

RINOL ETEC V

VOLUMETRIC ESD ANTISTATIC COATING SYSTEM

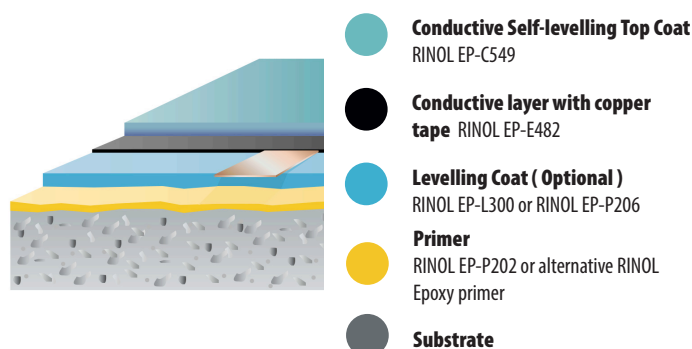
RINOL

This datasheet is valid for RINOL ETEC system versions:
V, V1, V3, V4, V5, V6.

1. System description

RINOL ETEC V is a three/four-layer, epoxy system that ensures safe electrostatic discharge for sensitive environments. It is designed for medium to heavy-duty use.

2. System composition



3. Areas of application

The RINOL ETEC V system is specifically designed to be applied in various types of industrial environments, adapting to the needs of several sectors, including:

- Explosion Proof Areas
- Operating theatres
- Clean rooms
- Power stations
- Transformers and substations
- Electronics industry
- Battery plants

4. Properties

- Low odour during application
- ESD antistatic with minimal use of copper tape
- Durable and long lasting
- Easy to clean and to disinfect
- Smooth or anti-slip surface
- Dust free
- Jointless
- Good chemical resistance

5. Certifications

The individual products within RINOL ETEC V system are certified to meet high quality standards:

Synthetic resin screed material according to EN 13813:2002

Coating for surface protection of concrete according to EN 1504-2:2004

DIN 51130 Determination of the anti-slip property

DIN EN 61340 Protection of electronic devices from electrostatic phenomena

DIN EN 1081 Determination of the electrical resistance

RINOL EP C549: Cleanroom suitable material, Fraunhofer IPA



Cleanroom®
Suitable
Materials



6. Technical data

The RINOL ETEC V system provides detailed technical data, including physical and mechanical properties:

Technical Data		
1	Thickness	2 - 4 mm
2	Maximum service temperature	60 °C
3	Compressive strength (DIN EN 196 / ASTM C 109)	73 N/mm ²
4	Flexural strength (DIN EN 196 / ASTM C 190)	45 N/mm ²
5	Adhesive strength (DIN ISO 4624)	> 1,5 N/mm ²
6	Abrasion resistance (Taber CS10 wheel) (DIN 53754 / ASTM D 1044)	78mg / 1000 cycles
7	Shore D hardness (DIN 53505 / ASTM D 2240)	83
8	Earth conductor resistance R _g (DIN EN 61340-4-1)	< 1 x 10 ⁹ Ω
9	Typical average resistance to ground (IEC 61340-4-1)	10 ⁵ ≤ R _g ≤ 10 ⁷
10	Total resistance R _{G,sys} (DIN EN 61340-4-5)	< 10 ⁸ Ω
11	BVG Walking test (DIN EN 61340-4-5)	< 100 V
12	Colour stability (scale 1-8, best=8) (DIN EN ISO 877)	6

7. Chemical Resistance

The RINOL ETEC V floors, under ambient temperature conditions, demonstrate resistance to:

Weak mineral acids, such as hydrochloric, nitric, phosphoric, and sulfuric acids.

Alkaline substances, including sodium hydroxide up to 50% concentration.

Standard cleaning agents used for floor maintenance.

Sugars, even with repeated contacts.

Mineral oils, diesel, kerosene, and gasoline.

