

ROMPOX® 1107 ESD Coating

**Solvent free, pigmented, 2 component epoxy/amine resin system
for increased requirements in ESD areas and location junction resistance**

1.0 Areas of application:

ROMPOX® 1107 ESD coating is an electrically 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 as well as for use in other areas with EPA requirements. It fulfills the requirements according to DIN EN 61340-5-1. ROMPOX® 1107 ESD fulfills the location junction resistance according to VDE 0100-600 (2008) electrode 1 (tripod electrode) of >50.000 Ohm, according to the tolerance limit requirements of VDE 0100-410. ROMPOX® 1107 ESD coating is an easy to clean coating combined with high abrasion strength. It is chemically resistant to alkalis, saline solutions and diluted acids as well as mineral oils.

2. Technical data for liquid components

2.1 **Technical data:**

System:	2 component epoxy/amine resin system		
Density (AB) at 23°C:	1,37	g/cm³	DIN EN ISO 2811-1
Viscosity:	1100 -1500	mPas	DIN 53019
VOC content	<500	g/l (EU-Norm, max. 500 g/l)	EU 2004/42/II/A
Waste key comp. A	08 01 11		acc. to AVV
Waste key comp. B	08 01 11		acc. to AVV
Waste key comp. AB	07 02 13	hardened form	acc. to AVV
GISCODE	RE 30		Bau BG

2.2 **Delivery form:**

ROMPOX® 1107 ESD Coating: Two component containers - 30 kg
Components A and B are supplied in the correct mixing ratio. Delivery of larger or smaller containers on request. Differing from the ROMEX® Standard paintchart, the following colour tones are supplied without colour surcharge: Approx. RAL 7030, 7032, 7035, 7038, 7040, other colour tones on request.

2.3 **Storage:**

In compliance with the regulations and technical rules applying to hazardous substances.
Storage of unopened containers, in cool, dry, frostfree rooms. Ideal storage temperature is approx. 15°C for unopened containers and storage life is at least 6 months. Temperatures below +10°C and above +35°C should be avoided. After opening, the containers should be used up as soon as possible. Protect contents against moisture. Before use, the material needs to be brought up to ambient temperature.

3.0. Technical data for application

3.1 Surface requirements before application:

The surface must be loadbearing, even, dry and free of oil, grease, separators and dust. Loose particles and other dirt must be removed. In general, the surface should be prepared by shotpeening and then primed. In some cases it may be necessary to carry out grinding or milling. The adhesion strength of the surface needs to be $\geq 1,5 \text{ N/mm}^2$. Residual moisture of the concrete must be $\leq 4 \text{ CM\%}$ (CM machine). Before coating the concrete surface must be evened out using a primer or scraping filler such as ROMPOX® 1505, in order to achieve an extremely smooth surface. For cement surfaces with increased residual moisture $\leq 6 \text{ CM\%}$ ROMPOX® 1506 should be used, for higher residual moisture $>6 \text{ CM\%}$, ROMPOX® 1504. Highly porous surfaces need to be primed twice! In all cases, it is necessary, that after priming, all pores on the surface are sealed. Metal surfaces should be treated according to norm SA 2 ½ acc. to ISO Norm 8501-1 and then primed with ROMPOX® 1101. Due to the numerous variations in surfaces – especially with old coatings – we recommend that a sample coating is laid, in order to eliminate any reactions that cannot be calculated in advance.

3.2 Technical data for application:

Mixing ratio:	A : B	100 : 20	weight parts	
Application time at:	10°C:	50	mins.	ROMEX® NORM 04
	20°C:	30	mins.	ROMEX® NORM 04
	25°C:	20	mins.	ROMEX® NORM 04
Pot time at:	23°C:	25	mins.	ROMEX® NORM 04
Min. hardening temperature:		+10	°C (floor and air temperature)	
Application temperature		15-30	°C (floor and air temperature)	
Thaw/melting point distance:		≥ 3	°C	
Air humidity:		30-75	% rel. humidity	

Please note: The times mentioned in item 3.2 are approximations and will vary with differing ambient conditions.

3.3 Application instructions:

Component B (hardener) is poured completely into component A (resin) and stirred well using a slow rotating mixer (approx. 300 rpm, diameter of whisk approx. 1/3 the diameter of container). In case of using part measurements (mix A component first, homogenously), these need to be weighed exactly using an electronic scale according to the stated mixing ratio. Mix only the quantity that can be used within the pot time. Do not use straight from the delivery container! Avoid mixing air into mixture. After mixing, pour into a clean container and stir again.

