



# emfturtal

EMF TURTAL PLV / SHIELDING PAINT ( POWDER) / YIELDS 2.75 TO MAX. 3.00 LITRES / 0.73 US GALLONS / FOR INDOOR USE

## Important processing and safety instructions

EMF-TURTAL PLV shielding paint (powder) is an electrically conductive primer coating, especially for large-area shielding of electromagnetic fields. Always use the contents of a complete EMF-TURTAL PLV bag / [ 2.75 litres / 0.73 gal. / US gallons (= one bag) ] as individual components may separate during transport to achieve optimum shielding performance. The EMF-TURTAL PLV shielding paint (powder) reliably shields low-frequency as well as high-frequency radiation. Both alternating electric fields (e.g. alternating voltages in appliances, cables and installations) and electromagnetic waves are shielded or diverted. [e.g. radio transmitters, LTE, 4G, 5G, GSM, directional radio, WLAN, DECT, mobile and cordless phones].

• **EMF-TURTAL PLV – Electrically conductive base coating for shielding:** Successfully shield mobile radio, LTE, 4G, 5G, WLAN, DECT, GSM, etc. [High frequency (HF) & Low frequency (LF)].

• **General:** With EMF-TURTAL PLV based on carbon (graphite) as well as graphene, you effectively and reliably block electromagnetic fields (electro-smog). High-frequency radiation (HF) is reliably shielded by reflection. Electric fields from domestic electricity (low-frequency alternating currents LF-) are earthed and can be almost completely dissipated.

• **Range of application:** See front label. (Processing instructions – Indoor or Outdoor) • **Underground:** Excellent adhesion to almost all substrates such as old paint coats, plasterboard, wallpaper, plaster, concrete, polystyrene (see application instructions). • **Top coat:** Recoatable preferably with plastic-bonded dispersion paints, dispersion silicate paints, facade paints or silicone resin paints. We do not recommend pure mineral paints (such as clay, pure silicate).

• **When mixing the powder with water, we recommend wearing a dust mask – do not inhale powder dust.**

Mix, apply, paint and ground EMF-TURTAL PLV as described in these instructions. • **Yield:** Mixed with water (with whisk + drill or cordless screwdriver). When mixed, it yields approx. 2.75 to max. 3.00 litres (0.73 gal. to max. 0.79 gal.) [US-Gallons] of ready-to-spread shielding paint. We recommend painting the surface to be shielded with an acrylic roller. Spread the shielding paint evenly over 10.0 m<sup>2</sup> – 12.5 m<sup>2</sup> per coat. One bag of EMF-TURTAL PLV is sufficient for approx. 10.0 m<sup>2</sup>\* [min.] – 12.5 m<sup>2</sup>\* [max.] (\*for one coat) – depending on the substrate. Spread as evenly as possible on the wall surface to be screened. If there is still shielding paint left in the mixed bucket after painting [maximal 12.5 m<sup>2</sup> area], the protective layer was applied too thinly. If necessary, spread the remaining paint evenly over the surface and apply it and apply it completely. Fast drying time. • **We recommend to always screen with two coats of paint (two layers).** The viscosity of the shielding paint can be adjusted individually.

• **CAUTION: SHIELDING PAINT IS AN ELECTRICALLY CONDUCTIVE BASE COAT AND MUST BE GROUNDED BY QUALIFIED PERSONNEL!**

EMF-TURTAL PLV (powder) must be mixed with water for at least 10 minutes before use! We recommend stirring the shielding paint again for about 2 – 3 minutes before applying another coat of paint – in order to distribute all particles evenly. EMF-TURTAL is largely smudge-proof after drying and can be easily painted over with conventional emulsion paints. For optimal shielding, always apply two coats. EMF-TURTAL should be allowed to dry for at least six hours – whereby the second coat can be applied after approx. 2 – 3 hours (depending on temperature and air humidity). Dry processing only above at least +5° C (Celsius)! [41° F (Fahrenheit)]

Ensure thorough ventilation during processing and drying! Avoid eating, drinking and smoking during the application of the paint! In case of contact with eyes or skin, rinse immediately with plenty of water! In case of accidental oral ingestion, please contact the emergency medical service immediately. Show the doctor this packaging label! Keep out of the reach of children – store out of reach of children.

