

YSHIELD GmbH & Co. KG
Am Schulplatz 2
94099 Ruhstorf
Germany

Phone: 0049-(0)8531-31713-0
Fax: 0049-(0)8531-31713-5
Email: info@yshield.com
Internet: www.yshield.com

Technical data sheet - Powder products

	DRY 65	DRY 69
Brief description	Shielding paint with good attenuation and high ecology. Dispersion-silicate paint with excellent adhesion. Low-emission.	Shielding plaster with very high attenuation and high ecology. Dispersion-silicate plaster with excellent adhesion. Low-emission.
Form of delivery	Powder	Powder
Shielding HF / LF	HF / LF	HF / LF
Screening one-layer	35 dB (99.97 %)	-
Screening two-layer	43 dB (99.995 %)	-
Screening 1 mm	-	60 dB (99.9999 %)
Screening 2 mm	-	70 dB (99.99999 %)
Ecology	High	High
VOC content *	0.1 g/l	0.1 g/l
PAH content **	0.002 mg/kg	0.002 mg/kg
Binding agent	Silicate, acrylate	Silicate, acrylate
Solvent	Water	Water
Screening basis	Carbon	Carbon
Application area	Interior, exterior	Interior, exterior
Coverage one-layer	5 - 7.5 m ² /l	1 m ² /l at 1 mm
Coverage two-layer	2.5 - 3.75 m ² /l	-
Moisture resistance	Normal	Normal
Substrates	All absorbent	All absorbent
Applicable with	Paint roller	Plaster equipment
Spatter behavior	Small splatters	-
Adhesive tensile strength	4.6 N/mm²	1.0 N/mm ²
Viscosity (Brookfield)	2000 mPas	-
Rheology	Shear thinning	Strong paste
Film character	Elastic hard	Elastic hard
Color	Black	Black
Temperature max.	100° C	100 C
Sd-value	0.1 m	0.1 m
pH-value	12	12
Pigmentation size max.	100 µm	100 µm
Density	1.15 kg / l	1.20 kg / l
Solids content	45 %	50 %
MFFT	5° C	5° C
Frost resistance ***	Yes	Yes
Delivery sizes	Powder for 5 liter	Powder for 20 liter
Shelf life	24-48 months	24-48 months

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

** Polycyclic aromatic hydrocarbons. The nonbinding EU limit value for children toys is 0.2 mg/kg.

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

Product features

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: Unlimited possible. You will find the suitability for interior or exterior application in the table above.

Floor areas: Loose or floating laid floor coverings (carpets, laminate, etc.) are always possible. When using a dynamic floor cover, i. e. parquet from solid wood, you have to check the adhesive tensile strength for suitability (see chart).

Under plaster: DRY69 can directly be used under pure organic bonded plaster.

Corrosion resistance

These shielding products don't contain metal particles. Based on carbon they are long-term durable and not oxidizing.

Shielding attenuation

The shielding 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, IEEE Std 1128-1998, ASTM A698/A698M-07. You find the test reports on our website on the corresponding product pages.

Safe material handling

Safety notes

All products with graphite have a high coloring capability, so please proceed with care. Wipe off stains immediately with damp cloth. Do not let stains dry up. Do not inhale 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!

VOC-content

DRY65: 0.1 g/l VOC.
DRY69: 0.1 g/l VOC.

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

Ingredients

DRY65: Graphite, potassium silicate powder, carbon black, acrylic powder, additives.

DRY69: Graphite, potassium silicate powder, carbon black, acrylic powder, additives.

Preservative: The acrylic powder contains MIT (2-Methyl-4-isothiazolin-3-on) and BIT (1,2-Benzisothiazolin-3-on) as preservation substances. Advisory service for allergic persons under telephone number 0049-(0)8531-31713-0.

Grounding

Grounding regulation

Large area shieldings executed with shielding materials are no electrical equipment but „new conductive parts“ according to IEC 826-03-03 or IEC 195-06-11 and thereby a new method of DIN VDE 0100-100:2009-06. By connecting the material(s) to the potential equalization they are an inherent 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 equipotential bonding and functional equipotential bonding (FEB). The protective equipotential bonding (green/yellow cable) is a protective measure and ensures, in the event of contact voltage, the immediate action of safety devices (e.g. line safety switch). The function of the functional equipotential bonding (transparent cable) is the reduction of emission of low frequency electrical fields on large area shieldings (i.e. prevention of leaking electrical field).

Please find more information in our "Technical data sheet - Grounding".

Grounding accessories

To obtain an accurate grounding, we exclusively recommend our grounding accessories. For interior use: Grounding plate GW or GB in combination with grounding strap EB2. For exterior use: Grounding plate GE. Please find more information in our "Technical data sheet - Grounding".

Underground

General

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

DRY65, DRY69: Not usable on gypsum based undergrounds, gypsum peels off from silicate coatings!

Priming

Excellent adhesion on almost all absorbent undergrounds. For homogenous absorption characteristics we urgently recommend a surface pre-treatment with our **primer concentrate GK5** or another primer.

Preparation

Safety instructions

DRY65, DRY69: This products with a pH-value of 12 are superalkaline, stirring and application should be done by a professional painter.
P280: Wear protective gloves / protective clothing / eye protection / breathing protection.
H315: Causes skin irritation. **H319:** Causes serious eye irritation. **H335:** May cause respiratory irritation. **P261:** Avoid breathing dust. **P262:** Do not get in eyes, on skin, or on clothing.
P303+361+353: If on skin: Take off immediately all contaminated clothing. Rinse skin with water/shower. **P305+351+338:** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.



