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

YSHIELD GmbH & Co. KG,  Am Schulplatz 2,  94099 Ruhstorf, Germany
Internet: www.yshield.com

### Technical data sheet - Shielding paints

#### Intended use
Electro-conductive base coatings to shield high-frequency electromagnetic fields and/or low-frequency electric fields. Low-frequency magnetic fields are not shielded.

#### Area of application
Walls and ceilings: Unrestricted possible. You can apply YSHIELD paints on all materials that are not conductive and not coated with a highly hydrophobic surface treatment.

- **Bulk wall**: Solid binders, concrete, ceramics, boards, etc.
- **Ceilings and interior surfaces**: Mineral paints, dry construction boards, wallpaper, etc.

Under plaster (PRO54, HSF54, NF54): Due to high adhesive strength and effective adhesion to plaster, it is suitable for coats on old coats of paint or old walls which can be etched by water, and too, can be primed.

#### Corrosion resistance
All shielding paints do not contain metal particles. Based on carbon they are long-term durable and do not oxidize.

#### Shielding attenuation
The shielding attenuation was experimentally tested in our own EMC laboratory. We have measured and calculated the following attenuation values.  

<table>
<thead>
<tr>
<th>Frequency 50/60Hz</th>
<th>Shielding attenuation (EB2)</th>
<th>Minimum attenuation (EB2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500 MHz</td>
<td>70 dB</td>
<td>80 dB</td>
</tr>
<tr>
<td>2400 MHz</td>
<td>60 dB</td>
<td>65 dB</td>
</tr>
<tr>
<td>3000 MHz</td>
<td>50 dB</td>
<td>55 dB</td>
</tr>
<tr>
<td>4000 MHz</td>
<td>40 dB</td>
<td>45 dB</td>
</tr>
</tbody>
</table>

#### Safety notes
All paints have a high color printing power, so please proceed with care. Wipe off stains immediately without damaging the paint. Do not get the paint in your eyes; inhalate spray mist: Absolutely make sure that, all areas are well ventilated during use and drying time. Do not eat, drink or smoke during painting! Rinse thoroughly immediately after skin or eye contact!

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**Grounding accessories**

To obtain an accurate grounding, we exclusively recommend our grounding accessories. For interior use: Grounding plate G1/2” in combination with grounding strap EB2. For exterior use: Grounding plate G6. Please find more information in our "Technical data sheet - Grounding".

**Handling**

**Interior approach**

- Drill (as close as possible) to the ground with a primer. 
- Drill holes for the grounding plate. 
- The ground- 
- plate has to be applied without interruption in one 
- piece, depending on the favored shielding attenua 
- tion. Apply second coat of shielding paint to the area where the grounding plate will be mounted. 
- Allow the paint 24 hours to dry. Fix the grounding plate. 
- For further procedure references please follow up at subitem “Final coat”.

**Exterior approach**

- Drill (as close as possible) to the ground with a primer. 
- Level out the mounting surface for the grounding plate. 
- Drill holes for the grounding plate. 
- Apply the shielding paint in one or two layers, depending on the favored shielding attenuation. 
- Apply second coat of shielding paint to the area where the grounding plate will be mounted. 
- Allow the paint 24 hours to dry. Fix the grounding plate and glue the top cover. 
- For further procedure references please follow up at subitem “Final coat”.

#### Application temperature

Minimum application temperature: -5°C / +17°F

This temperature applies also for the drying time!

#### Underground

**HSF.64, HSF.74:** With potassium silicate as indifferent agent on gypsum based substrates.

The underground needs to be solid, clean, desegregated and dry. Absorbent or porous surfaces must be prepared with a primer. Old coats of paint or old walls which can be etched by water, should be removed.

#### Priming coat

Absorbent or porous surfaces necessarily must be prepared with a primer. In case of not using a protecting primer agent with the water in the substrate. In addition, this will lead to an aggravation of technical data sheet all previous versions loose their validity.

**VOC-content**

- **HSF.65:** 0.2 g/l VOC.
- **HSF.74:** 0.1 g/l VOC.
- **NF54:** 0.1 g/l VOC.

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

**HSF.65:** 0.1 g/l VOC.

**HSF.74:** 0.2 g/l VOC.

**NF54:** 0.1 g/l VOC.

#### Preparation

The conductive particles deposit on the bottom of the paint container. Shake the paint container well and mix it thoroughly, if you open an electrical painter stirrer for at least 2 minutes. For our 1 liter cans please use our storer RMA.

