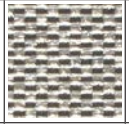
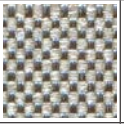
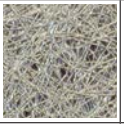
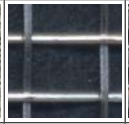
	HNG80 Netting Polyester	**HNG100** Netting Polyester	**HNV80** Fleece Nylon	**V4A10** Gauze Stainless steel	**V4A03** Gauze Stainless steel	**NCV95** Fleece Polyester	**MCL61** Magnetic film Cobalt
Picture (magnified)							
Shielding HF/LF/MF	HF / LF / -	HF / LF / -	HF / LF / -	HF / LF / -	HF / LF / -	- / **LF** / -	HF / LF / **MF**
Shielding attenuation	80 dB	100 dB	87 dB	40 dB	55 dB	LF = 80 dB	MF = 30 dB
Ecology	Bad	Bad	Bad	**Very high**	**Very high**	Normal	Normal
Base material	Polyester netting	Polyester netting	Nylon fleece	Stainless steel gauze V4A	Stainless steel gauze V4A	Polyester fléece	Cobalt based alloy
Coating	Copper, nickel	Copper, nickel	Copper, nickel	-	-	Carbon laquer	Laminating film
Width	66 / 130 cm	66 / 130 cm	100 cm	100 cm	90 / 150 cm	95 cm	61 cm
Grammage	80 g/m²	140 g/m²	85 g/m²	280 g/m²	200 g/m²	90 g/m²	265 g/m²
Thickness	0.07 mm	0.08 mm	0.15 mm	0.32 mm	0.16 mm	0.55 mm	0.1 mm
Tensile strenght	High: 220 N / mm	High: 220 N / mm	Normal: 50 N / mm	Very high	Very high	Normal: 55-260 N/mm	-
Color	Brown	Brown	Brown	Gray	Gray	Black	Silver
sD-value	Follows	Follows	Follows	-	-	Follows	-
Electr. resistance	8 mΩ/☐	4 mΩ/☐	8 mΩ/☐	100 mΩ/☐	30 mΩ/☐	100 Ω/☐	-
Moisture resistance	Bad	Bad	Bad	**Very good**	**Very good**	Good	Good
Corrosion resistance	Bad because of copper	Bad because of copper	Bad because of copper	Typically good for V4A	Typically good for V2A	Good because of carbon	Good because of laminate
Windproof	No	No	No	No	No	No	Yes
Waterproof	No	No	No	No	No	No	Yes
Application area (examples)	Interior: Wall, ceiling, floor	Interior: Wall, ceiling, floor	Interior: Loose laying, drywall installations	Interior/exterior: Drywall installations, ventilated facades, flush-mounting	Interior/exterior: Drywall installations, ventilated facades, flush-mounting	Interior: Wall, ceiling, floor, loose laying	Interior: Shielding of low frequency magnetic fields
Processing (examples)	Glueing, stapling, laying	Glueing, stapling, laying	Stapling, laying	Plastering, spackling, stapling	Plastering, spackling, stapling	Glueing, stapling, laying	Glueing, laying
Rework ability (examples)	Wall paints, glueing of sheet materials	Wall paints, glueing of sheet materials	Wall paints, glueing of sheet materials	Putty, plaster, boards	Putty, plaster, boards	Wall paints, glueing of sheet materials	Wall paints, glueing of sheet materials
Price / m² (20-25 m²)	EUR 18.93	EUR 34.08	EUR 19.99	EUR 11.90	EUR 13.90	EUR 10.52	EUR 163.79

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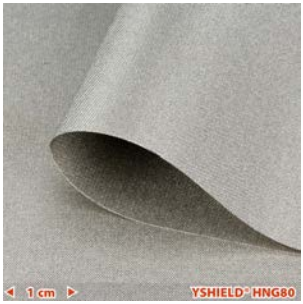
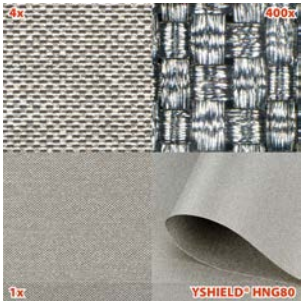
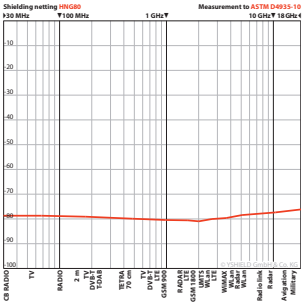
HNG80 - Polyester netting (HF+LF)

