EMR
SHIELDING SOLUTIONS

ELECTROMAGNETIC RADIATION SHIELDING

PRODUCT CATALOGUE

- **Shielding Paints**
- **Shielding Fabrics**
- **Shielding Canopies**
- **Window Films**
- **EMR-Meters**
- **Pricelist**

Customer Services:

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Post: EMR Shielding Solutions, P.O. Box 3128, Auburn Victoria 3123

Product overview

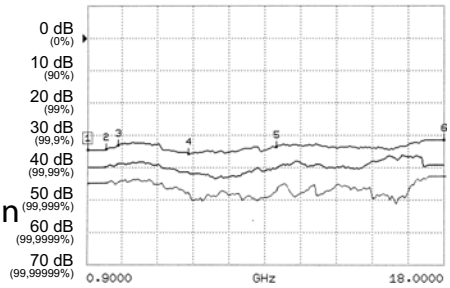
YSHIELD shielding paints are electro-conductive coatings for the protection of large areas from electromagnetic radiation (EMR). They offer the best shielding qualities for protection against **high-frequency (HF)** radiation and (or) against **low-frequency (LF)** electric fields. Typical areas of application are living areas (e. g. bedrooms, nurseries, living rooms), or the protection of whole buildings; the shielding paints should be covered with emulsion (or vinyl) paint.

	HSF54		NSF34
Shielding **HF**	X		
Shielding **LF**	X		X
Brief description	Standard paint for low- and high-frequency shielding		Standard paint for low-frequency shielding only
Screening (Shielding power)	40 dB (99.99%)		40 dB
Screening agent	Carbon		Carbon
Application area	Interior / Exterior		Interior / Exterior
Water resistance	Excellent		Excellent
Typ. coverage with 1 liter (1.06 US quarts)	Interior: 7.5 m^2 (~81 ft^2) Exterior: 5 m^2 (~54 ft^2)		Interior: 12.5 m^2 (~135 ft^2) Exterior: 10 m^2 (~108 ft^2)
Ecology	Good		Good
Binding agent	Pure acrylic		Pure acrylic
Solvent	Water		Water
VOC content *	0,2 g/l		0,2 g/l
Water vapor permeability	SD ~ 0.1 m		SD ~ 0.1 m
Application with	Paint roller		Paint roller, airless spraying
Grounding required	Interior: EB + ES Exterior: ES-A		Interior: EB + ES Exterior: EB + ES-A
Frost resistance in delivery form	5 frost-/ thaw cycles		5 frost-/ thaw cycles
Delivery sizes	1 liter (1.06 US quarts); 5 liters (1.32 US gallons) 30 liters (7.93 US gallons)		1 liter (1.06 US quarts); 5 liters (1.32 US gallons) 30 liters (7.93 US gallons)
Shelf life	12 months		12 months
* EU limit value for this product (Cat. A/a): 75 g/l (from 2007) and 30 g/l (from 2010).			

General Product descriptions

HSF54 (Pure acrylic, HF radiation + LF electric fields, Interior + Exterior application)

Our standard product for interior and exterior application.
● Based on a high quality pure-acrylic binder this shielding paint offers a perfect compromise of **excellent attenuation, high water resistance and good ecology** ● Minimal VOC content, highly breathable, free of solvents, plasticisers, etc. ● Good adhesion on many surfaces and substrates like old emulsion latex paint layers, construction boards, sheetrock, gypsum boards, cement, plaster, polystyrene, masonry surfaces, etc. ● This shielding paint has to be **applied with a paint roller and can easily be overpainted.** A small amount of conductive fibers helps to bridge eventual gaps forming in the underground / the substrate of the shielding paint coat. Due to this new development no ground strap is needed for safe grounding of the shielding paint coat, specifically in outdoor applications. ● Can easily be covered with two top layers of water based emulsion paint. ● **The paint is frost resistant** (tested for 5 freeze / thaw cycles).



1: GSM 900, 2: GSM 1800, 3: UMTS, DECT, WLan, 4: DECT, WLan
Top: Thin application (10 qm/l) on construction board
Middle: Normal application (7.5 qm/l) on construction board
Bottom: 2-layer application (2x 7.5 qm/l) on construction board

Attenuation of 40 dB (shielding effectiveness of 99.99 %) at typical coverage in one layer. ● Ingredients: Water, pure acylic binder, graphite, carbon black, additives, preservative.

NSF34 (Pure acrylic, LF electric fields, Interior + Exterior application)

Like HSF54, but for protection from low-frequency electric fields only.

Common Characteristics of all Shielding Paints

Carefully Selected Ingredients

YSHIELD shielding paints **do not contain toxic solvents, plasticisers, or any other toxic ingredients**; they only contain marginal amounts of VOC containing components. Therefore they are **low-emission** products and meet the strictest standards for application in "Building Biology" projects. All ingredients are carefully selected , according to their high quality; and their safety for the environment and for all people who are in contact with the paint: the factory personnel, the painters applying the paint, and the individuals occupying the rooms shielded with YSHIELD shielding paints.

Simple handling and processing

YSHIELD shielding paints **can be universally applied**. The shielding paints are easy to apply, even in structured rooms with bays, pitched roofs and dormers. House painters recommend YSHIELD's shielding paints for ease of application. All shielding paints are best applied with a paint roller.

Perfect Corrosion restistance

Most shielding products containing metal components are not adequately protected against corrosion. YSHIELD shielding paints **shield without metal particles** using only carbon. Therefore they offer **perfect corrosion resistance** (no oxidizing) and **long-term durability**.

Security and protection even against future High-Frequency applications

Due to its holohedral structure, without fibers or meshes, all YSHIELD shielding paints offer almost constant attenuation, without preferred direction of polarization, for frequencies of up to 18 GHz. This means: **perfect protection against future developments of the telecommunications industry in the higher Gigahertz range is guaranteed, when using our shielding paints**.

Areas of application

Living areas: Protection against HF-radiation from cellphone towers, TV and radio broadcasting antennas, radar, digital standard cordless telephones and wireless networks, etc. Protection against low-frequency electric fields from power supply lines, etc. **Industry:** To prevent interception of data from wireless networks ("data-stealing") and to prevent interception of potentially bugged conference rooms. **Science and R&D:** Shielding of EMI-sensitive facilities and equipment. **Medicine:** Protection of sensitive technical equipment; to guarantee that important medical data is derived correctly and will not be altered by electromagnetic interference (EMI). **Electronics Industry** (e.g. recording studios): To reduce induction and interference. **Further applications**: schools, nurseries, hotel rooms, hospital rooms, etc.

