TECHNICAL SPECIFICATIONS

# ROMPOX® 1107 ESD coating

**Solvent free, electrically volume conductive, pigmented, 2 component epoxy resin system with formulated amine hardener acc. to DIN 61340**

## Areas of application:

ROMPOX® 1107 ESD coating is an electrically volume conductive, mechanically and chemically loadbearing self-levelling coating. It is used in manufacturing areas in the electronics industry, circuit board manufacture, laboratories, operating theatres, computer rooms and in the automotive industry. It is also suitable for use in areas that are at risk of explosion. It has been tested according to ESD norms (DIN EN 61340 part 4-1, 4-5, part 5-1/5-2) and fulfills the requirements for an ESD coating. ROMPOX® 1107 ESD coating is an easy to clean coating combined with high abrasion strength. It is chemically resistant against alkalis, saline solutions and diluted acids as well as mineral oil and aliphatic hydrocarbons.

## 1.Technical data of liquid components:

1.1 Technical data:

| | | | |
|---|---|---|---|
| Density at 23°C: | 1,56 | g/cm³ | DIN EN ISO 2811-1 |
| Viscosity: | approx. 2.500 | mPas | DIN 53019 |

1.2 Delivery form:
30 kg containers.

1.3 Storage:
Can be stored for at least 6 months when stored cool, dry and frostfree in sealed, unopened containers. Temperatures below +5°C and above + 35°C should be avoided. After opening and using part quantities, use up the rest as soon as possible. Protect contents of containers against moisture.

## Note on these technical specifications:

In order to provide even more detailed information for the user, we have divided these technical specifications into 3 categories: technical data regarding components, application and the finished product. In addition, we have also set up our own testing norms in order to guarantee the highest safety when applying and using the product.

## 2. Technical data for application:

2.1 Surface requirements before application:
The surface must be level, dry and free of oil, grease and dust. Loose particles and other dirt must be removed. In general the surface is prepared by shotpeening and then priming. In some cases grinding or milling may be necessary. The adhesion tension strength of the surface must be >1,5 N/mm². The residual moisture content of the concrete must be < 4% (CM machine). The concrete surface must be primed before coating, or levelled using a scraping filler such as ROMPOX® 1505 in order to achieve a very smooth surface. For concrete surfaces with high residual moisture ≤ (6%) or if there is a risk of rising damp, use ROMPOX® 1506. It is vital to achieve complete pore sealing. The primer should be applied in at least 2 work processes, by flooding, with approx. 0,4 kg/m² per work process. In case of very porous surfaces, two coats of primer should be used! Metal surfaces should be pre-treated according to the Swedish norm SA 2 ½ and then primed using ROMPOX® 1101.



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2.2 Technical data of application:

| | | | |
|---|---|---|---|
| Mixing ratio: | 5 : 1 | weight parts | |
| Pot time at 20°C: | 25 | mins. | ROMEX® NORM 04 |

2.3 Application instructions:
Component B (Hardener) is poured into component A (Resin) and mixed well using a slow rotating mixer (approx. 300 rpm). Smaller quantities must be weighed using an electronic scale and according to the exact given mixing ratios. Only mix the necessary amount that can be used up within the pot time. Do not use the delivery container for mixing and application! After mixing pour product into a clean container and stir again carefully. Apply ROMPOX® 1107 using a squeegee or smoothing trowel.

For better aereation use a metal pinfeed platen.

Please note: the minimum consumption of ROMPOX® 1107 is 1,6 kg/m²!

Surface and material temperatures of below +15°C can cause levelling and surface faults!

2.4 Application examples:
An electrically conductive coating is laid as follows:

Item 1) Expert mechanical surface preparation

Item 2) Priming using ROMPOX® 1505, consumption approx. 0,3 kg/m² depending on porosity and state of surface, whereby the primer should not be sprinkled.

Note on item 2:
After application of the primer, the surface should be smooth and even. Should there be any significant surface roughness after surface preparation, then additional levelling using a scraping filler made of ROMPOX® 1505 and quartz sand should be carried out.

Item 3) Laying of self-adhesive copper wire onto the primer, per 400m² surface – stick copper wires to the 4 corners of the surface (20cm on the floor and 20 cm on the wall), with a length of approx. 40 cm. Connections should be made between the copper wire and the earthing connector. These need to be protected against mechanical damage.

Item 4) Application with rollers of the black ROMPOX® 1104 ESD conductive paint. This must be done within 12-24 hrs. after application of the primer. Consumption 0,200 kg/m². After the conductive paint has dried, conductive resistance should be tested. The conductive resistance of the conductive layer should be between $10^2$ - $10^4$ Ω.

Item 5) Application of the electrically conductive, coloured topcoat ROMPOX® 1107 ESD coating, consumption at least 1,6 kg/m². ROMPOX® 1107 ESD coating must then be treated using a metal pinfeed platen (see ROMEX application instructions.)

Note on item 5
The stated minimum consumption results in a minimum layer thickness of 1,0 mm, which is needed to achieve an attractive surface on a smooth foundation. In order to achieve good abrasion strength, we recommend applying the ESD coating in a 1,5 mm thick layer using 2,4 kg/m². In case of heavy loads, use a 2,0 mm thick layer with 3,2 kg/m².

| | |
|---|---|
| 1,0 mm minimum consumption | with 1,6 kg/m² |
| 1,5 mm for better abrasion strength | with 2,4 kg/m² |
| 2,0 mm for heavy loads | with 3,2 kg/m² |

Item 6) After 48 hours at 20°C, the ESD coating must be cleaned with basic cleaning agent ROMEX 3220 (mixing ratio 1:20 with clean water, otherwise see separate ROMEX cleaning instructions), in order to remove the slightly oily film that forms after hardening.

