

## Technical Data Sheet



## AB-POX<sup>®</sup> 460 ESD

2-C-EP-ESD-polymer coating

### Description:

2-component epoxy resin with conductive polymeric structures, coloured  
VOC < 500 g/l, free of alkyl- / nonylphenol

### Characteristics:

- in accordance with the official standards DIN EN 61340-4-1 and DIN EN 61340-4-5
- conductivity independent of the air humidity
- free of ionic liquids / salts
- high compressive strength
- high abrasion resistance
- easy to clean
- inert and harmless once cured

### Application:

**AB-POX 460 ESD** is the perfect system for use within the electrical conductive sector, it is a self-levelling floor coating / system for production plants, sales areas, warehouses, research and development laboratories and all of which must comply with the ESD - standards.

**AB-POX 460 ESD** during the curing process creates / develops a special and unique electrically conductive polymeric structure, which is both chemically and mechanically resistant. This flooring system can effectively prevent the build-up of electrostatic charges > 100 volt (walking test).  
Test report: Polymer Institute Prof. Dr. Stenner, SP Provning Forskning and ESD-Consulting Desinger.  
Test the flooring system earliest after 3 days curing time.

**AB-POX 460 ESD** is highly suitable for use in the upgrading (existing) of standard antistatic EP- and PUR - systems into ESD approved floors.

Please consult us!

### Consumption:

1.2 - 1.5 kg/m<sup>2</sup>.

### Resistant to:

- water / salt water / sewage
- common detergents
- disinfectants
- saline solutions
- solvents (please consult us)
- diluted acids and alkalis
- lubricants and fuels
- wet temperature max. 40°C

### Technical Data:

Mixing ratio A : B	100 : 25 by weight (4 : 1)
Density (23°C)	approx. 1.3 g/cm <sup>3</sup>
Volume solids	approx. 100 %
Viscosity (23°C)	approx. 1200 mPa·s ± 300
Compressive strength (DIN EN ISO 604)	approx. 60 N/mm <sup>2</sup>
Shore D - hardness (DIN EN ISO 868)	approx. 80
Abrasion (1000 g / 1000 rev.) acc. to Taber	55 mg
<b>Walking test</b> EOS/ESD-STM 97.2 DIN EN 61340-5-1	< 100 Volt (12 ± 3 % relative humidity of air)
<b>System resistance</b> DIN EN 61340-5-1, EOS/ESD-STM 97.1 and 97.2	< 1 x 10 <sup>9</sup> Ω
<b>Discharge value</b> DIN IEC 1340-4-1	< 1 x 10 <sup>9</sup> Ω

### Details for application:

Pot life (15°C / 23°C / 30°C)	approx. 25 minutes / 20 minutes / 15 minutes
Substrate temperature	minimum 15°C up to maximum 30°C
Material temperature	15°C - 25°C
Maximum relative humidity of air	at 15°C: 75 % (dew point +3°C) at > 23°C: 85 % (dew point +3°C)
Curing time / foot traffic (15°C / 23°C / 30°C)	36 hours / 24 hours / 16 hours
Curing time / mech. resistance (15°C / 23°C / 30°C)	96 hours / 72 hours / 36 hours
Curing time / chem. resistance (15°C / 23°C / 30°C)	7 days / 5 days / 3 days
All above values are approximate and may be used as a guideline for specifications	

### Packaging:

25 kg - pails

### Colour:

ESD - window grey, ESD - light grey (other colours available on request)  
- due to raw material variations and manufacturing techniques, a slight colour / batch difference may occur -

### Storage:

3 months, unopened in original drums under dry conditions and a temperature of 15 - 25°C.  
At temperatures < 10°C crystallisation is possible. Longer storage can lead to sediment formation.

## 1. Surface preparation

Prior to the application the substrate must be prepared by mechanical means using qualified equipment e.g. Blastrac® shot blasting.

### Minimum requirements:

- free of cement laitance, dust, oil, fat and other contaminants
- open textured, absorbent surface
- pull off strength min. 1.5 N/mm<sup>2</sup>
- concrete residual moisture max. 4 %

Depending on the condition of the substrate the surface must be made non-porous by the application of a primer and / or key coat using **AB-POX 002**.

**On concrete surfaces where there is rising damp, residual moisture or damp concrete of maximum 6 %, AB-POX 010 must be used.**

As **AB-ZEROPOX 860 LS** is a conductive intermediate coat it must be applied evenly. Prior to the application of **AB-ZEROPOX 860 LS**, the connection to earth must be installed using spliced copper cable and controlled in accordance with its function and adhesion.