Certificate of shielding

Tested and certified by the Microwave Laboratory of the **University of the German Federal Armed Forces** in Munich, Germany. Professor Diploma-Engineer Peter Pauli states: "Another remarkable fact is the very constant and almost frequency independent **outstanding shielding**."

Certificate of VOC emissions

All of our shielding paints are tested for volatile organic compound (VOC) emissions according to **EU standard 2004/42/EG ChemVOCFarbV**. This testing is done by an accredited and independent laboratory. Test results are given in the table on page 1. Current limits as prescribed by law are 75 g/l for A/a classified products. YSHIELD's **HSF54 boasts a 0.2 g/l VOC value, far below the current limit of 75 g/l**, and even beating the stricter limits in effect from 2010, which will be 30 g/l.

Common handling and processing instructions

Underground / Subsurface: Underground needs to be solid, clean, degreased and dry. Interior: Shielding paints may be applied over existing emulsion paint, wallpaper, construction boards, cement, plaster, etc. Exterior: Shielding paints may be applied on concrete, plaster, cement facade, emulsion paint, polystyrene, masonry surfaces, etc. Strongly absorbent or porous surfaces are to be prepared with a primer coat. **Application:** Best to use paint roller; also possible is airless spraying. **Minimum application temperature:** (MFFT) +5°C / 41°F. **Covering of shielding paint / Top coat:** Depending on

the environment temperature and humidity the paint needs 12-24 hours to dry. The surfaces of YSHIELD paints have to be protected against mechanical exposure. Interior: Cover with typical emulsion or vinyl paint offering good coverage. Exterior: Cover with hydrophobic emulsion facade paint. NOTE: Do not cover with silicate paints, plasters, mortars, etc. (applies for interior + exterior paint)!

Accessories for Grounding / Earthing

Grounding requires a licensed electrician. Please be sure to follow all local laws and standards.
For interior use we recommend YSHIELD Ground-Connection-Set ES in combination with Ground-Strap EB to ensure good ground connection of the shielding paint coat. For exterior use we recommend 2 Ground-Connection-Sets ES-A.

Ground-Connection-Set ES "interior"

Ground-Connection-Set for all YSHIELD Shielding Paints. Ground-Connection-Set ES is specifically designed to guarantee proper grounding of the shielding paint coat. For each connected area (or surface) of shielding paint coat, one Ground-Connection-Set is required! ● High-grade steel plate 8 x 8 x 0.3 cm with conductive fleece back; ● 4 Stainless steel screws, 4 dowels / wall plugs ø 6 mm; ● 1 m grounding cable ø 2.5 mm^2;

Ground-Strap EB "interior"

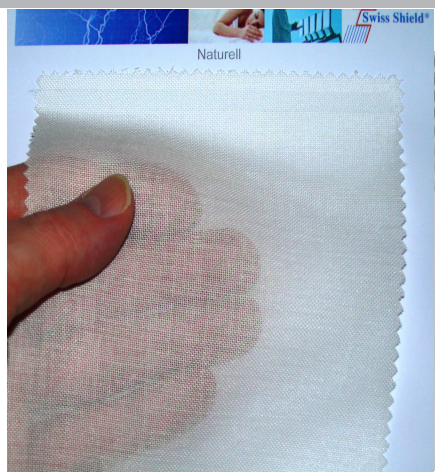
Ground-Strap for shielding paints for interior use. All areas / surfaces shielded with YSHIELD shielding paints need to be grounded for personal protection. In case of cracks forming in the walls, which would possibly disconnect grounding for parts of the painted surfaces, the ground strap will secure grounding even for those parts which are disconnected from the grounding / the ground plate due to the crack(s). Therefore, the ground strap is to be applied uninterrupted, in one piece on all shielded surfaces, to secure good ground connection in case of cracks in walls, etc.; ● Self-adhesive strap with highly conductive silver-containing glue; ● **100% corrosion resistant** copper strap, tin-coated on both sides; ● **Length 10 m**, width 2 cm, thickness 0.06 mm.

Ground-Connection-Set ES-A "exterior"

Ground-Connection-Set for all YSHIELD Shielding Paints. Ground-Connection-Set ES-A is specifically designed to guarantee proper grounding of the shielding paint coat in exterior applications. We recommend using one ground connecton set ES-A (or two sets for added security) per every connected surface / connected area of shielding paint coat in outdoor shielding applications.
● High-grade steel plate 8 x 8 x 0.3 cm with conductive fleece back;
● Mounted IP65-casing; ● 4 Stainless steel screws, 4 dowels / wall plugs ø 6 mm; ● 1 m grounding cable ø 16 mm^2;

Shielding fabrics 1/4

Shielding fabric NATURELL (HF)



Characteristics

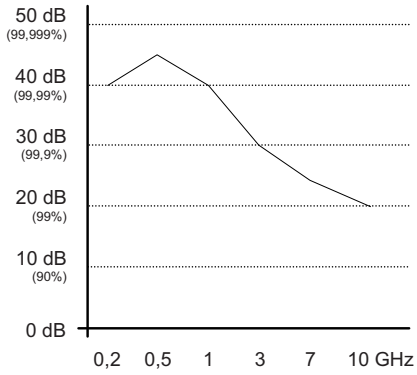
NATURELL is a semi-transparent, attractive, **unbleached cotton fabric** with excellent shielding characteristics; used to protect living space and sleeping areas from HF-radiation.

- Offers **outstanding shielding power of 40 db** at 1 ghz.
- Cotton fabric with silver-coated copper thread as conductive component.
- **Machine washable (gentle cycle), easy to iron and process.**
- Produced by the world's leading manufacturer of EMR protection textiles.

Typically used for indoor applications, e. g. to shield windows and doors. Used for curtains, net curtains, canopies, etc.

Technical data

- **Width: 250 cm** including selvage.
- **Length: Available by the metre.**
- **Attenuation of 40 db at 1 ghz.** That means only 0.01% of HF-radiation permeate the shielding fabric.
- **Colors: Ecru-White, blue, green, red, yellow**
- Weight: 69 g/m^2.
- Surface conductivity: No. Cannot be grounded.
- Certificates: MIL-STD 285 (University of the German Armed Forces), NSA 65-6, Öko-Tex 100+1000.



Certificate of shielding

Tested and certified by Professor Diploma-Engineer P. Pauli, Microwave Laboratory of the **University of the German Federal Armed Forces** in Munich, Germany.

