

ALEF ESD 520 EP CONDUCTIVE SELF-LEVELING RAL TOP COAT®

Antistatic ESD Fully Conductive Solvent-Free Epoxy Self-Leveling Top Coat



DESCRIPTION

ALEF ESD 520 EP CONDUCTIVE SELF LEVELING RAL TOP COAT® is a two-component, solvent-free, fully conductive (electrostatic) epoxy-based, self-leveling colored top coat.

The surface resistance ranges between 2.5×10^4 and $1.0 \times 10^6 \Omega$. These coatings are used in sensitive areas with high ESD risk and ensure that static charges are safely and rapidly discharged to ground.

They are preferred in high-security environments such as electronic manufacturing facilities, areas containing explosive materials, and sensitive data centers.

USES

Used as a protective, electrostatically fully conductive and decorative floor coating on surfaces exposed to normal and medium mechanical loads.

Typical application areas include:

- Industrial floors
- Hospitals
- Operating rooms
- Automotive industry facilities
- Pharmaceutical production areas
- Electronics manufacturing facilities
- Laboratories
- Production areas and warehouses

It is used as the final top coat of high wear-resistant antistatic floor coating systems in areas where sensitive electrical and electronic equipment are present and in environments with potential explosion risks.

APPLICATION CONDITIONS

Substrate moisture content must be below 5% by weight.

Relative humidity of the ambient air must not exceed 60%.

Substrate and ambient temperature must be between +10°C and +30°C during application.

Dew point conditions must be checked before application.

The substrate temperature must be at least 3°C above the dew point to prevent condensation

SURFACE PREPARATION

The substrate must be clean, dry, and free from dust, oil, grease, cement laitance, and loose particles.

Application must not be carried out on wet or frozen surfaces.

Concrete substrates must have a minimum compressive strength of 25 N/mm² and a minimum pull-off strength of 1.5 N/mm².

For newly poured concrete, application should be carried out after a minimum curing period of 28 days.

Surface defects such as cracks, holes, and cavities must be repaired before application.

MIXING

Components A and B must be mixed in a ratio of 3:1 by weight (A:B). Component B must be added to Component A and mixed using a low-speed mechanical mixer (300–400 rpm) for 3–4 minutes until a homogeneous mixture is obtained.

The prepared mixture must be used within 15–20 minutes depending on ambient conditions.

PROPERTIES

Color	Determined according to the requested RAL color code
Chemical Composition	Epoxy Resin
Solid Content (by weight)	~100%
Density – Component A	1.70 kg/L (DIN EN ISO 2811-1)
Density – Component B	1.03 kg/L
Mixed Density	1.54 kg/L
Consumption	Paint Application: 0.500 – 0.600 kg/m ² Coating Application: 1.500 – 2.000 kg/m ²
Packaging	15 kg Component A + 5 kg Component B
Mixing Ratio	A/B: 3/1 (Product mixing ratio – 1 set)
Mix Viscosity	2000 – 2200 mPa·s (+23°C) (DIN EN ISO 2555)
Electrostatic Performance (after full curing)	Surface Resistance (Rs): 2.5×10^4 – $1.0 \times 10^6 \Omega$ (DIN IEC 61340-4-1) Electrical Resistance (Re): 2.5×10^4 – $1.0 \times 10^6 \Omega$
Grounding Resistance (Rg)	2.5×10^4 – $1.0 \times 10^6 \Omega$
Body Voltage Measurement	< 100 V (EN 61340-4-5)
Compressive Strength	60 N/mm ² (7 days / +23°C) (DIN EN 196-1)
Flexural Strength	35 N/mm ² (7 days / +23°C) (DIN EN 196-1)
Adhesion Strength	> 4.0 N/mm ² (failure in concrete) (DIN EN 13892-8)
Shore D Hardness	80 (3 days / +23°C) (DIN 53505)
Abrasion Resistance	35 mg (CS10 / 1000 / 1000) (7 days / +23°C) (EN ISO 5470-1)
VOC Content	< 50 g/L – Complies with LEED requirements (TS EN ISO 11890-2)
Pot Life	30 minutes at +20°C
Curing Time (+10°C)	24 hours – 3 days
Curing Time (+20°C)	20 hours – 2 days
Curing Time (+30°C)	16 hours – 1 day
Full Curing Time (+10°C)	9 days
Full Curing Time (+20°C)	7 days
Full Curing Time (+30°C)	5 days
Application Method	Roller
Shelf Life	1 year
Cleaning of Equipment	Epoxy thinner or suitable solvent thinner

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ADVANTAGES



ANTISTATIC (ESD)



SOLVENT-FREE



APPLICATION TEMPERATURE



MECHANICAL RESISTANCE



CHEMICAL RESISTANCE



HYGIENIC

APPLICATION METHOD

The epoxy primer is applied to the prepared substrate using a roller or trowel. While the primer is still wet, **0.2–0.5 mm quartz sand** is broadcast onto the surface.

After curing of the primer, **conductive copper tapes** are placed on the substrate. **ALEF ESD 510 EP CONDUCTIVE PRIMER** is applied in one coat using a trowel.

After curing, **ALEF ESD 520 EP CONDUCTIVE SELF LEVELING RAL TOP COAT** is poured onto the surface and spread with a notched trowel.

The coating is rolled with a **spike roller** in two directions to ensure uniform thickness and remove entrapped air.

PACKAGING

- **Two-component set (A + B): 20 kg**
- **Component A:** 15 kg (Antistatic epoxy self-leveling, liquid, available in RAL colors)
- **Component B:** 5 kg (Epoxy hardener, yellowish, liquid)

STORAGE

Store the product between **+10°C and +30°C**.
Protect from direct sunlight.

Opened containers must be tightly closed and stored in their original packaging.
Opened products should be used within **one week**.

SHELF LIFE

- **12 months** from the date of production when stored in unopened, undamaged original packaging in dry conditions.
- Containers must be tightly closed when not in use.
- Protect from frost.
- Do not stack pallets on top of each other during storage and transportation.

SAFETY

This product is intended for professional use only.

Use appropriate personal protective equipment (mask, gloves, goggles).

Avoid inhalation, ingestion, and contact with skin and eyes.

Protect eyes and face during application.

In case of eye contact, rinse immediately with plenty of water and seek medical advice.

Apply in well-ventilated areas and take necessary precautions against fire, explosion, and environmental contamination.

Refer to the Material Safety Data Sheet (MSDS) before use.

LEGAL DISCLAIMER

ALEF YAPI ÜRÜNLERİ İnş. Taah. San. ve Tic. Ltd. Şti. shall not be held responsible for application errors resulting from improper use of the product or failure to follow the above instructions.

Alef Yapı Ürünleri İnş. Taah. San. ve Tic. Ltd. Şti.

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