8. Available colours

The RINOL ETEC V system is available in a wide range of RAL and NCS colours, offering a broad selection to meet the aesthetic preferences of any project.



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COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV
ISO 9001 • ISO 14001

9. Application Instructions

9.1. Substrates

9.1.1 Suitable substrates are concrete, polymer modified concrete or screeds, anhydrite or magnesite.

9.1.2 The substrate should have a minimum tensile strength of 1.5 N/mm² and compressive strength of 25 N/mm² measured to an approved national standard.

9.1.3 The substrate should be visibly dry. For concrete and polymer modified concrete, the moisture content should not exceed 4% by weight when measured according to a recognised standard. RINOL range includes primers that can optionally be used when the static moisture content reaches 6%, measured using CM (calcium carbide) Method. For anhydrite or magnesite substrates, moisture contents up to 0.8% by weight are acceptable.

9.1.4 The substrate must be clean and free from dust and loose particles. All traces of contaminants such as oils, fats, greases, paint residues, chemicals, algae and laitance should be removed.

9.2. Preparation

9.2.1 The preferred method of surface preparation is vacuum blasting. Other methods such as scabbling, grit blasting or grinding may be used but are generally less satisfactory.

9.3. Priming

9.3.1 The primer is mixed using an electric mixer, taking care to avoid the inclusion of air. When homogeneous, the mixture is poured onto the prepared surface and spread using a Kaub spatula or rubber spreader. Material consumption is 250 - 500 g/m² depending on the roughness of the substrate.

9.3.2 RINOL primers must not be applied when the temperature falls or is expected to fall within 3 °C of the dew point.

9.3.3 Don't scatter the primer with sand if the following layer is RINOL EP-E482.

9.4. Application of the levelling layer (optional)

9.4.1 The levelling layer RINOL EP-L300 should be applied once the primer has hardened but not completely cured. This will normally be after 12 - 15 hours.

9.4.2 The two components of RINOL EP-L300 should be mixed using an electric mixer, taking care to avoid the inclusion of air. When the mixture is homogeneous, add a mixture of dry quartz sands (1 part RINOL QS-10, 3 parts RINOL QS-20) at a ratio of 20 parts sand to 100 parts RINOL EP-L300 and mix again until homogeneous. This mixture is then poured onto the primed surface and spread with a spatula, trowel or scraper at a rate of 800 - 1200 g/m².

9.4.3 RINOL EP-L300 must not be applied when the temperature falls or is expected to fall within 3 °C of the dew point.

9.4.4 Don't scatter the levelling layer with sand if the following layer is RINOL EP-E482.

9.5. Application of the conductive layer

9.5.1 The conductive layer RINOL EP-E482 should be applied when the primer or levelling layer is hardened but not completely cured. This will normally be after 12 - 15 hours.

9.5.2 Copper tapes are fixed to the surface of the primer or levelling layer.

9.5.3 Mix the two components of RINOL EP-E482 using an electric mixer, taking care to avoid the inclusion of air. This mixture is then poured onto the

surface of the levelling layer and spread with a rubber spatula at a rate of 80 - 100 g/m². It should then be rolled with a short pile roller.

9.5.4 RINOL EP-E482 must not be applied when the temperature falls or is expected to fall within 3 °C of the dew point.

9.6. Application of the top coat

9.6.1 The conductive topcoat RINOL EP-C549 should be applied when the conductive layer has hardened but not cured. This will normally be after 8-10 hours.

9.6.2 The two components of the conductive topcoat RINOL EP-C549 are mixed with an electric mixer, taking care to avoid the inclusion of air. When homogeneous, pour the mixture onto the surface of the conductive layer and spread with a serrated trowel. The material consumption should be between 800 to 2000 g/m², depending on the desired thickness. The teeth of the notched trowel must be replaced regularly to ensure uniform thickness.

9.6.3 RINOL EP-C549 must not be applied when the temperature falls or is expected to fall within 3 °C of the dew point.

9.6.4 RINOL Mattierungsmittel 100 can be optionally scattered on recently applied RINOL EP-C549, at a maximum rate of 40 g/m².