Care

30 Machine washable (gentle cycle) with cold water.	Iron without steam at degree 1.	No bleaching.	No chemical dry-cleaning.

Areas of application

Living areas: Protection from HF-radiation from cellphone towers, TV and radio broadcasting antennas, radar, digital standard cordeless telephones, wireless networks and other last-mile applications. **Industry:** To prevent interception of data from wireless networks ("data-stealing") and to prevent interception of potentially bugged conference rooms. **Science and R&D:** Shielding of EMI-sensitive facilities and equipment. **Medicine:** Protection of sensitive technical equipment. **Electronics Industry** (e.g. recording studios): To reduce induction and interference. **Further applications**: schools, nurseries, hotel rooms, hospital rooms, etc.

Shielding fabrics 2/4

Shielding fabric EVOLUTION (HF)

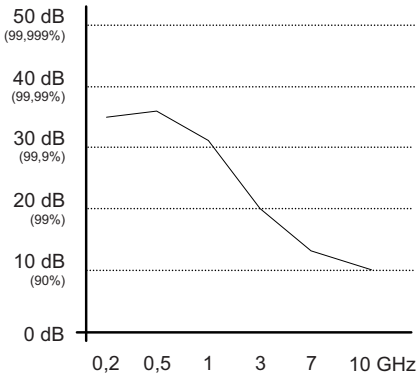
Characteristics

EVOLUTION is a semi-transparent, **white synthetic fabric (Trevira)** with good shielding characteristics; used to protect living space and sleeping areas from HF-radiation.

- Offers **good shielding power of 30 db** at 1 ghz.
- Synthetic fabric (Trevira) with silver-coated copper thread as conductive component.
- **Machine washable (gentle cycle), easy to iron and process.**
- Produced by the world's leading manufacturer of EMR protection textiles.

Typically used for indoor applications, e. g. to shield windows and doors. Used for curtains, net curtains, canopies, etc.

Technical data



- **Width: 250 cm** including selvage.
- **Length: Available by the metre**.
- **Attenuation of 30 db at 1 ghz**. That means only 0.1% of HF-radiation permeate the shielding fabric.
- Color: White.
- Weight: 79 g/m².
- Surface conductivity: No. Cannot be grounded.
- Certificates: MIL-STD 285 (University of the German Armed Forces), NSA 65-6, Öko-Tex 100+1000.

Certificate of shielding

Tested and certified by Professor Diploma-Engineer P. Pauli, Microwave Laboratory of the **University of the German Federal Armed Forces** in Munich, Germany.

Care

30 Machine washable (gentle cycle) with cold water.	Iron without steam at degree 1.	No bleaching.	No chemical dry-cleaning.

Areas of application

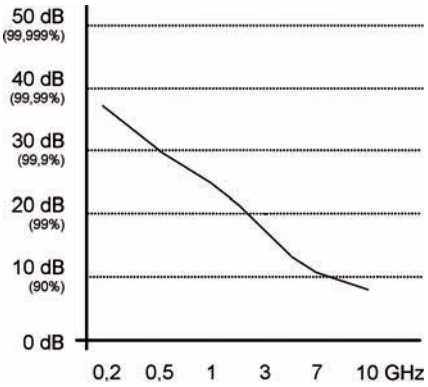
Living areas: Protection from HF-radiation from cellphone towers, TV and radio broadcasting antennas, radar, digital standard cordeless telephones, wireless networks and other last-mile applications. **Industry:** To prevent interception of data from wireless networks ("data-stealing") and to prevent interception of potentially bugged conference rooms. **Science and R&D:** Shielding of EMI-sensitive facilities and equipment. **Medicine:** Protection of sensitive technical equipment. **Electronics Industry** (e.g. recording studios): To reduce induction and interference. **Further applications**: schools, nurseries, hotel rooms, hospital rooms, etc.

Shielding fabrics 3/4

Wear Shielding fabric

Characteristics

.Reflects microwaveradiation from cell phone towers, DECT cordless phones, Wi-Fi, TETRA, digital TV, radio, radar, etc.
.Used for clothes for grown ups and children, for bedclothes and bed sheets, sleeping bags, etc
• Material: cotton (with silver coated copper thread for shielding capabilities).
• Extremely durable and highly corrosion resistant shielding components.
.Color white.
• WEAR fabric is 1.50 meter wide.
• Shieldingtested and certified after washings:fabric keeps 100% of original shielding power even after 30 washings!
.Very good shielding power: 30 dB at 900 MHz, i. e. 99.9%)
• Can be machine washed at 40°C (cold), gentle cycle, use mild detergent only, do not bleach.
• Fulfils environmental standard OEKO-TEX 100.
• Cannot and must not be grounded (fabric has a nonconductive surface).
• Shielding certificate available. Please ask for your copy.



Shielding performance: 30 dB at 0.9 GHz
22 dB at 1.8 GHz

Shielding fabrics 4/4

Shielding fabric NEW-DAYLITE (HF)

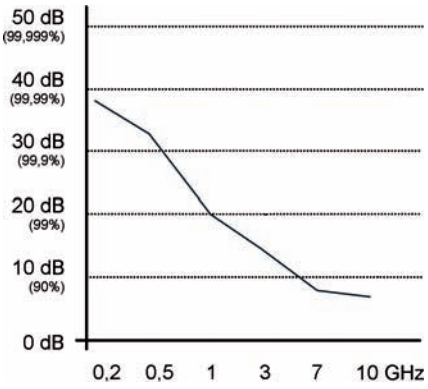
Characteristics

NEW-DAYLITE is a highly-transparent, **white synthetic fabric (Trevira)** with good shielding characteristics; used to protect living spaces and sleeping areas from HF-radiation.

- Offers **good shielding power of 20 db** at 1 ghz.
- Polyester fabric with a silver-coated copper thread as conductive component.
- **Machine washable (gentle cycle), easy to iron and process.**
- Produced by the world's leading manufacturer of EMR protection textiles.

Typically used for indoor applications, e. g. to shield windows and doors. Used for curtains, net curtains, canopies, etc.

Technical data



- **Width: 260 cm** including selvage.
- **Length: Available by the metre**.
- **Attenuation of 20 db at 1 ghz**. That means only 1% of HF-radiation permeates the shielding fabric.
- Color: White.
- Weight: 65 g/m^2.
- Surface conductivity: No. Cannot be grounded.
- Certificates: MIL-STD 285 (University of the German Armed Forces), NSA 65-6, Öko-Tex 100+1000.