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EMF TURTAL PLV / SHIELDING PAINT ( POWDER) / YIELDS 2.75 TO MAX. 3.00 LITRES / 0.73 US GALLONS / FOR INDOOR USE

## Important processing and safety instructions

- **Application:** EMF-TURTAL PLV shielding paint (powder) – conductive primer coating for indoor use: Suitable for use on primed, non-absorbent substrates such as gypsum, concrete, stone, plasterboard, gypsum fibreboard as well as on woodchip wallpaper, paper wallpaper, coloured fleece and emulsion paints. Unsuitable substrates are e.g. glue and lime paints, oil-based paints, plastic, metal, painted wood, glass or substrates with wallpaper adhesive residues.
- **Underground:** Excellent adhesion to almost all substrates such as old paint, plasterboard, wallpaper, plaster, concrete, polystyrene, wood (untreated, unpainted, not waxed or oiled).
- **Paintable:** Should preferably be painted over with dispersion paint of opacity class 1 (highest opacity for interior use). Do not use wallpaper OVER the shielding paint, as the wallpaper paste could dilute it and reduce its protective effect and the adhesion of wallpaper to shielding paint is not recommended or guaranteed by us.  
**In any case, avoid all clay-based paints.** We do not recommend purely mineral paints (clay, pure silicate). We also advise against natural or biological silicate paints, lime and casein paints – always carry out a test before use, as not all paints adhere to graphite and graphene in the same way!
- **Suitable tools:** We recommend qualitative paint rollers (acrylic paint roller) with a diameter of approx. Ø 1.8 - 2.1 cm..
- **Preliminary work:** The working ambient temperature should be at least 8° C (Celsius). Pour the complete bag contents of EMF-TURTAL PLV (Powder) into a 10 litre / [2.64 gal. US-Gallons] bucket and stir vigorously with a machine paint stirrer and a drill or cordless screwdriver while adding 1.75 litres of water for at least 10 minutes.
- **Gradually dilute further with a little water in 50 ml increments until the shielding paint runs off the whisk in a good liquid consistency (like liquid honey). (maximum two litres of water to one bag)** Stir the entire mixture well with a wall paint stirrer for at least 10 minutes until the shielding paint runs off the stirrer in a good liquid state. After mixing, leave to stand for approx. 10 to 20 minutes and then stir again. Now the shielding paint can be applied with the acrylic roller. When applying each new coat, stir again to distribute all particles evenly.
- **Carrier material:** The substrate must be load-bearing, dust-free, clean, dry, solid, grease-free and free from bleed-through and colouring substances. A pre-primed substrate is ideal. Thoroughly wash off and degrease old distemper and other chalking or unstable old coatings. (remove completely with a lye or silicone remover). Remove old, loose coats of paint and thoroughly wash off wallpaper adhesive residues from the substrate. Clean dusty surfaces very well and sweep them off. Remove binder adhesions and sintered skin on plaster surfaces on walls. Remove loose plaster and wall parts and repair with similar material. Clean mineral substrates – which are infested with mould – well with soda or treat them with other commercially available mould protection products.
- **Shielding primer coating:** At least two coats of the shielding paint must be applied. Apply the shielding paint (base coat) very evenly + without adhesion using an acrylate roller. • **Tip:** The second coat of EMF-TURTAL shielding paint can be applied more easily if it is diluted with approx. 5 % more water.
- **Consistency:** First stir the mixed shielding paint vigorously with a mechanical paint stirrer, dilute the shielding paint with water until the consistency of the paint runs off the stirrer like liquid honey.
- **Basic treatment:** All untreated and absorbent substrates (all rough plasters, plasterboard, gypsum fibre) must be primed. Do not prime emulsion paints, but clean well. Untreated paper wallpapers such as woodchip and painter's fleece should also be primed before painting.