9.6.4 At 20 °C, RINOL ETEC V can be walked on after 18 to 24 hours; full mechanical resistance is achieved after 7 days and full chemical resistance after 28 days.

10. Specification clauses for RINOL ETEC V

All products must be applied and cured at temperatures between 15 and 25°C and relative humidity <80%.

The primer shall be RINOL EP-P202 or alternative RINOL epoxy primer, applied at a rate of 250 - 500 g/m² to ensure complete sealing of the substrate surface.

The levelling layer can be optionally applied and shall be RINOL EP-L300 filled with dry quartz sand at a ratio of 20 parts sand to 100 parts resin. The quartz sand shall be 1 part RINOL QS-10, 3 parts RINOL QS-20. The levelling layer shall be applied at a rate of 800 - 1200 g/m².

Copper strips, if required, are fixed to the primer or levelling layer, prior the application of RINOL EP-E482.

The conductive layer shall be RINOL EP-E482, applied at a rate of 80 - 100 g/m².

The conductive topcoat shall be RINOL EP-C549, applied at a rate of 800 - 2000 g/m².

If scattering the topcoat surface with RINOL Matterierungsmittel 100, maximum consumption must be 40 g/m².

11. Maintenance

The RINOL ETEC V system is easy to maintain and clean. To ensure the system's longevity and performance, it is essential to follow the provided maintenance instructions. This may include regular cleaning with suitable products to remove dirt and residues, periodic inspection of the floor for signs of wear, and repair or replacement of damaged areas if necessary. With proper maintenance, the RINOL ETEC V system can provide many years of reliable service.

12. Safety

Safety is a priority at RCR Flooring Products Italia S.r.l. We provide information on safety and precautions during the application of the RINOL systems. This may include the use of personal protective equipment during application, adequate ventilation, prevention of exposure to chemicals, and proper disposal of product waste. It is important to follow all safety guidelines to ensure a safe working environment and maintain the integrity of the systems.

13. Health and Safety Measures

Consult the latest valid Material Safety Data Sheet (MSDS) for the products that are part of the system and the Chemical Industry Guidelines on the Handling of Coating Materials (M004/M023) for information on the handling of the products. Wear suitable protective clothing such as gloves and goggles during application.

Skin contact with liquid resins can cause health damage and allergies. Once cured properly, the product is not hazardous.

14. Customer Service

At RCR Flooring Products Italia S.r.l., we pride ourselves on providing exceptional customer service. Our team of experts are on hand to answer your questions, provide technical advice and help you choose the RINOL systems that best suit your needs. We also provide application information to ensure that our systems are installed correctly and deliver optimum performance.

15. Legal notice

The technical data for the Company's products and systems have been compiled with due care. However, any recommendations or suggestions made with regard to the use of these products are made without guarantee as the conditions under which they are used are beyond the control of the Company. It is the responsibility of the customer to determine whether the products are suitable for the particular application and whether the conditions of use are appropriate for the particular product. No liability can therefore be derived from the product data sheet.

Please note that only the latest version of the data sheet is valid and replaces all previous versions. The technical data given are approximate values determined by us and do not constitute a guarantee of properties. Misprints, errors, translation errors and changes reserved. Please note that the information in the system datasheets may differ in different languages/countries. For further information please visit our website at www.rinol.com.

The technical data sheet does not exempt the user from carrying out his own application tests, if necessary, within the limits of his capabilities. Please refer to the RINOL Technical Guide for information on coating options and more detailed information on the installation of RINOL products.

16. CE Marking

The individual products that make up the system are certified according to DIN EN 13813 "Screed materials and floor screeds - Screed materials - Properties and requirements" (January 2003) and EN 1504-2. These standards specify the requirements for screed mortars used in internal floor constructions. Resin coatings and sealants are also covered by these standards. Products complying with the mentioned standards must have the CE mark.