Certificate of shielding

Tested and certified by Professor Diploma-Engineer P. Pauli, Microwave Laboratory of the **University of the German Federal Armed Forces** in Munich, Germany.

Care

30 Machine washable (gentle cycle) with cold water.	Iron without steam at degree 1.	No bleaching.	No chemical dry-cleaning.

Areas of application

Living areas: Protection from HF-radiation from cellphone towers, TV and radio broadcasting antennas, radar, digital standard cordeless telephones, wireless networks and other last-mile applications. **Industry:** To prevent interception of data from wireless networks ("data-stealing") and to prevent interception of potentially bugged conference rooms. **Science and R&D:** Shielding of EMI-sensitive facilities and equipment. **Medicine:** Protection of sensitive technical equipment. **Electronics Industry** (e.g. recording studios): To reduce induction and interference. **Further applications**: schools, nurseries, hotel rooms, hospital rooms, etc.

Swiss Shield®
FOR YOUR PROTECTION

Shielding canopies 1/1

Shielding canopy made of NATURELL or NEW-DAYLITE (HF)

Characteristics

Our shielding canopies provide a **simple and cost- effecive method of completely shielding** beds. Our canopies are available in fabrics **NATURELL or NEW-DAYLITE.**
More about these fabrics (quality, shielding effectiveness etc.) can be seen in the shielding fabric catalogue.

- **Very spacious / roomy models for double and single beds**.
- Easy access with two entrance flaps.

Technical data

- **Width: 250 cm, depth: 250 cm, height: 250 cm**.
- **Fabrics: NATURELL or NEW-DAYLITE.**
- Mounting best achieved by 4 points on the ceiling. Any kinds of bars/rods can be inserted into the sewn clips to stabilize the canopy installation.
- Included in delivery: Canopy, mounting material (plugs, hooks, snap hooks, cord).

Grounding

Our shielding canopies **can not be grounded**! Low-frequency electric fields (LF) have to be reduced by complementary measures.

Care

30 Machine washable (gentle cycle) with cold water.	Iron without steam at degree 1.	No bleaching.	No chemical dry-cleaning.

Mattress pad (HF)

We recommend shielding the area under the canopy, to achieve a complete Faraday cage. For this purpose this mattress pad (**a sewn piece of shielding fabric**) can either be laid under a carpet, under the bed or beneath / above the mattress.

Technical data

- **Width: 250 cm; depth: 250 cm**.
- **Fabrics: NATURELL or NEW-DAYLITE.**

Customer Services: Tel: 03 5988 6238 Email: contact@emrshieldingaustralia.com.au Post: EMR Shielding Solutions P.O. Box 3128, Auburn, Victoria 3123

High Frequency Shielding Window Films for glass surfaces

Precious-metal coated and **self-adhesive** films for the protection of **windows and glass surfaces** against **high-frequency radiation (HF)**. Only for indoor application on non-heat-absorbing glass.

Our recommendations:
● **RDF50-Standard** with a perfect ratio of price to light transmission and attentuation.
● **RDF72-Premium** is our premium film consisting of 12 metal layers for highest level radiation shielding. Unrivaled attentuation and a very high degree of light transmission (once applied, glass appears clear and the fractional tint is barely noticeable).

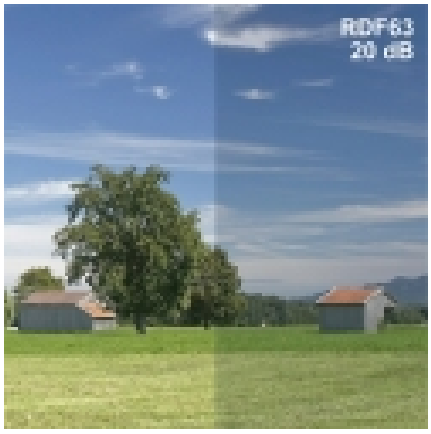
HF/ Shielding window film RDF 63/ 1 lineal metre
Attentuation 20 dB (99 % shielding effectiveness), **63 % light transmission**.
Only recommended when radiation is low.

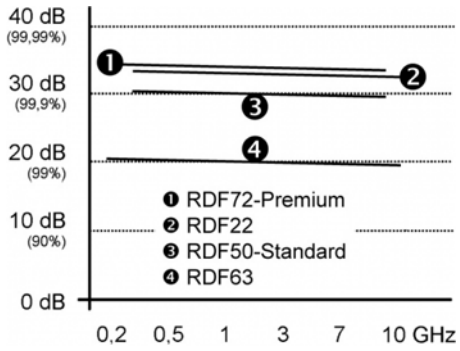
HF/ Shielding window film RDF 50 - Standard / 1 Lineal metre
Attentuation 30 dB (99.9 % shielding effectiveness), **50 % light transmission**.
Perfect ratio of price to light transmission and attentuation.

HF/ Shielding window film RDF 22 / 1 lineal metre
Attentuation 33 dB (99.95 % shielding effectiveness), **22 % light transmission**.
Good price-performance ratio, low degree of light transmission.

HF/ Shielding window film RDF 72 - Premium / 1 lineal metre
Attentuation 34 dB (99.96 % shielding effectiveness), **72 % light transmission**.
Premium-foil consisting of 12 metal layers for highest level radiation shielding with an unrivaled attentuation and a very high degree of light transmission.

High Frequency Shielding Window Film RDF63 / 1 lineal metre





This product can be ordered in measurements of 1 linear metre or more. This product is cut off a large roll of film according to customer specifications and product returns are not possible.

Precious-metal coated and **self-adhesive** film for shielding of **windows** and **glass surfaces** from high-frequency radiation (HF). Only for indoor application on non heat-absorbing glass. **Only recommended when radiation is low.**

Technical data:

- **Width:** 152 cm**.**
- **Length:** Linear metre**.**
- **Attenuation 20 dB** (99 % shielding effectiveness) at 1 GHz, see diagram for all frequencies in the image above. Attenuation certified by Prof. Dipl.-Ing. P. Pauli of the University of the German Federal Armed Forces in Munich, Germany according MIL-STD 285 and IEEE-Standard 299-1997.
- **Light transmission**: **63 %**
- Color of daylight: Gray.
- Indoor application, predominantly on glass surfaces but also on doors and other level surfaces.
- Installation: Water-activated, pressure-sensitive adhesive to the back.
- Material thickness: 37,5 µm.