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## Important processing and safety instructions

- **Notes on earthing with with earthing fleece:** Remove the protective film from the self-adhesive earthing fleece tape. When using grounding fleece, we recommend applying a saturated layer of shielding paint along the baseboard (on a strip) and then sticking the fleece directly into the still wet, saturated layer of paint and working it in as well. If necessary, the earthing tape fleece can be attached so that the rubbing strips cover this later. This should be done in the immediate vicinity of a power socket. We recommend fixing the earthing strap fleece to at least half of the wall length to ensure optimum earthing. When attaching the earthing plate, use a little shielding paint at the end of the earthing tape/fleece to ensure optimum contact between the earthing plate and the freshly coated earthing tape/fleece. If you are also painting the ceiling, also lay the earthing tape up to the ceiling at a distance of approx. 5 cm from the edge of the wall. Each wall and ceiling surface should be separately earthed with an earthing fleece. After attaching the earthing fleece, allow the earthing tape / earthing fleece to dry thoroughly together with the applied paint. Then the second coat of paint can be applied. We do not recommend grounding copper tape – for optical and practical processing reasons.
- **Tool cleaning:** Clean thoroughly with water immediately after use and rinse out.
- **Reach:** On smooth, non-absorbent and previously primed surfaces/subfloors, one pack of EMF-TUTRAL PLV (Powder) is sufficient for approx. 10 m<sup>2</sup> – 12.5 m<sup>2</sup> with one coat. Depending on the addition of water, the mixed powder yields about 2.75 litres up to a maximum of 3.00 litres of ready-to-use shielding paint. On rough, plastered and absorbent surfaces / subsurfaces, considerable additional consumption must be expected. For optimum shielding, at least two coats / two paint layers of shielding paint are required. Exact consumption values must be determined at the property.
- **Drying time:** Can be painted over after approx. two to four hours – fully dry after approx. eight hours. (Ventilate well!)
- **Storage:** Store frost-free, airtight and below 25° C (Celsius). Can be stored in powder form (unopened original packaging!) for approx. three years – if stored dry and frost-free. Mixed with water, we recommend that the shielding paint is applied quickly after mixing. After each working step, it is essential to stir again thoroughly with the machine agitator (see above) to ensure an even distribution of the particles / shielding.
- **Disposal of product residues:** Please do not dispose of paint residues in the waste water. Paint residues can be disposed of in household waste after drying. Empty packaging should be disposed of via the recyclables collection.
- **Labelling: Not applicable – no dangerous goods!**
- **Important notes and safety instructions: The earthing may only be connected by qualified personnel (electricians). As the shielding paint is electrically conductive, live parts must never be brought into contact with the paint! Non-observance can lead to injuries or death!** Protect eyes and skin when processing the shielding powder (wear protective goggles and gloves). In case of contact with eyes or skin, rinse with plenty of water and seek medical advice if necessary (eyes). Wear a dust mask during processing and avoid inhalation when pouring / pouring from the bag. The base coat has exceptional colouring power. Surfaces, especially glass, ceramics, metal, plastic and wood must be cleaned of product splashes immediately. To protect against product splashes, cover surrounding surfaces before painting and remove product splashes immediately with water (risk of irreversible stains!). Please note possible allergies to acrylic.
- **Keep out of the reach of children!**



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EMF TURTAL PLV / SHIELDING PAINT ( POWDER) / YIELDS 2.75 TO MAX. 3.00 LITRES / 0.73 US GALLONS / FOR INDOOR USE

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## Important processing and safety instructions

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- **When painting over, the shielding paint may discolour after drying – as some commercially available wall paints contain a lot of water – but it can still be painted over without any problems.**

Even though the EMF-TURTAL PLV shielding paint shields and reflects the incident high-frequency radiation, mobile and DECT telephones may still function weakly even after using the shielding paint. The radiation intensity through coated walls in rooms is nevertheless reduced to a minimum.

- **Important:** Please make absolutely sure that neither WLAN nor mobile phones are used in a shielded room, as the shielding paint has reflective properties and thus the radiation within a room can be amplified by reflections.

- **We recommend** that the radiation exposure (and the direction of the radio radiation) be determined by qualified personnel before any shielding measure is taken in order to avoid undesirable, possibly negative effects. Please ask a building biologist – or find a qualified trade fair expert in your area. For professional radio frequency shielding, it may also be necessary to shield your windows and doors.

- **If you have any questions about the product, please feel free to contact us.**

- **Fire behaviour:** This product is flame retardant.

Further information can be found in this safety data sheet.

