |                         |
| Grounding plate Exterior <b>GE</b>         | Unit             |        |               |                         |
|                                            | 1 piece          | 25,13  | <b>29,90</b>  |                         |
| Grounding plate Tubel <b>GT</b>            | Unit             |        |               |                         |
|                                            | 1 piece          | 16,72  | <b>19,90</b>  |                         |
| Grounding plate Magnet <b>GM</b>           | Unit             |        |               |                         |
|                                            | 1 piece          | 16,72  | <b>19,90</b>  |                         |
| Grounding plate Screw <b>GS</b>            | Unit             |        |               |                         |
|                                            | 1 piece          | 16,72  | <b>19,90</b>  |                         |
| Grounding plate Velcro <b>GV</b>           | Unit             |        |               |                         |
|                                            | 1 piece          | 12,52  | <b>14,90</b>  |                         |
| Grounding plug <b>GP</b>                   | Unit             |        |               |                         |
|                                            | 1 piece          | 16,72  | <b>19,90</b>  |                         |
| Grounding plug <b>GX (B to M)</b>          | Unit             |        |               |                         |
|                                            | 1 piece          | 16,72  | <b>19,90</b>  |                         |
| Grounding plug <b>GX-W</b>                 | Unit             |        |               |                         |
|                                            | 1 piece          | 33,53  | <b>39,90</b>  |                         |
| Grounding set <b>MCL</b>                   | Unit             |        |               |                         |
|                                            | 1 piece          | 8,32   | <b>9,90</b>   |                         |
| Grounding rod 40 cm <b>GR-40</b>           | Unit             |        |               |                         |
|                                            | 1 piece          | 16,72  | <b>19,90</b>  |                         |
| Grounding rod 50 cm <b>GR-50</b>           | Unit             |        |               |                         |
|                                            | 1 piece          | 33,53  | <b>39,90</b>  |                         |
| Grounding rod 100 cm <b>GR-100</b>         | Unit             |        |               |                         |
|                                            | 1 piece          | 41,93  | <b>49,90</b>  |                         |
| Grounding strap <b>EB1</b>                 | Unit             |        |               |                         |
|                                            | 10 m/width 2 cm  | 16,72  | <b>19,90</b>  | 1,67 / m                |
| Grounding strap <b>EB2</b>                 | Unit             |        |               |                         |
|                                            | 10 m/width 2 cm  | 16,72  | <b>19,90</b>  | 1,67 / m                |
| Grounding strap <b>EB3</b>                 | Unit             |        |               |                         |
|                                            | 1 LM/width 10 cm | 8,32   | <b>9,90</b>   | 8,32 / m                |
| Perforated stainless steel tape <b>ELB</b> | Unit             |        |               |                         |
|                                            | 10 meter         | 16,72  | <b>19,90</b>  | 1,67 / m                |
| Grounding cable 20 cm <b>GC-20</b>         | Unit             |        |               |                         |
|                                            | 1 piece          | 7,48   | <b>8,90</b>   | 37,39 / m               |
| Grounding cable 100 cm <b>GC-100</b>       | Unit             |        |               |                         |
|                                            | 1 piece          | 8,32   | <b>9,90</b>   | 8,32 / m                |
| Grounding cable 200 cm <b>GC-200</b>       | Unit             |        |               |                         |
|                                            | 1 piece          | 9,16   | <b>10,90</b>  | 4,58 / m                |
| Grounding cable 500 cm <b>GC-500</b>       | Unit             |        |               |                         |
|                                            | 1 piece          | 10,00  | <b>11,90</b>  | 2,00 / m                |
| Grounding cable 1000 cm <b>GC-1000</b>     | Unit             |        |               |                         |
|                                            | 1 piece          | 12,52  | <b>14,90</b>  | 1,25 / m                |
| <b>Shielding fabrics</b>                   |                  |        |               |                         |
| Fabric SwissShield <b>Voile</b>            | Unit             |        |               |                         |
|                                            | LM/2.5m width    | 100,76 | <b>119,90</b> | 40,30 / m <sup>2</sup>  |
| Fabric SwissShield <b>Naturell</b>         | Unit             |        |               |                         |
|                                            | LM/2.5m width    | 92,35  | <b>109,90</b> | 36,94 / m <sup>2</sup>  |
| Fabric SwissShield <b>Naturell Ultra</b>   | Unit             |        |               |                         |
|                                            | LM/2.5m width    | 109,16 | <b>129,90</b> | 43,66 / m <sup>2</sup>  |
| Fabric SwissShield <b>Ultima</b>           | Unit             |        |               |                         |
|                                            | LM/2.5m width    | 100,76 | <b>119,90</b> | 40,30 / m <sup>2</sup>  |
| Fabric SwissShield <b>Evolution</b>        | Unit             |        |               |                         |
|                                            | LM/2.5m width    | 79,75  | <b>94,90</b>  | 31,90 / m <sup>2</sup>  |
| Fabric SwissShield <b>Evolution-Ultra</b>  | Unit             |        |               |                         |
|                                            | LM/2.0m width    | 58,74  | <b>69,90</b>  | 29,37 / m <sup>2</sup>  |
| Fabric SwissShield <b>New-Daylite</b>      | Unit             |        |               |                         |
|                                            | LM/2.6m width    | 67,14  | <b>79,90</b>  | 25,82 / m <sup>2</sup>  |
| Fabric SwissShield <b>Wear</b>             | Unit             |        |               |                         |
|                                            | LM/1.5m width    | 58,74  | <b>69,90</b>  | 39,16 / m <sup>2</sup>  |
| Fabric <b>Silver-Twin</b>                  | Unit             |        |               |                         |
|                                            | LM/1.5m width    | 83,95  | <b>99,90</b>  | 55,97 / m <sup>2</sup>  |
| Fabric <b>Silver-Tulle</b>                 | Unit             |        |               |                         |
|                                            | LM/1.3m width    | 67,14  | <b>79,90</b>  | 51,65 / m <sup>2</sup>  |
| Fabric <b>Black-Tricot</b>                 | Unit             |        |               |                         |
|                                            | LM/1.37m width   | 62,94  | <b>74,90</b>  | 45,94 / m <sup>2</sup>  |
| Fabric <b>Silver-Elastic</b>               | Unit             |        |               |                         |
|                                            | LM/1.6m width    | 92,35  | <b>109,90</b> | 57,72 / m <sup>2</sup>  |
| Fabric <b>Steel-Twin</b>                   | Unit             |        |               |                         |
|                                            | LM/1.5m width    | 33,53  | <b>39,90</b>  | 22,35 / m <sup>2</sup>  |
| Fabric <b>Steel-Gray</b>                   | Unit             |        |               |                         |
|                                            | LM/1.5m width    | 33,53  | <b>39,90</b>  | 22,35 / m <sup>2</sup>  |
| Fabric <b>Silver-Silk</b>                  | Unit             |        |               |                         |
|                                            | LM/1.3m width    | 58,74  | <b>69,90</b>  | 45,18 / m <sup>2</sup>  |
| Fabric <b>Silver-Grid</b>                  | Unit             |        |               |                         |
|                                            | LM/1.5m width    | 33,53  | <b>39,90</b>  | 22,35 / m <sup>2</sup>  |
| Curtains sewing to your size               | Unit             |        |               |                         |
|                                            | 1 piece          | 0,00   | <b>0,00</b>   |                         |
| Liquid detegent <b>TEXCARE</b>             | Unit             |        |               |                         |
|                                            | 1 liter          | 12,52  | <b>14,90</b>  | 12,52 / l               |
| Powder detegent <b>TEXCARE</b>             | Unit             |        |               |                         |
|                                            | 1 kg             | 12,52  | <b>14,90</b>  | 12,52 / kg              |