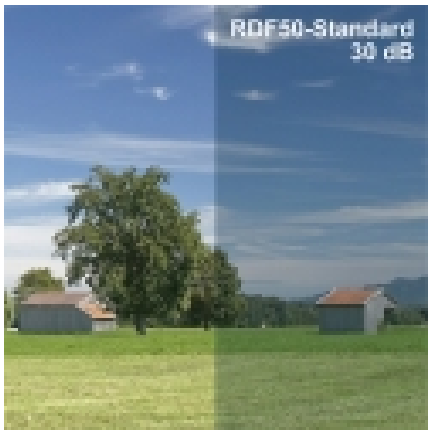
Only for indoor application on non heat absorbing glass surfaces. Heat-absorbing glass is already metallized. When solar radiation permeates the metallization and subsequently hits the window film, multi-reflections may occur. The windowpane will needlessly heat up and thus by expansion cause leaks or even cracks in the border-seals. We recommend checking the type of glass in advance.

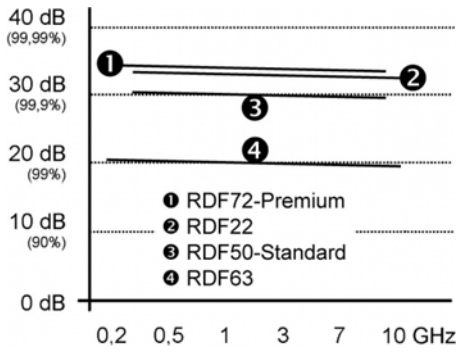
We recommended you use the following products for installation:
Alternatively contact us for a quote for our expert installers to install the window film for you.

Mounting Concentrate FMK30 / 30ml
Installation concentrate for wet bonding. 30 ml for 0.5 liter water.

Plastic Scraper FVR10 / 10cms
Plastic scraper 10 cm with felt edge for a bubble-free bonding of windowpanes on glass surfaces.

High Frequency Shielding Window Film RDF50– Standard / 1 lineal metre





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Precious-metal coated and **self-adhesive** film for shielding of **windows** and **glass surfaces** from high-frequency radiation (HF). Only for indoor application on non heat-absorbing glass.
Perfect ratio of price to light transmission and attentuation.

Technical data:

- **Width:** 152 cm**.**
- **Length:** Linear metre**.**
- **Attenuation 30 dB** (99.9 % shielding effectiveness) at 1 GHz, see diagram for all frequencies in the image above. Attenuation certified by Prof. Dipl.-Ing. P. Pauli of the University of the German Federal Armed Forces in Munich, Germany according MIL-STD 285 and IEEE-Standard 299-1997.
- **Light transmission**: **50 %**
- Color of daylight: Gray.
- Indoor application, predominantly on glass surfaces but also on doors and other level surfaces.
- Installation: Water-activated, pressure-sensitive adhesive to the back.
- Material thickness: 37,5 µm.

Only for indoor application on non heat absorbing glass surfaces. Heat-absorbing glass is already metallized. When solar radiation permeates the metallization and subsequently hits the window film, multi-reflections may occur. The windowpane will needlessly heat up and thus by expansion cause leaks or even cracks in the border-seals. We recommend checking the type of glass in advance.

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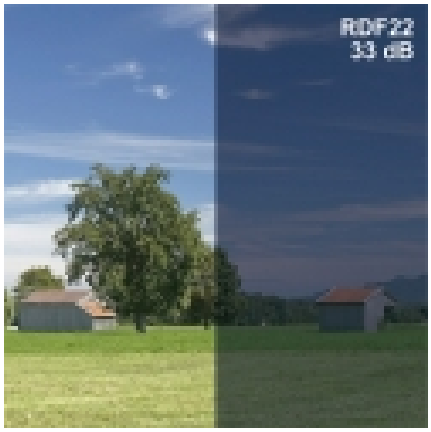
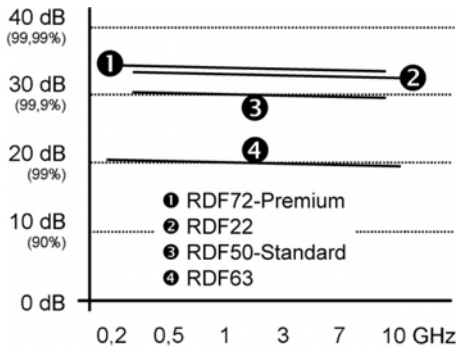
Mounting Concentrate FMK30 / 30ml
Installation concentrate for wet bonding. 30 ml for 0.5 liter water.

Plastic Scraper FVR10 / 10cms
Plastic scraper 10 cm with felt edge for a bubble-free bonding of windowpanes on glass surfaces.

High Frequency Shielding Window Film RDF22 / 1 lineal metre





This product can be ordered in measurements of 1 linear meter or more. This product is cut off a large roll of film according to customer specifications and product returns are not possible.

Precious-metal coated and **self-adhesive** film for shielding of **windows** and **glass surfaces** from high-frequency radiation (HF). Only for indoor application on non heat-absorbing glass.
Good price– performance ratio, low degree of light transmission.

Technical data:

- **Width:** 152 cm**.**
- **Length:** Linear metre**.**
- **Attenuation 33 dB** (99.95 % shielding effectiveness) at 1 GHz, see diagram for all frequencies in the image above. Attenuation certified by Prof. Dipl.-Ing. P. Pauli of the University of the German Federal Armed Forces in Munich, Germany according MIL-STD 285 and IEEE-Standard 299-1997.
- **Light transmission**: **22 %**
- Color of daylight: Dark gray.
- Indoor application, predominantly on glass surfaces but also on doors and other level surfaces.
- Installation: Water-activated, pressure-sensitive adhesive to the back.
- Material thickness: 37,5 µm.

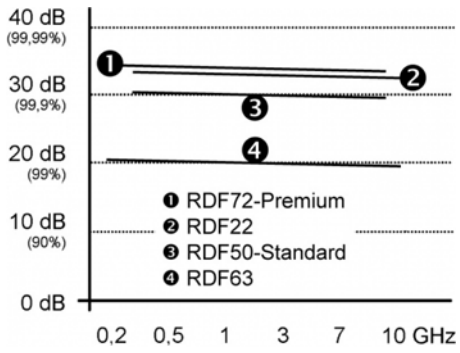
Only for indoor application on non heat absorbing glass surfaces. Heat-absorbing glass is already metallized. When solar radiation permeates the metallization and subsequently hits the window film, multi-reflections may occur. The windowpane will needlessly heat up and thus by expansion cause leaks or even cracks in the border-seals. We recommend checking the type of glass in advance.

We recommended you use the following products for installation:
Alternatively contact us for a quote for our expert installers to install the window film for you.