- **Indoor application:** Ceiling, interior wall
- **Connection:** Must be earthed by a qualified electrician! We recommend the use of an earthing set and an earthing plug for indoor use, which you can find in our shop under earthing accessories.
- **Content:** A complete packaging unit of EMF-TURTAL PLV results in a total of up to 2.75 litres (0.73 gal. US-Gallons) of shielding paint (electrically conductive base coat) when about 1.75 litres (0.46 gal. US-Gallons) of water are added.
- **Packaging volume:** Per EMF-TURTAL PLV packaging unit (for 2.75 litres – Powder) – dimensions per stand-up pouch: 34.0 cm (height) x 25.0 cm (width) x 10.0 cm (thickness)
- **Filling weight:** 1.200 g

- **Substrates:** Excellent adhesion to almost all substrates such as old paint, plasterboard, wallpaper, plaster, concrete, polystyrene, wood (unpainted, natural, untreated), etc. • **For further details, see the processing instructions above.**
- **Paintable:** Should preferably be painted over with dispersion paint (opacity class 1) for interior use. Do not wallpaper and use wallpaper OVER the shielding paint, as the wallpaper paste could dilute it and reduce the shielding effect. We also do not recommend or guarantee the adhesion of the wallpaper to shielding paint.
- **In any case, avoid all clay-based paints.** We advise against natural or organic silicate paints, lime and casein paints – therefore always carry out a test before use, as not all paints adhere equally well to graphite and graphene! We therefore do not recommend purely mineral paints such as clay or pure silicate.
- **Connection: Must be earthed! We recommend the use of an earthing set with earthing plate for indoor use, which you can find in our shop under earthing accessories.**

- **Important notes: The electrical installation (fuse boxes) must consist of at least two RCDs (often generally 300 mA and one for the bathroom and 30 mA for the water rooms). To dissipate extremely low-frequency electric fields, the earthing resistance should ideally be less than 10 ohms. Consult a qualified electrician. Please note that the earth has no influence on the elimination of high frequencies, but only on safety and extremely low frequency electric fields.**

- **Colour:** Anthracite-black | • **Product code:** M-DF01 (GISCODE) | • **Colour:** Anthracite black.
- **Field type:** LF (Low-frequency alternating electric fields), HF (High-frequency electromagnetic fields)
- **Ingredients:** Pure acrylic binder, graphite and graphene

- **VOC content:** 0.2 g/l (the EU limit for category A/a has been 30 g/l since 2010)

- **After mixing the EMF-TURTAL PLV (powder) for indoor use with water, we recommend to apply the shielding paint (electrically conductive base coat) quickly – within approx. three days.**

- **Shelf life:** Can be stored in powder form unopened (in original packaging!) and in a dry place (not above 25° C (Celsius)) for up to three years. This powder is largely frost-resistant for transporting parcels in winter.

- **Important: Always mix the complete contents of a whole bag of EMF-TURTAL PLV (powder) (for optimum shielding results, please never use only a part from the packaging unit!), as heavier particles settle during transport!** Before each application – before applying each new coat of paint (paint), it is essential to stir again using a mechanical stirrer. Also stir for another 5 minutes before applying the second or third coat (for a uniformly good shielding result), as particles may settle in the bucket during the drying time of the first, second or third coat!

- **Please observe the instructions and processing information printed on the product packaging (back label)!**

**Technical data EMF-TURTAL PLV – powder – (indoor & outdoor):** VOC content: 0.2 g/l (the EU limit for category A/a is 30 g/l as of 2010). (See safety and processing instructions) When adding 1.75 litres to max. 2.00 litres (0.46 gal. to maximum 0.53 gal. / US-Gallons) of water, the storage stability (well sealed!) is about seven days. Stored unopened (in original packaging) and dry (not above 25° C (Celsius) = 77° F [Fahrenheit]), shelf life up to three years.

**EMF-TURTAL PLV Powder (Indoor) – Package contents:** 1.200 g – approx. 3.0 litres bulk density/volume. Results in approx. 2.75 litres to max. 3.00 litres of shielding paint (0.73 gal. – 0.79 gal. / US-Gallons) when adding 1.75 litres to maximum 2.00 litres (0.46 gal. to maximum 0.53 gal. / US-Gallons) of water.

