

# Statguard ESD 108

## Static dissipative grade ESD flooring



TYPE 5 EFNARC GUIDELINE

FLOW APPLIED FLOORING

### Description

Statguard ESD 108 system is defined as a resinous static control epoxy flooring system that can dissipate static charges by grounding personnel, equipment or other objects contacting the floor surface. Formulated with static dissipative grade antistats to both reduce tribo electric charging and create a static dissipative surface, Statguard ESD 108 system safeguards sensitive electronic components during manufacture or service. In industries where static electricity can result in significant damage, injury and financial loss, Statguard ESD 108 flooring is highly recommended. It is a multi layered self levelling system that hardens to an attractive, high strength flooring which is 3X of concrete's strength. The system includes a primer, conductive middle coat and a self levelling top coat with antistats. Statguard ESD 108 is a static dissipative flooring system where the surface resistivity is within the range of  $1 \times 10^6$  ohms to  $10^9$  ohms

### Uses

- Electronics manufacturing and electronic maintenance repair shops
- Data processing computer facilities
- Clean rooms
- Aircraft hangars

### Key features

- Higher mechanical properties than concrete
- Durable and low maintenance
- Constant level of conductivity
- Superior chemical resistance
- Seamless
- Available in attractive shades

### Properties

Type	: Epoxy
Finish	: Glossy
Pot life @ 27°C ASTM D 2471	: $\geq 70$ min
Drying time ASTM D 1640	
Surface dry	: $\geq 2.30$ hrs
Tack free dry	: $\geq 8$ hrs
Hard dry	: $\geq 24$ hrs
Recommended thinner	: PUT 502 (Clean up)

Mixing ratio	: Pre-weighed packs
Colour	: Desired shade
Solids content by wt ASTM D 2369	: 95%
Recommended DFT ASTM D 7091	: 1000 microns
Application	: By notched trowel and spike roller
Shelf life	: 12 months in the unopened container

### Performance data

#### *The mandatory performance parameters as per FeFRA and EFNARC guidelines for resin flooring system*

Pull of adhesion test ASTM D 7234-2022	: $\geq 2$ MPa for M20 grade concrete or Concrete failure
Impact resistance IS 101 (Part 5 / Sec 3)	: Pass (1 kg - 90 cm)
Abrasion resistance ASTM D 4060	: Max 58 mg loss
Slip resistance BS 8204	: 30-33 PTV - moderate risk of slip

#### **Other mechanical properties**

Tensile strength ASTM D 638	: $\geq 4$ MPa
Hardness, Shore D ASTM D 2240	: 50 - 55
Surface resistivity ASTM F 150	: $10^6 - 10^9$ Ohms

**Note :** The typical physical properties given above are derived from testing in a controlled laboratory environment. Results derived from testing field-applied samples may vary, dependent on actual site conditions

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### Chemical resistance

Excellent resistance is observed against distilled water, detergent solutions, alkalies and acids. Chemical spillages should always be wiped up as quickly as possible and not be allowed to concentrate up by evaporation. The data on the list of the chemicals found resistant to this product during our lab study is available on request.

### Application instruction:

#### Surface preparation

The long-term durability of the applied Statguard ESD 108 is dependent upon the adhesive bond achieved between the flooring material and substrate. It is most important therefore, that substrate surfaces are correctly prepared prior to application. Ensure that the residual moisture level in the concrete is below 5%. All substrates should be sound and free from contamination such as mortar and paint splashes, curing compound residue, oil, grease. Excessive laitance should be removed by light mechanical scrubbing, grinding or grit blasting. Oil and grease contamination must be completely removed by grinding down to sound, clean concrete. Alternatively, blasting techniques can be used to provide the required substrate. All concrete surface to be prepared using shot blasting machine or grinding to achieve CSP 3-4.