Mounting Concentrate FMK30 / 30ml
Installation concentrate for wet bonding. 30 ml for 0.5 liter water.

Plastic Scraper FVR10 / 10cms
Plastic scraper 10 cm with felt edge for a bubble-free bonding of windowpanes on glass surfaces.

High Frequency Shielding Window Film RDF72– Premium / 1 lineal metre



This product can be ordered in measurements of 1 linear metre or more. This product is cut off a large roll of film according to customer specifications and product returns are not possible.

Precious-metal coated and **self-adhesive** film for shielding of **windows** and **glass surfaces** from high-frequency radiation (HF). Only for indoor application on non heat-absorbing glass.
Our recommendation: premium film consisting of 12 metal layers, offering unrivalled attenuation and a very high degree of light transmission.

Technical data:

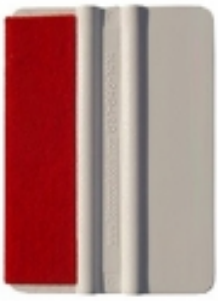
- **Width:** 152 cm**.**
- **Length:** Linear metre**.**
- **Attenuation 34 dB** (99.96 % shielding effectiveness) at 1 GHz, see diagram for all frequencies in the image above. Attenuation certified by Prof. Dipl.-Ing. P. Pauli of the University of the German Federal Armed Forces in Munich, Germany according MIL-STD 285 and IEEE-Standard 299-1997.
- **Light transmission**: **72 %**
- Color of daylight: Very light green
- Indoor application, predominantly on glass surfaces but also on doors and other level surfaces.
- Installation: Water-activated, pressure-sensitive adhesive to the back.
- Material thickness: 75 µm.

Only for indoor application on non heat absorbing glass surfaces. Heat-absorbing glass is already metallized. When solar radiation permeates the metallization and subsequently hits the window film, multi-reflections may occur. The windowpane will needlessly heat up and thus by expansion cause leaks or even cracks in the border-seals. We recommend checking the type of glass in advance.

We recommended you use the following products for installation:

Alternatively contact us for a quote for our expert installers to install the window film for you.

Mounting Concentrate FMK30 / 30ml
Installation concentrate for wet bonding. 30 ml for 0.5 liter water.



Plastic Scraper FVR10 / 10cms
Plastic scraper 10 cm with felt edge for a bubble -free bonding of windowpanes on glass surfaces.

Edge Sealant FKV50 / 50ml
Strictly required edge sealing for our window foil RDF72-Premium

Customer Services: Tel: 03 5988 6238 Email: contact@emrshieldingaustralia.com.au Post: EMR Shielding Solutions P.O. Box 3128, Auburn, Victoria 3123

High-frequency EMR-Meters 1/2

The high-frequency (HF) meters offered feature **several technical innovations**, some of them patented. They all come equipped with a **directional measuring antenna**; this antenna helps you to locate the source of high-frequency (HF) radiation, whether it is a cell phone tower, a base station of a DECT- standard cordless telephone, a wireless LAN or some other source of continuous or pulsed microwave radiation. Which leads right to the most valuable asset of this series of high-frequency meters: with these meters you can measure **continuous radiowaves and microwaves** as well as **pulsed microwave radiation** (as used e. g. by GSM, DECT, Bluetooth, W-LAN and TETRA), and also **"noise-like" signals** as used by 3G (UMTS) mobile standards; in addition the "professional series" meters HF58B-r and HF59B do allow accurate measuring of **radar pulses**.

For some meters an **isotropic antenna** is available as an option (HFE-meters); this isotropic antenna allows the measuring of fields from as low as 27 megahertz. All meters cover the frequency range from 800 megahertz to 2500 megahertz, the professional series meters can be used up to 3300 megahertz, with additional tolerance. All high-frequency meters measure True-RMS; this means the power (power flux density) of the HF-signal is measured directly, and not calculated from another physical value measured. This direct measurement of the power eliminates a possible source of error. The tolerances are given for each meter, so one can actually calculate the measuring error and the high and low tolerance limits. Results of measurement are displayed in microwatts per square meter; recommended exposure limits as suggested by the "**Standard of building biology: methods of testing**" are included in the manual.

All meters are equipped with an **audio signal feature**. The volume of this sound signal is proportional to the field-strength measured. All meters (except HF32D) are also equipped with an audio-analysis feature, which is proportional to the low-frequency modulation of the high-frequency signal. This feature helps to identify the form of the momentarily dominating high-frequency signal, which helps to locate the different sources of microwave radiation. All meters are shipped with an extensive manual in English and German. The manual includes a detailed description of the measuring process, well explained with graphics and pictures.

If you are interested in one of the meters send us an e-mail to contact@emrshieldingsolutions.com.au. We will advise you which meter is best used for your area of interest, and you can even get an e-mail copy of a manual to decide which meter is the best one for your specifi c application.

