TECHNICAL DATA SHEET

OxiGen™ Shield

Conductive Graphite Shielding Basecoat — Requires a GrafGen™ Finish Coat

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01 PRODUCT DESCRIPTION

OriGen OxiGen™ Shield is a graphite-based, electrically conductive functional basecoat developed to protect against high- and low-frequency electromagnetic radiation. Formulated with proprietary $CaCO_3$™ Technology (Graphene Technology), it forms an exceptionally resistant and durable shielding layer. Shield reduces electromagnetic pollution as well as crosstalk and interference between wireless networks in adjacent rooms, improving the overall performance of RFID and Wi-Fi systems. Shield is not a finish: it is always applied as part of a coating system and must be topcoated with GrafGen™, which provides the final finish.

> ⚠ Functional basecoat: a **GrafGen™** finish coat is required. Grounding is not required, but it improves shielding performance.

02 KEY FEATURES

- Functional shielding basecoat: GrafGen™ finish coat required
- Grounding not required; it improves shielding performance
- High hiding power
- Good adhesion; non-film-forming
- Highly breathable
- Protection against high-frequency radiation
- Protection against low-frequency electric fields
- Free from metallic particles
- VOC content: < 1 g/L (ISO 11890-2)

03 TECHNICAL PROPERTIES

PROPERTY	VALUE
Specific Gravity	**1.15 ± 0.05 g/cm³**
pH	**7.5 ± 1**
Viscosity	**60–70 KU**
Solids by Weight	**40 ± 5%**
Base	**Bio-Resin**
Appearance	**Dense liquid**

PROPERTY	VALUE
Finish	**Matte black basecoat (not a final finish)**
VOC Content	**< 1 g/L**
Finish coat	**GrafGen™ (required)**

04 COVERAGE

180–265 sq.ft/gal (4.5–6.5 m^2/L)

IN 2 COATS

Actual coverage depends on the surface type and condition, tools used, and application method. On-site testing is recommended to determine precise consumption.

05 AVAILABLE COLORS

Black, due to its graphite content. The final color and finish are provided by the GrafGen™ topcoat.

06 APPLICATION SURFACES

- Exterior mineral walls
- Concrete
- Stucco and plaster

07 SUBSTRATE PREPARATION

- The substrate must be dry and clean, free from dust, salts, and imperfections. Make sure the substrate texture is evened out.
- Remove any particles of previous paint that are not well adhered, either manually or with pressurized water.
- If algae, mold, mildew, or other impurities are present, clean thoroughly and remove them completely with specific products for that purpose.
- For absorbent substrates: apply the mineral sealer MinerGen.
- For wood, metal (free from corrosion or rust), or non-porous surfaces (such as tiles): apply a bonding primer.
- Old paints that form a film and block vapor diffusion, or that are not sound, must be removed with a paint stripper or by mechanical means.
- Mineral substrates must be at least **28 days cured**.
- Do not apply on surfaces in permanent contact with water.
- In areas highly exposed to humidity or heavy pollution, apply a water-repellent sealer to minimize the absorption of water and impurities.

- Protect surfaces that will not be treated (woodwork, glass, stone…).
- Wash off splashes immediately with water until completely removed.
- For any substrate pathology not specified above, contact the Technical Department.

08 APPLICATION CONDITIONS

- Ambient and surface temperature: **41°F to 104°F (+5°C to +40°C)**
- Do not apply in direct sunlight, on sun-overheated substrates, or when rain is forecast within 24 hours of application.
- Protect surfaces from sun, wind, and rain during and after application.
- Protect the treated surface from rain for at least **4 days**.

09 PRODUCT PREPARATION

- Stir thoroughly before use.
- Dilute with **5–10% clean water by product weight** (approx. **7–15 fl oz per gallon / 58–115 mL per liter**).
- Do not mix with other products, in order to preserve its specific properties.

10 APPLICATION METHOD

- Shield can be applied by brush, roller, or spray gun (tip: **≥ 435**).
- Apply **2 uniform coats**.
- On highly exposed exterior walls, a third coat is recommended.
- **Finish coat (required):** once Shield is fully dry, apply **GrafGen™** following its TDS. Shield must not be left as the final finish.
- **Grounding:** not required, but connecting the Shield layer to ground improves shielding performance. For grounding details, contact the Technical Department.

> ⚠️ Excess product per coat may cause micro-cracking.

For technical inquiries: marketing@origenpaints.com

11 DRYING & CURING TIMES

- **Second coat:** After 2–4 hours at 73°F (23°C) and 50% relative humidity
- **Full drying:** After 24 hours
- **GrafGen™ finish coat:** once Shield is fully dry

Drying time increases with higher ambient humidity and lower temperatures.

12 TOOL CLEANING

Clean all tools with **warm water** immediately after use.

13 PACKAGING FORMATS

- **1 gal** (128 fl oz)
- **5 gal** (640 fl oz)

14 STORAGE

- Store in its original, sealed packaging in a cool place.
- Protect from frost and direct sunlight.
- Maximum shelf life: **18 months** from the production date.

15 WASTE MANAGEMENT

- Refer to the Safety Data Sheet (SDS) and follow local legal regulations.
- Packaging is made of recycled plastic.
- Respect the environment: do not dispose of waste through drains – use the nearest recycling center.
- **Responsible practice:** reduce paint waste and reuse leftover product.

16 SAFETY INDICATIONS

- Refer to the latest Safety Data Sheet (SDS) for safety, physical, ecological, and toxicological data.
- Avoid direct contact with the skin. Use protective gloves and goggles.
- Keep out of reach of children.

The values and characteristics indicated are the result of intensive development work and practical experience. Recommendations regarding application, whether verbal or written, are intended to assist in the selection of our products and do not constitute any contractual legal relationship. In particular, they do not release the user from the obligation to verify the suitability of the product for the intended use. General technical construction standards must be observed. We reserve the right to make modifications that improve the product or its application. This edition supersedes all previous versions.