*The information described has been determined on the basis of the latest experience available to us. Due to the processing methods and environmental influences as well as the varying nature of the substrates, liability for the general legal validity of the individual recommendations can be excluded.*



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## Important processing and safety instructions

EMF-TURTAL PLV shielding paint (powder) is an electrically conductive primer coating, especially for large-area shielding of electromagnetic fields. Always use the contents of a complete EMF-TURTAL PLV bag / [ 2.75 litres / 0.73 gal. / US gallons (= one bag) ] as individual components may separate during transport to achieve optimum shielding performance. The EMF-TURTAL PLV shielding paint (powder) reliably shields low-frequency as well as high-frequency radiation. Both alternating electric fields (e.g. alternating voltages in appliances, cables and installations) and electromagnetic waves are shielded or diverted. [e.g. radio transmitters, LTE, 4G, 5G, GSM, directional radio, WLAN, DECT, mobile and cordless phones].

• **EMF-TURTAL PLV – Electrically conductive base coating for shielding:** Successfully shield mobile radio, LTE, 4G, 5G, WLAN, DECT, GSM, etc. [High frequency (HF) & Low frequency (LF)]

• **General:** With EMF-TURTAL PLV based on carbon (graphite) as well as graphene, you effectively and reliably block electromagnetic fields (electro-smog). High-frequency radiation (HF) is reliably shielded by reflection. Electric fields from domestic electricity (low-frequency alternating currents LF-) are earthed and can be almost completely dissipated.

• **Range of application:** See front label. (Processing instructions – Indoor or Outdoor) • **Underground:** Excellent adhesion to almost all substrates such as old paint coats, plasterboard, wallpaper, plaster, concrete, polystyrene (see application instructions). • **Top coat:** Recoatable preferably with plastic-bonded dispersion paints, dispersion silicate paints, facade paints or silicone resin paints. We do not recommend pure mineral paints (such as clay, pure silicate).

• **When mixing the powder with water, we recommend wearing a dust mask – do not inhale powder dust.**

Mix, apply, paint and ground EMF-TURTAL PLV as described in these instructions. • **Yield:** Mixed with water (with whisk + drill or cordless screwdriver). When mixed, it yields approx. 2.75 to max. 3.00 litres (0.73 gal. to max. 0.79 gal.) [US-Gallons] of ready-to-spread shielding paint. We recommend painting the surface to be shielded with an acrylic roller. Spread the shielding paint evenly over 10.0 m<sup>2</sup> – 12.5 m<sup>2</sup> per coat. One bag of EMF-TURTAL PLV is sufficient for approx. 10.0 m<sup>2</sup>\* [min.] – 12.5 m<sup>2</sup>\* [max.] (\*for one coat) – depending on the substrate. Spread as evenly as possible on the wall surface to be screened. If there is still shielding paint left in the mixed bucket after painting [maximal 12.5 m<sup>2</sup> area], the protective layer was applied too thinly. If necessary, spread the remaining paint evenly over the surface and apply it and apply it completely. Fast drying time. • **We recommend to always screen with two coats of paint (two layers).** The viscosity of the shielding paint can be adjusted individually.

• **CAUTION! SHIELDING PAINT IS AN ELECTRICALLY CONDUCTIVE BASE COAT AND MUST BE GROUNDED BY QUALIFIED PERSONNEL!**

EMF-TURTAL PLV (powder) must be mixed with water for at least 10 minutes before use! We recommend stirring the shielding paint again for about 2 – 3 minutes before applying another coat of paint – in order to distribute all particles evenly. EMF-TURTAL is largely smudge-proof after drying and can be easily painted over with conventional emulsion paints. For optimal shielding, always apply two coats. EMF-TURTAL should be allowed to dry for at least six hours – whereby the second coat can be applied after approx. 2 – 3 hours (depending on temperature and air humidity). Dry processing only above at least +5° C Celsius! [ 41° F (Fahrenheit) ]

Ensure thorough ventilation during processing and drying! Avoid eating, drinking and smoking during the application of the paint! In case of contact with eyes or skin, rinse immediately with plenty of water! In case of accidental oral ingestion, please contact the emergency medical service immediately. Show the doctor this packaging label! Keep out of the reach of children – store out of reach of children.