#### Priming

All substrates to be treated with Statguard ESD 108, should be primed with Cipoxy 17 /18. Primer to be mixed in the proportions supplied by adding the entire contents of hardener can to the base can. Once mixed the material should be immediately applied in a thin, continuous film using stiff brushes or rollers. Over application and puddles should be avoided. Porous floors may require two coats of Cipoxy 17 / 18. Primer should be allowed to become tack free prior to application. Coverage will depend on the texture and porosity of the substrate and also the application thickness.

#### Application of Copper Tape

50mm wide copper tape (Preferably from 3M) to be fixed over the primed surface along the length and breadth of the surface and a grid size of 4-9 sq.m to be created depending of the room size. Copper tape to be terminated at earthing points properly. All the copper tape should be fixed properly with the surface.

#### Application of ESD Undercoat layer

After application of copper tape, ESD undercoat, like Aquoxy ESD coating to be applied over the entire surface, covering all the copper tapes, at thickness of 100-120micron DFT with coverage of 7.5sq.m/Ltr.

#### Mixing & Application

Statguard ESD 108 is supplied in pre-weighed packs ready to use on site. Solvent or thinners should not be added. PART A of the product to be taken in a bucket and pigment to be added and forced action mixer with a paddle fitted into a heavy duty, slow speed electric hand drill is recommended for mixing. Carbon fiber to be added in the mix and to be mixed for a minute before we add PART B into it and continue to mix for 30 seconds to 1 minute. The powder part to be added in the mix slowly and mix til the homogenous mix achieved. The material is poured onto the primed substrate and spread to the required thickness with a notched trowel. Deaerate the layer by a spike roller and allow to cure for 24 hours.

#### Limitations

Self-smoothing is a term used in the flooring industry to describe a composition which after being spread to a uniform layer of appropriate thickness, develops a smooth, resin-rich surface. This self-smoothing action is very localized and does not eradicate irregularities of level present in the original substrate. It is most important, therefore, that adequate surface preparation and repair is undertaken prior to application. It is not compatible for application over asphalt, unmodified sand-cement screeds or PVC tiles and sheets. STATGUARD ESD 108 floor will be scratched due to nails or sharp objects protruding from machinery, packings, or trolleys moving on the floor. Presence of sand will also cause abrasion. The product is not advised to be applied below 15 °C as the flow reduces. While applying the product above 35 °C, there can be a problem of low pot life etc., and it will be difficult to apply the material. Cured product is not suitable for exposure to sub-zero temperatures and above 65 °C. When there is not enough material in a given area, roller marks caused due to spiked rolling may not close which will result in an undesirable finish. The product is not suitable for areas exposed to direct sunlight.

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### Do's

- Clean regularly
- Remove aggressive chemical spillage immediately
- Maintain wheel for proper rolling, should not get dragged.
- Handle heavy material gently and cautiously
- Clean any oil or any liquid which may cause accident during people's movement

### Don't

- Drag any sharp and heavy object
- Expose to fire or welding spark
- Expose to very high temperature than recommended by Manufacturer
- Drop down and heavy material on the floor
- Expose to highly corrosive chemicals

### Packaging and theoretical coverage

Statguard ESD 108 is available in 16.00 kg clear set preweighed kits and has a maximum shelf life of 12 months in the unopened container. 1 set covers 10 sqm @ 1mm.

### Storage and handling

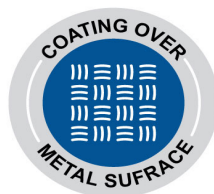
The product should be stored in accordance with national regulations. It should be kept in a cool, well ventilated area, away from heat, direct sunlight, sparks and children. Handle with care.

### Health and safety precautions

Please refer to MSDS. Observe reasonable care and employ ordinary hygienic principles such as washing the hands with soap and water before eating or smoking. It is recommended to wear gloves, goggles and nose masks while application. Incase of splashes on the skin, dampen the cloth with thinner PUT 503 and wipe the hands with the cloth. Wash then with soap and water. Dried film is non toxic. Incase of contact with eyes, rinse with plenty of water and seek medical advice. Incase of continuous exposure to vapour, the applicator should be immediately moved to get fresh air. The disposal of excess or waste material should be carried out in accordance with the local legislations.

### Other Products Categories available

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