**Grounding**

**Grounding regulation**

Large area shielding executed with shielding materials are no electrical conductors but new conductive covering according to EN 50200-1 or IEC 61968-1 (IEC 61968-1:2009-09) for your protection (attaching the material(s)) to the potential equalization they are an essential part of the electrical system generally accepted rules of technology have to be respected.

According to the latest state of technology it is important to distinguish between protective electromagnetic shielding and functional electrical (FE) bonding (FE). The protective equipment can be provided by yellow or pink cables as protective measure and ensures, in the event of contact with electrical equipment, the immediate action of safety devices (e.g. line safety switch). The function of the functional electrical (potential bonding) (e.g. line safety switch) is a protection against the reduction of low frequency electromagnetic fields on large area (i.e. prevention of breaking electrical field).

Please find more information in our "grounding information" sheet on our website.

**Grounding accessories**

To obtain an accordingly grounding, we exclusively recommend our special grounding accessories. Your advantages: Grounding for steel or GB in combination with grounding strip EB 2B. For use: Grounding plate GE.

**Handling**

**Interior approach**

- Prepare the grounding with a primer. Drill holes for the grounding plate.
- The grounding plate must be laid on top of the shielding paint in one layer, two layers, depending on the favored shielding attenuation. 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 with screws or nails and fix with the grounding instructions sheet.
- For further procedure references please follow up at subitem “Final coat”.

**Exterior approach**

- Prepare the grounding with a primer. Level off the shielding material surface for the grounding plate. Drill holes for the grounding plate.
- The grounding plate must be laid on top of the shielding paint in one layer, depending on the favored shielding attenuation. 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 with screws or nails and fix with the grounding instructions sheet.
- For further procedure references please follow up at subitem “Final coat”.

**Application**

Minimum application temperature: 5°C / 41°F. This temperature applies also for the drying time.

**Underground**

HSF44, HSF45, HSF46, NSF43: Excellent adhesion on almost all underground surfaces (e.g. emulsion paints, emulsion, paint, plastic bonded dispersion emulsion paints, acrylics dispersion, emulsion paints, etc., please check first on a test surface).

HSF46: With potassium silicate as inert additive, applicable on gypsum based undergrounds.

The underground needs to be solid, clean, dry and free of dust. Absorptivity of the underground surfaces must be prepared with a primer. Old coatings of paint, rust, old wallpapers which can be etched by water, should be removed.

**Priming coat**

- Absorbs or porous surfaces must necessarily be prepared with a primer. In case of working as a binder the absorbing binder will infiltrate together with the paint.
- This will lead to an aggravation of the physical characteristics of the shielding paints. Optical control: Paint must not be watertight and not leek. When the surface is level, the underground is too wet.
- Black, the underground is adequate primed.

**Preparation**

The conductive particles deposit on the bottom of the paint. Please do not apply the grounding plate after a prolonged storage. Therefore shake the paint container well before opening!

**Compatibility**

The shielding paint is ready for use. Never mix with plastic bonded coating resins!

## Application

- Use a first-class paint roller with a pile height of 10-13 mm. To achieve a constant high attenuation, it is essential to apply the shielding paint with equal thickness and to ensure a full faced converting, do not skip areas! Always soak the paint roller with the equal amount of paint and to try to coat equal surfaces! Limited usable are lacquer or emulsion paints or mineral paints, as the coating often gets applied too thin for a good attenuation. Airless spraying is possible with nozzles bigger than 325 (0.25 inch) / 0.64 mm, smaller nozzles get choked sometimes.

**Technical data sheet - Shielding paints**

<table>
<thead>
<tr>
<th>HSF 66</th>
<th>HSF 54</th>
<th>HSF 66</th>
<th>HSF 64</th>
<th>NSF 54</th>
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</thead>
<tbody>
<tr>
<td>Fine description</td>
<td>Technique for our best results! Our exterior environment!</td>
<td>Technique for our best results! Our exterior environment!</td>
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<tr>
<td>The All-In-One-Solution! Flexible, durable and long-lasting!</td>
<td>Suitable for all kinds of applications! Long-lasting and durable!</td>
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<td>Ecological &amp; sustainable!</td>
<td>Low-VOC!</td>
<td>Low-VOC!</td>
<td>Low-VOC!</td>
<td>Low-VOC!</td>
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<tr>
<td>Pure silicate without preservatives! Only recommended for prolonged exposure against preservatives! Low-emission!</td>
<td>Low-emission!</td>
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<tr>
<td>To shield EMFs (LEF) only! Higher mechanical and chemical properties! Low-emission!</td>
<td>Low-emission!</td>
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**PaintsSheet**

- FabricsTextiles Canopies GroundingElectro MeasurementPrices

**Product features**

**Intended use**

Electro-conductive base coatings for the protection of all living and working environments against electromagnetic fields and/or low frequency electric fields. In electronic technology as well as in the protection of the environment (e.g. mobile phone towers, TV and radio broadcasting equipment, computers, digital devices, telephones, wireless networks or power supply lines in premises, citizens, hospitals, nuclear power plants).

**Area of application**

- Walls and ceilings: The typical application of the shielding paints intrinsically depends on the shielding paint, see table above.
- Floor areas: Bulk laid floor coverings (carpets, lamiates, etc.) can be laid directly onto the shielding paints. Pay attention, that the shielding paints are not damaged! In case of glued floor coverings (carpets, cork, laminate, etc.) the products of the paint have to be after- treated with a solvent free priming coat to improve the adhe- sion. We advise against bonding agent, e.g. wood-ward papers, the adhesive tensile strength of the shielding products is not sufficient.
- Under plaster (HSF44, HSF45, NSF43) Due to high adhesive tensile strengths of the shielding paints, the adhesives directly bond to the plaster.

**Technical coatings (HSF46):** On plastic mats, glass, flexible plastic sheets, carpet back- sides, lamiates, etc. with knife coating, immer- sion, roll application, etc. Required as cheap replacement for silver/epoxy/laquers, or as elec- trical coated plate.

**Corrosion resistance**

All shielding paints do not contain metal particles. Based on carbons they are long-term durable and not oxidizing.

**Preservative:** If stated above, the shielding paint contains MIT (2-Methyl-4-isothiazolin-3-ol) and BIT (1,2-Benzisothiazolin-3-one) as preservatives substance. Advisory service for users telephone number under telephone number 0049-(0)8351-3173-0.