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## Important processing and safety instructions

• **Application: EMF-TURTAL PLV shielding paint (powder) – conductive base coat for outdoor use.**

Suitable for use on primed, non-absorbent substrates such as exterior facades, concrete, stone, plasterboard, gypsum fibreboard and emulsion paints. Unsuitable substrates are e.g. glue and lime paints, oil paints, plastic, metal, treated and painted wood, glass or substrates with wallpaper adhesive residues.

• **Underground:** Excellent adhesion to almost all (primed) substrates such as old coatings, plaster, concrete, polystyrene, wood (untreated, unpainted, not waxed or oiled).

• **Paintable:** Should preferably be painted over with dispersion paint of opacity class 1 (highest opacity for exterior facade paints). Apply in dry weather and at least 10 degrees Celsius outside temperature. The wet base coat should not be exposed to frost during painting and drying.

• **In any case, avoid all clay-based paints.** We advise against purely mineral paints (clay, pure silicate). We also advise against natural or organic silicate paints, lime and casein paints – always carry out a test before use, as not all paints adhere to graphite and graphene in the same way!

• **Suitable tools:** We recommend qualitative paint roller (acrylic paint roller) for the application of the base coat.

• **Preliminary work:** The working environment temperature should be at least 8° C (Celsius) = 46.4° F (Fahrenheit). Pour the complete sachet contents of EMF-TURTAL PLV (powder) [for 2.75 to max. 3.00 litres] into a 10 litre / (2.64 gal. US-gallons) bucket and stir vigorously for at least 10 minutes using a machine paint stirrer and a drill or cordless screwdriver while adding 1.75 litres (0.46 gal. US gallons) of water. • **Gradually dilute further with a little water in 50 ml increments until the shielding paint runs off the whisk in a good liquid consistency (like liquid honey).**

Stir the entire mixture well with a wall paint stirrer for at least 10 minutes until the shielding paint runs off the stirrer in a good liquid state. After mixing, let stand for approx. 10 to 20 minutes and then stir again. Now the shielding paint can be applied with the acrylic roller. When applying each new coat, stir again to distribute all particles evenly.

• **The carrier material:** The substrate must be load-bearing, dust-free, clean, dry, solid, grease-free and free from bleed-through and colouring substances. A pre-primed substrate is ideal. Thoroughly wash off and degrease old distemper and other chalking or unstable old coats (remove completely with a lye or silicone remover). Remove old, loose coats of paint and thoroughly wash off wallpaper adhesive residues from the substrate. Clean dusty surfaces very well and sweep them off. Remove binder adhesions and sintered skin on plaster surfaces on façade walls. Remove loose plaster and wall parts and repair with similar material. Clean mineral substrates – which are infested with mould – well with soda or treat them with other commercially available mould protection products.

• **Shielding primer coating:** At least two coats of the shielding paint must be applied. Apply the shielding paint (base coat) very evenly and without adhesion using an acrylate roller. • **Tip:** The second coat of EMF-TURTAL PLV shielding Paint can be applied more easily if it is diluted with approx. 5 % more water.

• **Consistency:** First stir mixed shielding paint vigorously with a machine paint stirrer, dilute the shielding paint with water until the consistency of the paint is well runny – like liquid honey – from the stirrer.

• **Basic treatment:** All untreated and absorbent substrates (all rough plasters, concrete, plasterboard, gypsum fibre) must be primed. Do not prime emulsion paints, but clean them well. In the case of untreated protective fleeces (vlies) for exterior facades, we also recommend priming them before painting.



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## Important processing and safety instructions

• **Notes on earthing with earthing fleece (vlies):** Remove the protective film from the self-adhesive earthing fleece tape. When using grounding fleece, we recommend applying a saturated layer of shielding paint along the outer facade edge (on a strip) and then sticking the fleece directly into the still wet, saturated paint layer and working it in with it. We recommend fixing the earthing tape fleece to at least half of the wall length to ensure optimum earthing. When attaching the earthing plate, use a little shielding paint at the end of the earthing tape/fleece to ensure optimum contact between the earthing plate and the freshly coated earthing tape/fleece. Each external façade surface/wall should be separately earthed with an earthing fleece. After attaching the earthing fleece, allow the earthing tape / fleece to dry thoroughly together with the applied paint. Then the second coat of paint can be applied. We do not recommend grounding copper tape for optical and practical processing reasons.