Paint DRY65

The powder has to be stirred into water. **The water amount has to be accurately measured within a gram with a pair of scales!** Required bucket / water amount:

DRY65 / Powder for 5 liter of paint:
10 liter bucket / 3.3 liter water

1) Pour the **water into the bucket.**

2) **Remove the white desiccation bag from the package and dispose of it. If the bag falls into the water, the paint is no longer usable!**

3) Use a stirrer that is big enough, that the complete paint moves in the bucket. Stir the water with the stirrer and **let the powder ripple into the water** what causes a lot of dust. As mentioned in the "safety data sheet" the **powder must not get into the eyes!**

4) As soon as **all the powder is inside the water** it is absolutely necessary to **stir for at least several minutes!** The paint will become more liquid and creamy with time!

5) Allow the paint to **stand for 30 minutes** with the lid closed over the container.

6) **Stir strongly for another several minutes.**

Plaster DRY69

The powder has to be stirred into water. **The water amount has to be accurately measured within a gram with a pair of scales!**

Required bucket / water amount:
30 liter bucket / 12 liter water

1) Pour the **water into the bucket.**

2) **Remove the white desiccation bag from the package and dispose of it. If the bag falls into the water, the plaster is no longer usable!**

3) For mixing use an **agitator** for plaster. We strongly recommend a **professional twin-agitator with two agitator units.** Don't damage the bucket, scraped plastic snippets not only disturbs the optics, but also the shielding attenuation!

4) Stir the water and **let the powder ripple into the water** what causes a lot of dust. As mentioned in the "safety data sheet" the **powder must not get into the eyes!**

5) As soon as **all the powder is inside the water** it is absolutely necessary to **stir for at least several minutes!** The plaster will become more creamy with time!

6) Allow the plaster to **stand for 60 minutes** with the lid closed over the container.

7) **Stir strongly for another several minutes.**

Control

Take a bit of the paint / plaster between thumb and index finger, use gloves! If you can feel grains while rubbing you didn't stir long enough and the potassium silicate hasn't dissolved completely yet. Then continue stirring and wait.

Application

Application temperature

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

Paint DRY65

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, do not skip areas! Always soak the paint roller with the equal amount of paint and try to coat equal large surfaces with this amount!

Plaster DRY69

Without carbon fibers you don't have to care about an application direction! The application is identical with other plasters.

Apply the plaster with a notch towel and smooth it immediately afterwards with a truing device. There should no trowel be visible any longer. Work quickly as there are no retarding agents included.

This plaster has a relatively high diminution of 50 % while drying. This is very important for the high attenuation. It should only be used on smooth undergrounds as an unevenness can't be smoothed with this plaster.

Drying time

DRY65: Allow to dry for 12-24 hours before over-coating. The coating is entirely cured after 2-3 days.

DRY69: Allow to dry for 48-96 hours before over-coating. The plaster is entirely cured after one week.

Final coat

On our website under "Paints - Top coatings" you will find a basic compatibility list. As there are lots of different coverings throughout the world there can be no guarantee conveyed from this list. **We always recommend to generate a test surface.**

DRY65: Interior with high-quality, good covering, plastic bonded dispersion emulsion paints or dispersion silicate paints. Can alternatively be pasted over with wallpapers, glass fabrics, etc. or be overworked with a thin layer of organic plaster. **Exterior** with high-quality, good covering, highly hydrophobic dispersion emulsion paints or silicon resin paints.

DRY69: Pay attention that the plaster has to be free of surface defects when overworking it directly with plastic bonded **dispersion emulsion paints** or dispersion silicate paints. Sand and smooth elevations as usual. Smear powdered graphite will be laid off while sanding, that's why we suggest to re-treat it with our primer concentrate GK5. Surface defects have to be re-treated. Alternatively rework with a thin **organic plaster coat.**

Mineral paints: Normally only organic dispersion paints or dispersion silicate paints adheres well on graphite. Pure mineral coating with clay, loam, chalk or pure silicate are problematical. If you want to use them, nevertheless only do so with a primer which is advised by the provider for the coating of difficult subsoils.

Gypsum based coatings: Don't use gypsum based coatings, gypsum peels off from silicate coatings!

Consumption

DRY65: The consumption depends on the consistency and absorbency of the underground. Typical interior productivity: 7.5 m²/l. Typical exterior productivity: 5 m²/l.

DRY69: 1 liter plaster lasts for 1m² (with a 1mm thick layer). Thicker plaster layers are normally not necessary because of the very high attenuation.

Further information

Storage

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

Period of storage

At least 24 months, see the batch sticker on the paint container.

Disposal

Utensils have to be cleaned immediately after use with water and soap. Containers must be absolutely empty for recycling. Dried up paint remainders may be disposed of with the household garbage. Do not let remains escape into sewerage, water bodies or ground.

Identification marks

Produktcode: M-DF01 (GISCODE)

Water hazard class: 1 (VwVwS)

Waste code: 08 01 12 (AVV)

Hazardous ingredients: -

ADR: -

UN-number: -

Transport hazard class: -

Environmental dangers: -

Safety data sheet

The safety data sheet is available upon request under telephone number 0049-(0)8531-31713-0.

Disclaimer

Preceding information has been asserted to the state latest of processing and application technology. As we don't have any influence on processing and application, no liability can be accepted out of the contents of this information sheet. Processors are in either case bound to a skilled evaluation of the processing, in consideration of the product attributes and fitness. Details and notwithstanding details, transcending the content of this information sheet, require our confirmation in writing.

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