OUR RECOMMENDATION







Characteristics

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

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

Application

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

Technical data

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

Processing

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

Grounding

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

Screening attenuation

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

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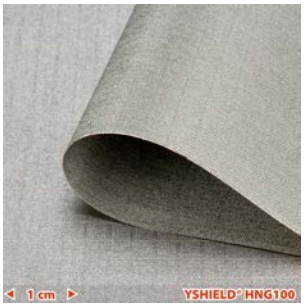
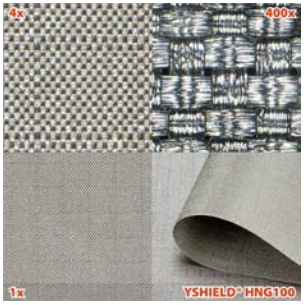
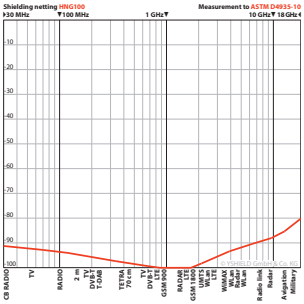
HNG100 - Polyester netting (HF+LF)







Characteristics

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

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

Application

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

Technical data

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

Processing

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

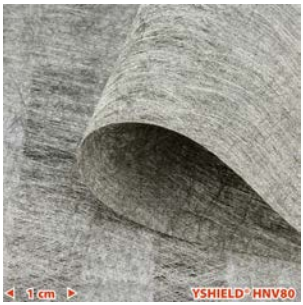
Grounding

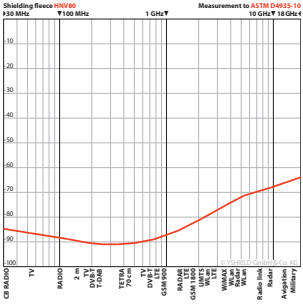
Due to the highly conductive surface this material can be **contacted and grounded easily to shield low frequency (LF) electric fields**.

Screening attenuation

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

HNV80 - Nylon fleece (HF+LF)





Characteristics

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

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

Application

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

Technical data

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

Processing

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

Grounding

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

Screening attenuation

The screening attenuation is **regularly tested in our own EMC laboratory**. We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEEE 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”.

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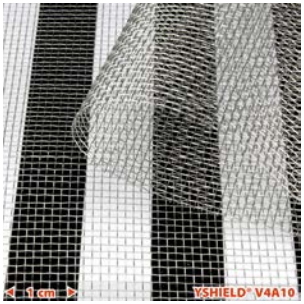
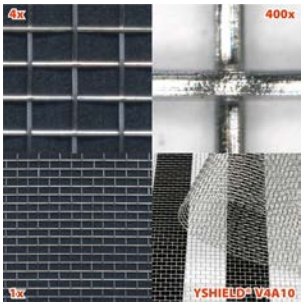
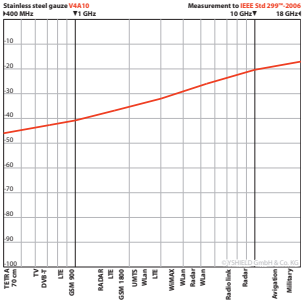
V4A10 - Stainless steel gauze V4A (HF+LF)

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

Processing

In case processing the V4A10 under plaster you should work with a preferably fine and organic filler. Under the floor covering (laminate, parquet, PVC coating, etc.) the V4A10 is being fixed with the adhesive used for the floor covering. For drywall construction and in roof area the mesh elements can be bolt or stapled together. **The rule is:** Always overlapp the single elements at least 5 cm. For grounding use the perforated stainless steel tape ELB by screwing it right across the elements into the surface.

Grounding

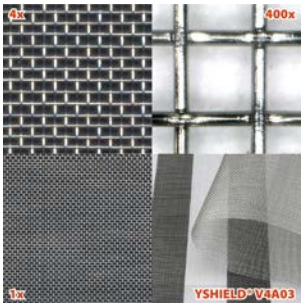
Due to the highly conductive surface this material can be **contacted and grounded easily to shield low frequency (LF) electric fields**.

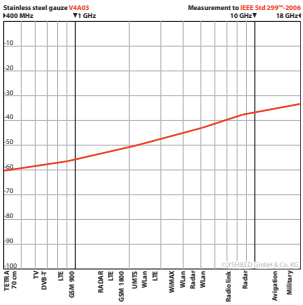
Screening attenuation

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

V4A03 - Stainless steel netting V4A (HF+LF)

OUR RECOMMENDATION





Characteristics

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

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

Application

Due to the thin filaments especially as flyscreen.