• **Cleaning the tools:** Clean thoroughly with water immediately after use and rinse out.

• **Reach:** On smooth, non-absorbent and previously primed surfaces/subfloors, one pack of EMF-TURTAL PLV (Powder) is sufficient for approx. 10 m<sup>2</sup>– 12.5 m<sup>2</sup> with one coat. Depending on the addition of water, the mixed powder yields about 2.75 litres up to a maximum of 3.00 litres of ready-to-use shielding paint. On rough, plastered and absorbent surfaces/subsurfaces, a considerable increase in consumption must be expected. For optimum shielding, at least two coats / two layers of paint with shielding paint are required. Exact consumption values must be determined on the object depending on the substrate.

• **Drying time:** In dry weather and outside temperatures above 10° C degrees (Celsius), recoatable after approx. two to four hours – fully dry after approx. eight hours.

• **Storage:** Store frost-free, airtight and below 25° C degrees (Celsius) [= 77 F° Fahrenheit]. Can be stored in powder form (unopened original packaging!) for approx. three years – if stored dry and frost-free. Mixed with water, we recommend that the shielding paint is applied quickly after mixing. After each working step, it is essential to stir again thoroughly with the machine agitator (see above) to ensure an even distribution of the particles / shielding.

• **Disposal of product residues:** Please do not dispose of paint residues in the waste water. Paint residues can be disposed of in household waste after drying. Empty packaging should be disposed of via the recyclables collection.

• **Labelling: Not applicable – no dangerous goods!**

• **Important notes and safety instructions: The earthing may only be connected by qualified personnel (electricians). As the shielding paint is electrically conductive, live parts must never be brought into contact with the paint! Non-observance can lead to injuries or death!**

Protect eyes and skin when processing the shielding powder (wear protective goggles and gloves). In case of contact with eyes or skin, rinse with plenty of water and seek medical advice if necessary (eyes).

• **Wear a dust mask during processing and avoid inhalation when pouring / spilling out of the bag.**

The base coat has exceptional colouring power. Surfaces, especially glass, ceramics, metal, plastic and wood must be cleaned of product splashes immediately. To protect against product splashes, cover surrounding surfaces before painting and remove product splashes immediately with water (risk of irreversible stains!). Please note possible allergies to acrylic.

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## Important processing and safety instructions

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- **Keep out of the reach of children!**
- **When painting over, the shielding paint may discolour after drying – as some commercially available wall paints contain a lot of water – but it can still be painted over without any problems.**

Even though the EMF-TURTAL PLV shielding paint (Powder) shields and reflects the incident high-frequency radiation, mobile and DECT telephones may still function weakly even after using the shielding paint. The radiation intensity through coated walls in rooms is nevertheless reduced to a minimum.

• **Important: Please make absolutely sure that neither WLAN nor mobile phones are used in shielded rooms, as the shielding paint has reflective properties and thus the radiation within a room can be amplified by reflections. We recommend that the radiation exposure (and the direction of the radio radiation) be determined by qualified personnel before any shielding measure is taken in order to avoid undesirable – possibly negative – effects.** Please ask a building biologist – or look for a qualified a qualified trade fair expert in your area. For professional radio frequency shielding, it may also be necessary to shield your windows and doors.

- **If you have any questions about the product, please feel free to contact us.**

- **Fire behaviour:** This product is flame retardant.

Further information can be found in the enclosed safety data sheet.