High-frequency EMR-Meters 2/2

	General analysis			Professional analysis		
HF-Analyser	**HF32D**	**HF35C**	**HF38B**	**HF58B**	**HF58B-*r***	**HF59B**
Frequency range						
800 MHz - 2,500 MHz (=2.5 GHz)	✓	✓				
800 MHz - 2,500 MHz (up to 3,300 MHz with additional tolerance)			✓	✓	✓	
27 MHz* - 2,500 MHz (up to 3,300 MHz with additional tolerance)						✓
* for basic instrument, with active isotropic antenna UBB27 (optional); included is a logarithmic periodic antenna from 800 MHz						
Measurement ranges (33 dB per range)						
10 - 19,990 µW/m²			✓	✓	✓	✓
1 - 1,999 µW/m² (~ -50dBm minimum resolution)	✓	✓				
0.1 - 199,9 µW/m² (~ -60dBm minimum resolution)		✓	✓	✓	✓	✓
0.01 - 19,99 µW/m² (~ -70dBm minimum resolution)			✓	✓	✓	✓
Guide Value ("no abnormity") for sleeping places (SBM): pulsed 0.1 µW/m² continous 1 µW/m²						
Accuarcy						
Basic accuracy incl. tolerance for linearity (800 MHz - 2,500 MHz, incl. tolerance for antenna curve waviness)	+/- 6 dB	+/- 6 dB	+/- 6 dB	+/- 4,5 dB	+/- 4,5 dB	+/- 3 dB
Zero-offset and rollover	+/- 9 digits	+/- 9 digits	+/- 7 digits	+/- 5 digits	+/- 5 digits	+/- 5 digits
Yagi-Antenna, logarithmic-periodic: 800 MHz - 2.5 GHz (- 3.3 GHz with add. tolerance); use either mounted to the instrument or with the included antenna cable. Patent pending AZ 103 07 085.0)	✓	✓	✓	✓	✓	✓
Active, quasi-isotropic ultra-broadband antenna UBB27 (from 27 MHz)						option
LC-Display, 3,5-digits in µW/m²	✓	✓	✓	✓	✓	✓
Features for acoustic analysis						
Tone signal proportional to fieldstrength (piezo-buzzer)	✓	✓	✓	✓	✓	✓
Tone signal proportional to frequency for audio-analysis of demodulated pulsed radiation		✓	✓	✓	✓	✓
Volume control (for speaker / earphones)		✓	✓	✓	✓	✓
Display of total broadband HF-power-density (patent pending AZ 103 17 805.8)						
Peak value (pat. pend.)	✓	✓	✓	✓	✓	✓
Average value (patent DE19809784)		✓	✓	✓	✓	✓
Peak hold (HF58B / HF59B: with reset button, variable droop rate)			✓	✓	✓	✓
Display of only the pulsed portion of the signal (amplitude-modulated fraction)				✓	✓	✓
for average - / peak - / peak hold - value (switchable, as for the total value)				✓	✓	✓
RADAR / UMTS - optimization						
Ultrahigh video-bandwidth of 2 MHz, for precise response to RADAR-bursts down to 0.25 microseconds minimum pulse-width and for UMTS-FDD (3G) (max. -1 dB)					✓	✓
Extremely short response time in peak hold mode					✓	✓
Band blocking filter ("trap") to determine dominating frequencies (externally mounted)						
Variable Trap VF2 (20 dB blocking), VF4 (40 dB blocking)		opt.	opt.	opt.	opt.	opt.
Signal output						
DC-output for logging purposes				✓	✓	✓
Audio output (modulated AC-signal) for PC / earphones / spectrumanalyser				✓	✓	✓
Additional, *normalised* AC-output (mod. signal) for spectrumanalyser / FFT-Analyser					✓	✓
Power supply (Battery or NiMH-accumulator incl.)						
9-volt AMg-E-block battery	✓	✓	✓			
9-Volt NiMH-high-power-accupack (8 x AAA-cells, easily accessable)				✓	✓	✓
AC-adaptor (for charging accumulator or as external power supply)				✓	✓	✓
Up to 100 mA power supplied at Antenna-input socket (e.g. for active antennas)		✓	✓	✓	✓	✓
Life expectancy for battery or accumulator	10-12h	6-7h	6-7h	7-8h	7-8h	7-8h
Transportation case						
Plastic case (ca. 27 x 18 x 6 cm) with burled foam padding for HF32D / HF35C incl. antenna	opt.	opt.				
Plastic case (ca. 33 x 27 x 16 cm) specifically cut foam for measurement instruments (all types) incl. antenna			opt.	opt.	opt.	opt.
Sturdy aluminium case (brushed aluminium, ca. 52 x 40 x 21 cm) with flexible compartments	opt.	opt.	opt.	opt.	opt.	opt.

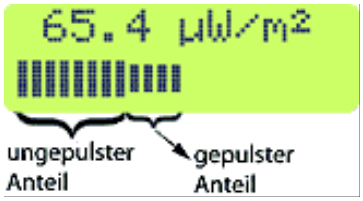
High-frequency EMR-Meters 1/1

HFR-4

The HFR-4 is a brand new development; this meter allows for measuring signals from **1 MHz frequency to 11 GHz frequency.**

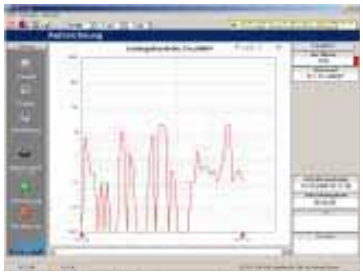
The meter comes with **two antennas included**: large antenna for frequencies from 800 Mhz to 2.4 GHz; smaller antenna for measuring of frequencies from 2.4 GHz to 11 GHz.

Developed using state of the art German technology; development of meter supported by University scientists; meter functions independently certified; function for audio analysis of signal included.



Technical data

- **Frequency range:** 1 MHz to 6 GHz (with limited accuracy from 1 MHz to 11 GHz).
- **Power flux density / measurement range:** 0.1 microwatts per square meter to 10,000 microwatts per square meter (or 6 mV/m to 2000 mV/m).
- **Accuracy of meter / error margin:** +/- 3 dB.
- **Functions:** Signal: peak, peak hold, mean; adjustable speaker volume; values given in microwatt per square meter or in mV/m (selectable).
- **Weight:** 300 gramms.
- **Dimensions:** 85 mm x 117 mm x 55 mm (millimeters).
- **Power:** 9-V battery, or recharchable battery; 2 high-power rechargeable batteries plus charging unit included!



Low-frequency EMF-Meters 1/2

The low-frequency electric and magnetic field meters that we offer set new standards for value in this class. All meters are **combined electric and magnetic field meters** (only exception: the ETC-meter) and offer the advantage of not only measuring the magnetic field, but also the electric field. Low-frequency electric fields are being reported more and more frequently in private homes and office buildings. This is due to the extensive use of plasterboards (made of gypsum) and flake boards (made of wood chips) as materials for walls in building construction. Walls made of these materials pose little or no resistance to the propagation of low-frequency electric fields, and Building Biologists now recommend measuring of those fields.

The entry-level meters offer **great product quality and good accuracy at a fair price**. The high end meters offered are ideal instruments for the professional user; they offer an extremely wide frequency response and an extended measurement range. Results of measurement are given in volts per meter (electric field) and nanotesla (magnetic field). A conversion table from nanotesla to milligauss is included. Recommended exposure limits as suggested by the "**Standard of building biology: methods of testing**" are included in the manual. All meters come equipped with an audio signal feature. The volume of this audio signal is proportional to the field-strength measured. All meters are shipped with an extensive manual. The manual includes a detailed description of the measuring process, well explained with graphics and pictures.

If you are interested in one of the meters send us an e-mail to contact@emrshieldingsolutions.com.au. We can advise you which meter is best used for your area of interest, and you can even get an e-mail copy of a manual to help decide which meter is the best one for your specifi c application.