See also "general preparation and application instructions" sheet.

## 2. Application

Prior to mixing, the temperature of the components must be between 15 - 25°C. **Stir the components thoroughly** and mix in the correct ratio using a suitable low speed electric mixer (300 - 400 rpm) for at least 3 minutes or until a completely homogeneous mixture has been achieved. Put the mixed material into a clean container and mix again for at least 1 minute more. Distribute the mixture immediately onto the surface. To apply use a notched trowel (rubber or metal). Spread **AB-POX 460 ESD** as an even coat to ensure a uniform thickness. **The freshly applied coating must be immediately finished off with a spiked roller (one direction only). If a thin / roller applied coating is required, use a notched rake to spread the material evenly and finish it off with a suitable roller.** Prior to, during and after the application the temperature of the substrate must be at least +3°C above the current dew point temperature.

## 3. System description

The following figures are for ambient and surface temperatures of 15 - 23°C.

### Primer:

**AB-POX 002**, clear

Consumption: approx. 0.3 - 0.5 kg/m<sup>2</sup>, lightly sprinkle with clean, dry quartz sand Ø 0.4 - 0.8 mm (approx. 0.5 kg/m<sup>2</sup>).

### Levelling coat:

**AB-POX 002** + quartz sand

Consumption: approx. 0.8 - 1.2 kg/m<sup>2</sup> resin plus quartz sand, **no** quartz sand to be sprinkled on the surface.

**N/B: To achieve a premium surface and maximum conductivity, the levelling coat must be applied to the highest standards!**

### Connection to earth:

Must be installed and controlled by a qualified electrician (within a radius of approx. 10 m).

### Conductive coating:

**AB-ZEROPOX 860 LS**, black

Consumption: 0.1 - max. 0.13 kg/m<sup>2</sup>.

### Self-levelling coating:

**AB-POX 460 ESD**, window grey

Consumption: 1.2 - 1.5 kg/m<sup>2</sup>.

### N/B:

UV radiation cause discolouration.

## 4. Renovation / re-coating

The coating must be tested in accordance with the expected wear and tear, and then prepared by grinding and wet cleaning.

After the surface preparation apply a coat of **AB-ZEROPOX 860 LS** and **AB-POX 460 ESD**.

## 5. Cleaning

To clean the surface (manual or by machine) use only neutral or slightly alkaline (pH < 10) cleaning agents without preservation additives that will create a film. We highly recommend that you contact a specialist cleaning contractor.

## 6. Chemical resistance

Acetic acid 5 %	resistant
Ammonia 5 %	resistant
Citric acid < 10 %	resistant
Diesel fuel	resistant
Distilled water	resistant
Formaldehyde 37 %	resistant
Hydrochloric acid 5 %	resistant
Methylene chloride	not resistant
Nitric acid 5 %	resistant
Petrol / Super	resistant
Phosphoric acid 5 %	resistant
Saline solution	resistant
Sodium lye 50 %	resistant
Sulphuric acid 5 %	short-term
Xylene	resistant

Tested for 3 days at 20°C; whether discolouration did occur was not considered. If the condition of the coating has been compromised by chemical spill, a negative effect on its conductivity is possible.

## 7. Packaging

25 kg - sets  
20 kg component A  
5 kg component B

## 8. Health and safety

### GISCODE: RE30

Avoid inhalation of the vapours and contact with skin. Wear suitable protective clothing, gloves and eye / face protection. Adequate ventilation of the working area is recommended. After contact with skin, wash immediately with plenty of water and soap. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. When using do not eat, drink, smoke and keep away from sources of ignition. For additional references to safety-hazard warnings, regulations regarding the transport and waste management please refer to the relevant Safety Data Sheet.

## 9. EU Directive ("Decopaint-RL"):

Acc. to the EU Directive 2004/42/EG the maximum allowed content of VOC (Product category All / j / type SB) is 500 g/l (Limit 2010) for the ready to use product. This product is in accordance with the EU Directive 2010.

**AB-POX 460 ESD**; 2.01/10.02.22. Before use, please check that this is the actual edition of the Technical Data Sheet. The information contained in this Technical Data Sheet is of a general nature and is provided in good faith and we accept no liability for errors or omissions. Because use and application of this product are out of our control and depend, concerning substrate, load and method of application, on the particularities of the individual case, our advice, verbal, written or based on tests, does not exempt the applicator from testing the suitability of the products for the intended use.

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