- **Application:** Outdoor application, indoor floors (under flooring)
- **Connection:** Must be earthed by a qualified electrician! We recommend the use of an earthing set with earthing plate for outdoor use, which you can find in our shop under earthing accessories.
- **The earthing must never be carried out via the lightning conductor!**
- **Content:** A complete packaging unit of EMF-TURTAL PLV – Outdoor results in a total of up to 2.75 litres of shielding paint (electrically conductive base coat) when 1.75 litres (0.46 gal. [US-Gallons] of water are added – ready for painting.
- **Packaging volume:** Per EMF-TURTAL PLV packaging unit (for 2.75 litres – Powder) – dimensions per stand-up pouch: 34.0 cm (height) x 25.0 cm (width) x 10.0 cm (thickness)
- **Filling weight:** 1.225 g

• **Underground:** Excellent adhesion to almost all substrates, e.g. facades with old paint, plasterboard, plaster, concrete, polystyrene, wood (natural and untreated, unpainted, unoiled, unwaxed), etc. For further details, please refer to the processing data sheet. Absorbent substrates should always be primed first! With uneven, textured substrates, higher paint consumption must be expected due to the higher surface area. • **Paintable:** Must always be painted over with facade paint (opacity class 1 – highest opacity class) for outdoor use! Direct weather influences on the shielding paint have a long-term negative effect on the shielding performance! Outdoor application only in dry weather and temperatures above 10° C (Celsius) = 50° F (Fahrenheit). • **The intended use of our shielding paint (electrically conductive base coat) is as a shielding primer under the facade paint.** We advise against the use of purely mineral paints (clay, pure silicate). Do not use clay-based paints for overpainting. We also do not recommend natural or organic silicate-based emulsion paints, we advise against lime and cas in paints – always carry out a test before use, as not all paints adhere equally well to graphites / graphene!

- **Connection: Must be earthed by a qualified electrician! We recommend the use of an earthing set with earthing plate for outdoor use, which you can find in our shop under earthing accessories.**
- **The earthing must never be carried out via the lightning conductor!**

• **Important notes:** The electrical installation (fuse boxes) must consist of at least two residual current circuit breakers (RCDs) (often generally 300 mA and one for the bathroom and 30 mA for the water rooms). To dissipate extremely low-frequency electric fields, the earthing resistance should ideally be less than 10 ohms. Consult a qualified electrician. Please note that the earth has no influence on the elimination of high frequencies, but only on safety and extremely low frequency electric fields.

- **Colour:** Anthracite-black | • **Product code:** M-DF01 (GISCODE) | • **Colour:** Antrazit-Schwarz.
- **Field type:** LF (Low-frequency alternating electric fields), HF (High-frequency electromagnetic fields)
- **Ingredients:** Pure acrylic binder, graphite and graphene
- **VOC-Gehalt:** 0.2 g/l (the EU limit for category A/a has been 30 g/l since 2010)
- **After mixing the EMF-TURTAL PLV (powder) for outdoor use with water, we recommend that the shielding paint (electrically conductive base coat) be applied quickly – within approx. three days.**
- **Shelf life:** Can be stored in powder form unopened (in original packaging!) and in a dry place (not above 25° C (Celsius) [25° C = 77° F (Fahrenheit)]) for up to three years. This powder is largely frost-resistant for transporting parcels in winter.

• **Important:** Always mix the complete contents of a whole bag of EMF-TURTAL PLV (for optimum shielding results, please never use only a part from the packaging unit!), as heavier particles settle during transport!

Before each application – before applying each new coat of paint (paint), it is essential to stir again using a mechanical stirrer. Also stir for another five minutes before applying the second or third coat (for a uniformly good shielding result), as particles may settle in the bucket during the drying time of the first, second or third coat!

- **Please observe the instructions and processing information printed on the product packaging (back label)!**

**Technical data EMF-TURTAL PLV – powder – (indoor & outdoor):** VOC content: 0.2 g/l (the EU limit for category A/a is 30 g/l as of 2010). (See safety and processing instructions) When adding 1.75 litres to max. 2.00 litres (0.46 gal. to maximum 0.53 gal. / US-Gallons) of water, the storage stability (well sealed!) is about seven days. Stored unopened (in original packaging) and dry (not above 25° C (Celsius) = 77° F (Fahrenheit)), shelf life up to three years.

**EMF-TURTAL PLV (Outdoor) – Package contents:** 1.225 g – approx. 3.0 litres bulk density/volume. Results in approx. 2.75 litres to max. 3.00 litres of shielding paint (0.73 gal. – 0.79 gal. / US-Gallons) when adding 1.75 litres to maximum 2.00 litres (0.46 gal. to maximum 0.53 gal. / US-Gallons) of water.