ROMPOX® 1107 ESD can be applied using a squeegee or smoothing trowel. Toothed strip i.e. Multitool S6 or PajaritoS2. Regularly check layer thickness and change worn down toothed strips in time, in order to maintain the consumption quantities.

Please note: For better aeration use a metal pinfeed platen. **The maximum consumption of ROMPOX® 1107 ESD is 1,8 kg/m². This value should not be exceeded.** Conductive value measuring can be carried out from day three, protocol measuring from day seven.

If the surface is at risk of rising damp, then to prevent osmosis, apply ROMPOX® 1506 or ROMPOX® 1504 with at least $2 \times 0,300 \text{ kg/m}^2$.

In case of surface and material temperatures below $+15^\circ\text{C}$, or when going below the thaw/melting point distance, levelling and surface faults can occur as well as adhesion problems within the coating system! Apply product with air humidity of between 30% and 75%.

3.4 **Application example:**

As ESD coating, approx. 1,5 mm on cementbound surface

Work process	Product	Consumption	Application
Surface preparation			See item 3.1
Primer	ROMPOX® 1505 Standard primer	min. 0,3 kg/m²	Flooding using rubber squeegee and then with rollers
Conductive tape after connecting to building earthing	ROMPOX® 1106 Stick ESD copper tape approx. 50cm into the room	1xper 75-100m² At least 2 pieces per room	Remove protective strip and apply with light pressure.
Conductive layer	ROMPOX® 1104 Conductive paint	approx. 0,15kg/m²	Apply with fur roller crosswise
ESD Coating	ROMPOX® 1107 ESD coating	1,5 – 1,8 kg/m² Stick to consumption quantities	Apply with smoothing trowel or notched trowel and aereate with metal pinfeed platen
Optional: First maintenance	ROMEX® Maintenance sealant, antistatic	approx. 25-40 g/m²	Apply 2 x with mop

3.5 **Application example:**

As ESD coating, approx. 2,5 mm on cementbound surface

Work process	Product	Consumption	Application
Surface preparation			See item 3.1
Primer	ROMPOX® 1505 Standard primer	min. 0,3 kg/m²	Flooding using rubber squeegee and then with rollers
Sprinkling if required *	Firedried quartz sand with Ø 0,1-0,5 mm	approx. 0,5 kg/m	Sprinkle evenly
Scraping filler	layer thickness of 1mm each 1 wp ROMPOX® 1505 1 wp ROMEX® FG10	min. 0,8 kg/m ² min. 0,8 kg/m ²	With 1 lip hard rubber squeegee or smoothing trowel, smooth well with sharp edge.
Conductive tape after connecting to building earthing	ROMPOX® 1106 Stick ESD copper tape approx. 50cm into the room	1xper 75-100m² At least 2 pieces per room	Remove protective strip and apply with light pressure.
Conductive layer	ROMPOX® 1104 Conductive paint	approx. 0,15kg/m²	Apply with fur roller crosswise
ESD Coating	ROMPOX® 1107 ESD coating	1,5 – 1,8 kg/m² Stick to consumption quantities	Apply with smoothing trowel or notched trowel and aereate with metal pinfeed platen
Optional: First maintenance	ROMEX® Maintenance sealant, antistatic	approx. 25-40 g/m²	Apply 2 x with mop

* **Note:** If no scraping filler was applied to the primer, then sprinkling should be avoided.

After application of the primer, the surface must be smooth and even. If, after surface preparation, there are any larger areas of surface roughness, then these need to be evened out using additional scraping filler made of ROMPOX® 1505 and ROMEX® FG 10.

Consumption varies depending on ambient temperatures. At temperatures below 15°C there will be higher consumption.

Please note! Due to the conductive nature, technical deviations may cause slight colour deviations. Higher layer thickness also affect the electrical properties and lead to increased resistances. Depending on conditions, whilst hardening a light surface film may form which can be wiped away with water. From relative air humidity of below 25%, resistance may increase, this decreases again with normal room climates.

3.6 **Cleaning:**

Each time work is interrupted, clean all tools and equipment with a general solvent (i.e. ethanol, white spirits).