#### Compatibility

All shielding paints are ready for use. Never mix with water or other coating materials.

**Application**

- Use a fine-class painter roll with a pole height of 10 to 15 cm. To achieve a conductive coating, it is essential to apply the shielding paint with the entire length of the stick and to support the painting process by converting; do not skip areas! Always soak the paint roller with the equal amount of paint and try to coat equal surfaces! 

Limited usable are lacquer rollers, foam rollers or brushes, as the coating often gets applied too thin for a good attenuation.

- Do not let escape into sewerage, water bodies or get discarded.

**Grounding regulation**

Large area shielding executed with shielding materials are no electrical equipment but new conductors, according to the national electrical code (IEC 1066-1). By connecting the shielding material to the power line service for all electric materials the potential equalization they are an electrical conductor, and they must be electrically normally accepted rules of technology have to be respected.

Accordance to the latest state of technology it is important to distinguish between protective equipment, grounding and functional electrical conductors (FEB). The protective equipment (grounding) or green/yellow conductor is a protective measure and ensures, in the event of contact voltages, the immediate action of safety devices (e.g. line safety switch). The function of the functional electrical conductors (transparent cable) is the reduction of emission of low frequency electric fields on large area shieldings (i.e. prevention of leaking electrical field).

**Final coat**

To protect the soft, viscoelastic surfaces of the shielding paints against mechanical damage and humidity, we recommend to apply 2 top coats.

On our website under “Paints” - “Top coatings” you will find a basic compatibility list. Worldwide popular varnish are available. Therefore a guar- antee of specific properties of all the varnish of the product for a specific application purpose cannot be derived from the data given. We always recommend to apply a paint coat on a test area before processing.

**Intermediate:** With high-quality, good covering, plastic bonded dispersion emulsion paints or dispersions, silicate paints. Apply thin paste over with wallpapers, glass fabrics, etc.

**Exterior:** With high-quality, good covering, highly hydrophobic dispersion emulsion paints, preferably mineral undergrounds or silicon resin paints.

**Mineral paints:** Pure mineral bonded coatings with clay, loam, chalk or silicate often adhere bad on the graphite surface of the shielding paints, and therefore must never be used!

**Ecological paints:** It is difficult to give a common recommendation. **Problematic:** Slaked lime - paints (e.g. Kreidezeit), natural resin dispersion (e.g. Livos, Auro), casein glue paints, clay paints (e.g. Claryed) or pure silicate paints (e.g. Kreidezeit, Auro). Well suited: KEIM silicate paints (Boocl, Eisgl), VOLVOX top paint, HAGA chalk paint.

Under plaster (PRO54, HSF54, NF54): Due to the high adhesive tensile strengths of the shielding paints, these are applicable (in conformity with ETA-E 004 for EIFS-sytems, minimum 0.08 N/mm²) after prior priming under plastic bonded plaster. Never use mineral plasters, no adhesion!

#### Consumption

The consumption depends on the character and the absorbability of the underlying ground. Typical interior productivity: 7.5 m²/h. Typical exterior productivity: 3 m²/h.

**PRO54:** Always apply this paint in two layers!

TIP: Referring to customer feedbacks we know, that our paint is often applied far too thick. For a good levelling, our paints are of low viscosity, so by using our current stirrer you get a thin coating. The problem is, that the spreading rate is probably much higher than it should be. A 5 times increase in attenuation we request you to apply the shading paint quite thick, even if this seems to be prodigious to you!

#### Further information

**Storage**

Store cool and frost free. Keep safe from children. Once the paint container has been opened, close tightly right after usage and store cool.

**Period of storage**

At least 12 months, see the batch sticker on the paint container.

**Disposal**

Uterels should be cleaned immediately after use with water and soap. Containers must be absolutely empty before recycling. Dried up paint remainders may be disposed of with the household garbage. Do not let escape into sewerage, water bodies or get discarded.

**Identification marks**

Productcode: M 0861 (GSCODE)
Water hazard class: 1 (VvWvS)
Waste: classified waste
Hazardous ingredients: –

**UN-number:**

Flammable: Classified as:

**Environmental dangers:**

**Safety data sheet**

The safety data sheet is available upon request under telephone number 0049-(0)8531-3713-0.

**Disclaimer**

Aforesaid informations have been assorted to the state of knowledge with this newest edition of our technical data sheet all previous versions loose their validity.

Our general terms and conditions are valid as mentioned with this newest edition of our technical data sheet all previous versions loose their validity.

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