cemseal®

Technical Data Sheet

CEMSEAL ESDFLOR WB-AS

HIGH-PERFORMANCE ESD EPOXY FLOORING SYSTEM

SYSTEM DESCRIPTION

CEMSEAL ESDFLOR WB-AS is a range of seamless, high-performance ESD (Electrostatic Discharge) control flooring systems designed for use in clean rooms, electronics production, and ANSI/ESD S20.20 compliant environments.

This system utilizes water-based epoxy technology to provide Static Dissipative performance (10^5 Ω - 10^9 Ω). This system provides a controlled charge decay that meets the rigorous Product Qualification and System Verification requirements of ANSI/ESD S20.20 for "Flooring/Footwear Systems."

- **ESDFLOR WB-AS**
  Standard static dissipative water-based epoxy coating.
  For dry or suspended slabs.

- **ESDFLOR WB-AS MB**
  Static dissipative water-based epoxy system with moisture barrier.
  For slab-on-ground or damp substrates.

- **ESDFLOR WB-AS HD**
  Heavy-duty static dissipative water-based epoxy system with epoxy mortar, applied at thickness up to 5mm.
  For high-traffic or equipment-loading zones.

KEY FEATURES AND BENEFITS

- Complies fully with ANSI/ESD S20.20 standards for flooring/footwear systems.
- Demonstrates low body voltage generation (<20V typical) for superior component protection.
- Provides stable static dissipation for enhanced personnel safety.
- Creates a seamless and hygienic surface that is easy to clean.
- Resists abrasion and chemical spills for long-term durability.
- Offers an optional moisture barrier for damp or slab-on-grade substrates.
- Features a user-friendly, low-VOC water-based formulation.

RECOMMENDED APPLICATION AREAS

- ANSI/ESD S20.20 Protected Areas (EPAs)
- Electronic and semiconductor manufacturing
- Clean rooms and Laboratories
- Hyperscale Data Centers & Server Halls
- Control rooms
- Pharmaceutical zones
- Heavy-duty equipment lanes (HD system)

TYPICAL SYSTEM BUILD-UP

A. CEMSEAL ESDFLOR WB-AS (Standard)

Layer	Description	Products
1	Primer	CEMSEAL P100SLF
2	Earthing Point	CEMSEAL Copper Tape
3	Conductive Primer	CEMSEAL E500AS
4	Topcoat	CEMSEAL E100WB-AS

B. CEMSEAL ESDFLOR WB-AS MB (with Moisture Barrier)

Layer	Description	Products
1	Primer	CEMSEAL P100WB
2	Moisture Barrier	CEMSEAL MB200BC
3	Seal Coat	CEMSEAL E100SL+ 2% QUARTZ T1
4	Earthing Point	CEMSEAL Copper Tape
5	Conductive Primer	CEMSEAL E500AS
6	Topcoat	CEMSEAL E100WB-AS

C. CEMSEAL ESDFLOR WB-AS HD (Heavy-Duty Epoxy Mortar, up to 5mm)

Layer	Description	Products
1	Primer	CEMSEAL P100SLF
2	Epoxy Mortar	CEMSEAL E500SL
3	Seal Coat	CEMSEAL E100SL+ 2% QUARTZ T1
4	Earthing Point	CEMSEAL Copper Tape
5	Conductive Primer	CEMSEAL E500AS
6	Topcoat	CEMSEAL E100WB-AS

TECHNICAL PROPERTIES

Properties	Test Method	Typical Value
Adhesion Strength (Pull-off)	ASTM D4541	≥ 1.5 N/mm²
Abrasion Resistance (CS17)	ASTM D4060	≤ 100mg loss
Resistance to Ground	IEC 61340-4-1	$R_g < 10^9$ Ω
Body Voltage Generation (Walking Test)	ANSI/ESD STM97.2	< 100 V
System Resistance (Person/Footwear/ Flooring)	ANSI/ESD STM97.1	$R_g < 10^9$ Ω

Note: The STM97.1 and STM97.2 results cited above were achieved using CEMSEAL ESDFLOR WB-AS C system in combination with standard ESD safety footwear (Cotton socks, Oscar ESD Safety Shoes). Results may vary based on footwear used.

SUBSTRATE QUALITY & REQUIREMENTS

- Minimum compressive strength: 25 MPa
- Minimum pull-off strength: 1.5 MPa
- Substrate moisture content ≤ 4% (by Tramex CM method)
- For slab-on-ground or damp substrates or substrate moisture content > 4%, use ESDFLOR WB-AS MB
- Surface must be sound, clean, free from oil, grease, curing agents, or other contaminants
- Mechanical surface preparation (e.g., grinding or shot blasting) is required to achieve CSP 3-5
- All dust must be removed prior to priming

APPLICATION CONDITIONS & LIMITATIONS

Parameter	Requirement
Ambient Temperature	+8°C to +35°C
Substrate Temperature	+8°C to +35°C; ≥ 3°C above dew point
Relative Humidity	≤ 80%
Substrate Moisture Content	≤ 4.0% (Tramex CM method)

IMPORTANT NOTES

- The freshly applied final dissipative coating of the CEMSEAL ESDFLOR WB-AS system must be protected from damp, condensation and water for at least 24 hours.
- Ensure adequate ventilation during application and drying. Otherwise, the reaction and drying processes may be impaired.
- Cemseal does not accept any liability for changes of the floor characteristics caused by changes in the composition of the recommended cleaning and maintenance agents.
- If the floor is exposed to mechanical and / or chemical loads, the conductivity must be controlled regularly.
- In case of wear and tear, the final conductive coating of the CEMSEAL ESDFLOR WB-AS system must be refreshed. This must be coordinated with the authorized ESD-representative or comparable.
- For exact colour matching, ensure the final conductive coating of the CEMSEAL ESDFLOR WB-AS system in each area is applied from the same control batch numbers.
- ESD clothing, ambient conditions, measurement equipment, cleanliness of the floor and the test person have a substantial influence on the measurement results.
- ESD-footwear must fulfil the requirements of DIN EN 61340-4-3 (Climate 2, resistance < 5 M Ω).

INSTALLATION SERVICE

Installation shall be carried out by Cemseal-approved and trained applicators in accordance with Cemseal's documented quality assurance procedures and surface preparation guidelines.

Disclaimer:
The information and any recommendations relating to the application and end-use of all CEMSEAL products are provided in good faith based on CEMSEAL's knowledge and experience of the products. In applications, the differences in materials, and variances of substrates and actual site conditions can vary such that no warranty in respect of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be taken as inferred either from this information, or from any written recommendations, or from any other advice offered by CEMSEAL. The proprietary rights of third parties must be observed. All orders are accepted subject to our sale terms and conditions. All users should always refer to the most recent and up to date issue of the Technical Data Sheet for the product concerned, which is available on request. It is recommended that products should always be properly stored, handled and applied under tested and recommended conditions.

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