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

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|                                     |         | 1)      | 2)             | Base price |
|-------------------------------------|---------|---------|----------------|------------|
| EMR-Meters                          | Unit    | Net €   | Gross €        | € Net      |
| LF Analyser <b>ME3030B</b>          | 1 piece | 142,35  | <b>169,40</b>  |            |
| LF Analyser <b>ME3830B</b>          | 1 piece | 209,66  | <b>249,50</b>  |            |
| LF Analyser <b>ME3840B</b>          | 1 piece | 276,30  | <b>328,80</b>  |            |
| RF Analyser <b>HF32D</b>            | 1 piece | 248,32  | <b>295,50</b>  |            |
| RF Analyser <b>HF35C</b>            | 1 piece | 293,70  | <b>349,50</b>  |            |
| RF Analyser <b>HFE35C</b>           | 1 piece | 795,04  | <b>946,10</b>  |            |
| RF Analyser <b>HFW35C</b>           | 1 piece | 399,58  | <b>475,50</b>  |            |
| RF Analyser <b>HFEW35C</b>          | 1 piece | 1194,62 | <b>1421,60</b> |            |
| RF Analyser <b>HF38B</b>            | 1 piece | 419,75  | <b>499,50</b>  |            |
| Set <b>MK10</b>                     | 1 piece | 412,27  | <b>490,60</b>  |            |
| Set <b>MK20</b>                     | 1 piece | 524,96  | <b>624,70</b>  |            |
| Set <b>MK30</b>                     | 1 piece | 732,35  | <b>871,50</b>  |            |
| Plastic case <b>K5 small</b>        | 1 piece | 21,60   | <b>25,70</b>   |            |
| Plastic case <b>K2 Big</b>          | 1 piece | 36,30   | <b>43,20</b>   |            |
| Electrosmog Indicator <b>ESI 21</b> | 1 piece | 83,19   | <b>99,00</b>   |            |
| Electrosmog Indicator <b>ESI 22</b> | 1 piece | 83,19   | <b>99,00</b>   |            |
| Electrosmog Indicator <b>ESI 23</b> | 1 piece | 142,02  | <b>169,00</b>  |            |
| Electrosmog Indicator <b>ESI 24</b> | 1 piece | 200,00  | <b>238,00</b>  |            |
| RF/EMF Meter <b>TM-190</b>          | 1 piece | 142,77  | <b>169,90</b>  |            |
| RF Meter <b>TM-195</b>              | 1 piece | 117,56  | <b>139,90</b>  |            |
| RF Meter <b>TM-196</b>              | 1 piece | 252,02  | <b>299,90</b>  |            |
|                                     |         |         |                |            |
| Demand switches                     | Unit    | Net €   | Gross €        | Base price |
| <b>Comfort NA5</b> with VDE         | 1 piece | 146,30  | <b>174,10</b>  |            |
| <b>Comfort NA7</b> with VDE         | 1 piece | 166,30  | <b>197,90</b>  |            |
| <b>Comfort NA8</b> with VDE         | 1 piece | 195,80  | <b>233,00</b>  |            |
| <b>Ultima 8</b>                     | 1 piece | 195,80  | <b>233,00</b>  |            |
| <b>Ultima 8 Time</b>                | 1 piece | 242,50  | <b>288,58</b>  |            |

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

1) For all customers outside the EU.

For business customers with sales tax identification number inside the EU.

2) For private customers inside the EU.