Low-frequency EMF-Meters 2/2

	Specifications										Features						
	Eff. Range 1- 2000 nT/Vm	Eff. Range 0,1-200,0 nT/Vm	Tolerance +/-2 %,+/-20 digits	Tolerance +/-2%, +/-14 digits	Tolerance +/-2%, +/-7 digits	16 Hz to 2 kHz (-2 dB)	16 Hz to 30 kHz (-2 dB)	5 Hz to 100 kHz (-2 dB)	5 Hz to 100 kHz (-1 dB)	5 Hz to 400 kHz (-1 dB)	16,7 Hz / 50Hz / 2kHz filter	Auto-power-off	Offset-testing-feature	AC / DC Output	Capacity-check for battery	Rechargeable battery, AC-adaptor, charge-control	
ME 3030B	X		X			X						X					General Analysis
ME 3830B	X			X				X				X					General Analysis
ME 3840B	X			X				X			X	X					Professional Analysis
ME 3551A	X	X		X			X					X	X	X	X	X	Professional Analysis
ME 3851A	X	X			X				X		X	X	X	X	X	X	Professional Analysis
ME 3951A	X	X			X					X	X	X	X	X	X	X	Professional Analysis
ETC 3951A*	X*	X*			X					X	X	X	X	X	X	X	Professional Analysis
EMT 3951A**	X	X			X					X	X	X	X	X	X	X	Professional Analysis

* ETC 3951A: Instrument for measuring electrical LF-fields with genuine TCO-sensor incl. certificate of calibration

** EMT 3951A: Like ETC, plus additional internal sensor for magnetic fields (1 axis)

Accessories for ME 3851A to EMT3951A:

Certificate of calibration

Additional display unit for convenient measurement

Plastic case with foam interior (only for ME meters ending with ..51A)

TCO-light: "slip-on" - sensor with TCO-diameter (including bag)

Digital instrument for "Body voltage" measurement: **VC840 TRMS**,
according to SBM Building Biology standard, incl. accessories

Shielding Paints	Item unit	Item weight	Price $ Ex sales tax (GST)	Price $ Incl GST
YSHIELD (HF) HSF54	1 litre	1.5kg	$121.36	$133.50
YSHIELD (HF) HSF54	5 litre	7.5kg	$450.00	$495.00
YSHIELD (LF) NSF34	1 litre	1.3kg	$105.45	$116.00
YSHIELD (LF) NSF34	5 litres	6.5kg	$435.45	$479.00
Shielding Fabrics				
HF- Cotton Fabric NAUTURELL	1 run. metre = 2.5m^2 (26.9 ft^2)	0.69kg	$145.41	$159.95
HF- Trevira Fabric EVOLUTION	1 run. metre = 2.5m^2 (26.9 ft^2)	0.79kg	$132.18	$145.40
HF- Cotton Fabric WEAR	1 run. metre = 2.5m^2 (26.9 ft^2)	0.39kg	$106.32	$116.95
HF- Polyester Fabric NEW DAYLITE	1 run. metre = 2.6m^2 (28.0 ft^2)	0.65kg	$118.14	$129.95
Bed Shielding Canopies				
HF- Canopy NATURELL - Box Double	1 piece	5.5kg	$1899.09	$2089
HF- Canopy NATURELL - Box Single	1 piece	3.5kg	$1499.09	$1649
HF- Canopy NATURELL - Pyramid Single	1 piece	3.5kg	$1499.09	$1649
HF- Mattress Pad NATURELL	1 piece	1.5kg	$172.82	$189
HF- Mattress Pad NATURELL	Double	3kg	$317.28	$349
HF- Canopy NEW DAYLITE - Box Double	1 piece	5kg	$1544.55	$1699
HF- Canopy NEW DAYLITE - Box Single	1 piece	3kg	$1253.66	$1379
HF- Canopy NEW DAYLITE - Universal	1 piece	3kg	$1253.66	$1379
HF-Mattress Pad NEW DAYLITE	1 piece	1kg	$144.55	$159
HF-Mattress Pad NEW DAYLITE	Double	2kg	$259.09	$285
Shielding Window Films				
HF- Shielding Film RDF62	1 lineal metre, 1.52 metre wide	0.25 kg/metre	$99.95	$109.95
HF- Shielding Film RDF72 - Premium	1 lineal metre, 1.52 metre wide	0.25 kg/metre	$270.73	$297.80
Shielding for mobile phone				
Mobile phone shielding pouch	1 unit	0.1kg	$45.41	$49.95

Customer Services: Tel: 03 598826238 **Email**: contact@emrshieldingsolutions.com.au **Post**: EMR Shielding Solutions, PO Box 3128, Auburn, Victoria 3123

Meters	Item unit	Item weight	Price $ Ex sales tax (GST)	Price $ Incl GST
ESi 24	1 unit	0.4kg	$317.28	$349
HF- Meter eHF32D	1 unit	0.5kg	$280.91	$309
HF- Meter eHF35C	1 unit	0.5kg	$408.19	$449
HF- Meter EHF35C	1 unit	0.6kg	$871.82	$959
HF- Meter HFW35C	1 unit	0.6kg	$490.00	$539
HF- Meter eHF38B	1 unit	0.6kg	$631.82	$695
HF- Meter eHF59B	1 unit	0.7kg	$1540.92	$1695
HF- Meter eHFE59B	1 unit	0.8kg	$1780.91	$1959
HFR-4 Analyzer	1 unit	0.6kg	$1359.09	$1495
HF & LF Meter Set (HF35c and ME3830b)	1 unit	1.0kg	$635.45	$699
EMF- Meter eME3030B	1 unit	0.4kg	$217.28	$239
EMF- Meter eME3830B	1 unit	0.4kg	$290.00	$319
EMF- Meter eME3840B	1 unit	0.5kg	$371.82	$409
EMF- Meter eME3951A	1 unit	0.6kg	$690.00	$759
NFA 400	1 unit	0.6kg	$1362.73	$1499
Grounding and Accessories				
Ground-Connection- Set internal GW	1 set	0.21 kg	$36.36	$40
Ground-Connection- Set external GE	1 set	0.46kg	$63.64	$70
Ground-Strap EB 2	10 run meter (32.8ft)	0.13kg	$36.36	$40
Meter Hire	**Refundable deposit**	**Item weight**	**Price $ - five day hire ex sales tax (GST) and postage**	
HF- Meter eHF35C	$350	0.5kg	$90.00	$99.95
Eme 3030B	$150	0.4kg	$59.09	$65.00

Customer Services: Tel: 03 598826238 **Email**: contact@emrshieldingsolutions.com.au **Post**: EMR Shielding Solutions, PO Box 3128, Auburn, Victoria 3123