4.0. Technical data of hardened product

4.1 **Technical data of hardened product:**

Re-application at:	23°C	12-48	min./ max. hrs.	ROMEX® NORM 07
Can be walked on at:	23°C	24	hrs.	ROMEX® NORM 07
Fully hardened at	23°C	>7	days	ROMEX® NORM 07
Compressive strength:		55	N/mm ²	DIN EN 1015-11
Bending tensile strength:		35	N/mm ²	DIN EN 1015-11
Shore-D-hardness:		± 75	N/mm ²	DIN 53505
Abrasion (Taber Abraser)	1000g/CS10	<45	mg	DIN EN ISO 438-2

4.2 **Properties of coating:**

- Electrically conductive self-levelling coating for increased ESD protection requirements
- Fulfills the requirements acc. to DIN EN 61340-5-1 for ESD areas and EPA zones („human-shoe-floor“, Walking Test with maximum charging of < 100 Volt)
- Fulfills the location junction resistance according to VDE 0100-600 (2008) electrode 1 (tripod electrode) of >50.000 Ohm, according to the tolerance limit requirements of VDE 0100-410.
- Balanced mechanically and chemically loadbearing
- Homogeneous, coloured surface
- Solvent free

4.3 Maintenance

In order to maintain the properties of a synthetic resin floor longterm, we recommend carrying out regular maintenance. Please request our ROMEX® maintenance guide. In order to maintain and refresh the surface, the cleaning should be carried out at regular intervals using 5% ROMEX® maintenance sealant, antistatic.

	ESD-Norms DIN EN 61340 part 4-1, 4-5 DIN EN 61340 part 5-1, 5-2	Tested values ROMPOX 1107 ESD coating system
Measuring of resistance to earth :	$<1 \times 10^9 \Omega$ <i>(corresponds to 1000 Mega Ω)</i>	DIN EN 61340 part 4-1 – fulfilled –
System test „Human-Shoe-Floor“:	$<3,5 \times 10^7 \Omega$ <i>(corresponds to 35 Mega Ω)</i>	DIN EN 61340 part 5-1, 5-2 – fulfilled –
Measuring static decay of 1.000 V to 50 V:	$<2,0 \text{ secs.}$	DIN EN 61340 Teil 5-1, 5-2 – fulfilled –
(Walking Test), Measuring body tension/voltage:	$<100 \text{ V}$	DIN EN 61340 part 4-5 DIN EN 61340 part 5-1, 5-2 – fulfilled –
VDE 0100-600(2008) location junction resistance:	Measured with electrode 1 (tripod electrode) VDE 0100-410	$> 50.000 \Omega$

The stated conductivity values are maintained at relative air humidity of between 20% and 90%.

In some cases the human-shoe-floor value can be over 35 MOhm. Then, according to norm DIN EN 61340-5-1 the product has the sufficient ESD properties, when the earth conductivity resistance is $< 10^9$ and the walking test is $< 100\text{V}$.

Note: If possible, always use material from the same production batch, especially on visible surfaces, as material from different production batches, may have slightly differing colour nuances. Hardened, liquid plastics are subjected to environmental factors i.e. UV rays and can thus change visually after hardening (i.e. yellowing, loss of gloss, white discolouration). The functioning of the industrial floor is not affected by this and does not constitute a fault. The colours of the products depend on raw materials and production methods and may have slight deviations compared to the RAL colours. It cannot be guaranteed that there will be exact matching of RAL colours.

5.0 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 (keep an eye wash bottle on site) and seek medical treatment immediately. The guidelines in the regulations of handling hazardous materials apply as well as information sheets provided by the professional association of the chemical industry (i.e. BG-Bau, BGR 227 „Handling of epoxy resins“). Exact details on the handling of this product can be found in the safety data sheet for ROMPOX® 1107 ESD, comp. A and B.

6.0. 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	
ROMEX® GmbH • Mühlgrabenstr. 21 • D - 53340 Meckenheim	
14 ¹⁾	
EN 13813 SR-B1,5 –AR,0,5 IR10	
Synthetic resin screed/coating for interior use in buildings (application according to technical specifications)	
Effects when burned:	Bfl - s1 ¹⁾
Release of corrosive substances (Synthetic Resin Screed):	SR
Water permeability:	NPD ²⁾
Abrasion Resistance:	AR0,5 ³⁾
Adhesion strength (Bond):	B 1,5
Impact Resistance:	IR 10
Impact noise insulation:	NPD ³⁾
Noise absorption:	NPD ³⁾
Thermal insulation:	NPD ³⁾
Chemical resistance:	NPD ³⁾

The aforementioned information and instructions for application are based on our experience. Due to the numerous types of surface, application methods and physical conditions when using our materials, the information contained in these technical specifications cannot be used to make any legal claims with regard to the guarantee for the results when working with this product. The user himself is solely responsible for the results and must test the suitability of the materials. We reserve the right to make changes to the technical specifications. Only the newest version of the technical specifications is valid and this can be downloaded at www.romex-ag.de or requested from us in writing.

LEGEND:

- 1) the last two numbers of the year in which the CE identification was attached
- 2) NPD = No Performance Determined
- 3) 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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