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Before the final cleaning/end of construction cleaning is carried out, the surface to be cleaned must be free of loose particles of dirt. Soiling is to be cleaned using ROMEX 3220 basic cleaning agent (mixing ratio 1 : 20 diluted = 1 L per 20 L of water). The basic cleaning agent is applied using a one pad cleaning machine. It is recommended using a green cleaning pad with the cleaning machine. In case of heavy soiling, use a black cleaning pad to remove soiling.

Let the cleaning agent be absorbed for 5 – 10 mins. Then use a rubber squeegee to sweep up the dirt and a mop or wet vacuum to remove it. Finally rinse the floor with clean water so that it is neutralised. Absorb the neutralising liquid with a mop or wet vacuum.

Further information can be found in the separate cleaning and maintenance instructions.

Conductive values can be measured from the third day onwards, protocol testing can be carried out after the seventh day.

2.5 Cleaning:
Tools and equipment should be cleaned immediately after use using ROMEX® 3224 cleaning agent.

### 3. Technical data of finished product:

| | | | |
|---|---|---|---|
| Can be walked on, light loads after: | 24 | hrs. at 23°C | ROMEX NORM 07 |
| Fully hardened & loadbearing after: | 7 | days at 23°C | ROMEX NORM 07 |
| Shore D hardness: | 60 | | DIN EN ISO 868, DIN 53505 |
| Compressive strength: | approx. 55 | N/mm² | DIN EN ISO 527-4 |
| Tensile strength: | approx. 35 | N/mm² | DIN EN ISO 14125 |
| Re-application after: | 24 | hrs. | ROMEX NORM 07 |
| Abrasion - resistance (with Taber Abraser) | < 30 | mg | DIN EN ISO 9352 |

| | Recommended values acc. to DIN | Tested values of ROMPOX 1107 ESD coating | *Norms* |
|---|---|---|---|
| Measuring of resistance to earth: | < 10 x $10^6$ Ω | fulfilled | DIN EN 61340-4-1 |
| System check „human-shoe-floor“: | < 10 x $10^6$ Ω | fulfilled | DIN EN 61340-5-1/5-2 |
| Measuring of conductive times (static decay) from 1.000 V to 50 V: | < 0,3 secs. | fulfilled | DIN EN 61340-5-1/5-2 |
| Walking test, measuring of body tension: | < 20 V | fulfilled | DIN EN 61340-4-5<br>DIN EN 61340-5-1/5-2 |

Note: The shoes used for testing had a conductive resistance of 0,41 x $10^6$ Ω.



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3.1 Finished product properties:

- Electrically conductive
- Various layer thicknesses are possible
- Just one abrasion layer (no further sealant necessary)
- Homogenous, shiny surface
- High abrasion strength
- High compressive strength
- Mechanically loadbearing
- Chemically loadbearing according to chemical resistance list
- Viscous elastic
- Many standard colours and light colours up to approx. RAL 9001 (cream) available

Note: The ROMEX® standard paintchart colours are approximate. Deviations from the stated RAL colour are of a technical nature and do not constitute a fault. Special colours on request.

3.2 Safety instructions:
The products contain reactive materials and are partly hazardous to health in a non-hardened state. The hardener components can cause burns due to high alkali content. It can also cause irritation or skin sensitization. Avoid skin contact. If the product does get onto the skin, wash well with soap and water. If the product gets into the eyes, rinse well with water and seek medical treatment. For further information please consult the information sheet on reactive resins and polyesters provided by the professional association of the chemical industry. Exact details on the handling of this product can be found in the safety data sheet.



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### 4.Important instructions: CE identification:

DIN EN 13 813 "Screed mortars, screed mass and screeds – properties and requirements" (Jan.2003) sets out requirements for screed mortars that are used for floor construction in interior rooms. Synthetic resin coatings and sealants are also included in this norm. Products that are in accord with the aforementioned norm are to be given the CE identification mark.

| | |
|---|---|
| CE | |
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| 07 1) | |
| EN 13813 SR-B1,5-AR1-Efl | |
| Synthetic resin screed/coating for interior use in buildings (application according to technical specifications) | |
| Effects when burned: | Efl[2)] |
| Release of corrosive substances (Synthetic Resin Screed): | SR |
| Water permeability: | NPD [3)] |
| Abrasion resistance: | AR1 [4)] |
| Adhesion strength (Bond): | B 1,5 |
| Impact resistance: | NPD |
| Impact noise insulation: | NPD |
| Noise absorption: | NPD |
| Thermal insulation: | NPD |
| Chemical resistance: | NPD |

1) the last two numbers of the year in which the CE identification was attached
2) in Germany DIN 4102 is still valid; fire class B2 is fulfilled
3) NPD = No Performance Determined
4) applies to the smooth, non sprinkled coating

Notes:
Our recommendations, which are given to assist buyers & endusers, are based on our experience and correspond to the current levels of knowledge in science and practice, however they are not binding and have no legal force. It is recommended adapting methods and quantities of product to the local needs. If necessary a sample surface should be laid beforehand
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