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

Technical data

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

Processing

In case processing as **flyscreen**, the application is identical to that of a regular flyscreen in commercial tenter frames. In case processing the V4A03 **under plaster** you should work with a finest organic filler. Under the floor covering (laminate, parquet, PVC coating, etc.) the V4A03 is being fixed with the adhesive used for the floor covering. For drywall construction and in roof area the mesh elements can be bolt or stapled together. **The rule is:** Always overlapp the single elements at least 5 cm. For grounding use the perforated stainless steel tape ELB by screwing it right across the elements into the surface.

Grounding

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

Screening attenuation

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

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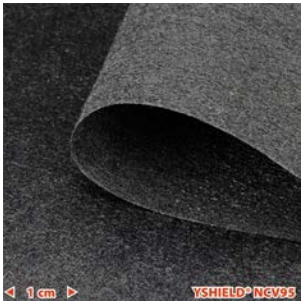
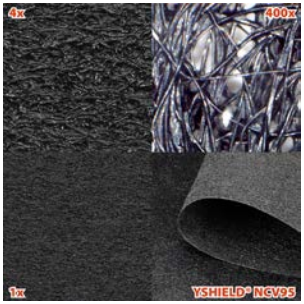
NCV95 - Polyester fleece (LF)





Characteristics

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

Application

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

Technical data

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

Processing

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

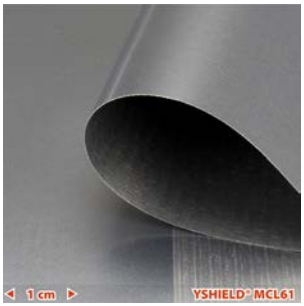
Grounding

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

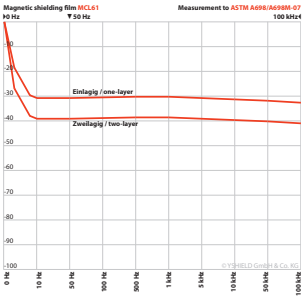
Screening attenuation

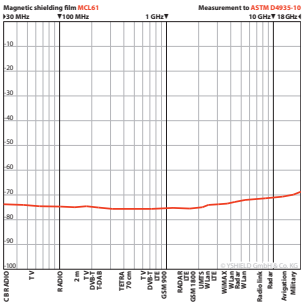
The screening attenuation is **regularly tested in our own EMC laboratory**. We have measurement setups due to the following standards: **ASTM D4935-10, IEEE Std 299-2006, IEEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

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 looses 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: 75 dB**
- Weight: 265 g/m^2; Material thickness: 0.1 mm; Color: Silver
- Materials: Polyester, Co69, Fe4, Mo4, Nb1, Si16, B7

Magnetic properties

- Permeability: µ 2 = 10,000; µ 4 = 25,000; µ 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, IEEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

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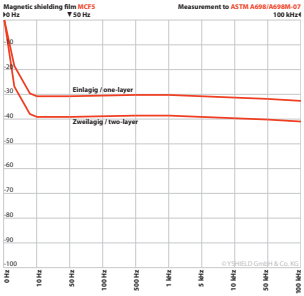
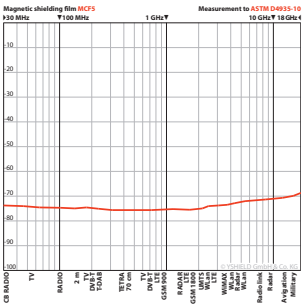
MCF5 - Magnetic shielding film (LF)





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

Magnetic properties

- Permeability: μ 2 = 10,000; μ 4 = 25,000; μ 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 ashesive 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, IEEEE Std 1128-1998, ASTM A698/A698M-07**. Please find the test report at our homepage directly on the product page.

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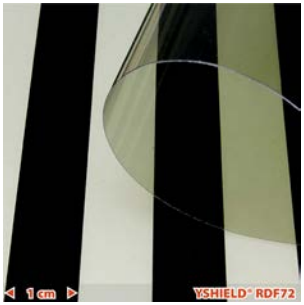
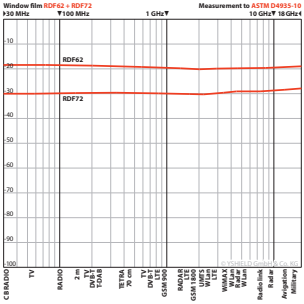
YSHIELD®

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 attentuation. • **RDF72-Premium** is our premium film consisting of 10 metal layers for highest quality demands. Unrivaled attenuation and a very high degree of light transmission.

Technical data

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

Mounting accessories

The mounting requires crafts-manship skills and **professional accessories**:

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