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Technical Data Sheet

CEMSEAL E100WB-AS

3-PART WATER-BASED EPOXY ESD COATING

DESCRIPTION

CEMSEAL E100WB-AS is a high-performance, three-part, water-based, low VOC, static dissipative (ESD) epoxy coating. Engineered to provide a coloured, silky matt-finish, it serves as a highly durable topcoat for static dissipative and ESD control flooring systems. Its advanced water-based formulation allows for excellent water vapour permeability, making it an ideal solution for dissipating moisture while withstanding normal to medium-heavy mechanical loading.

FEATURES AND BENEFITS

- Provides a controlled charge decay that meets rigorous ESD requirements for enhanced personnel safety and component protection.
- Environmentally preferred, water-based epoxy technology with very low odour.
- High solid content creates a thicker, highly protective and robust dry film.
- Excellent compressive strength, high adhesion to concrete, and outstanding abrasion resistance.
- Highly permeable to safely dissipate moisture without blistering.
- Cures to an attractive, easy-to-clean silky matt finish.

RECOMMENDED USES

- Protects light-to-medium duty industrial and commercial floors subjected to foot traffic and light loads.
- Ideal for environments requiring electrostatic discharge (ESD) protection, such as ANSI/ESD S20.20
- Protected Areas (EPAs), electronics manufacturing, cleanrooms, and pharmaceutical facilities.

CERTIFICATES AND TEST REPORTS

- **Resistance to Groundable Point and Point-to-Point:** ANSI/ESD STM 7.1-2020, CEMSEAL E100WB-AS, SGS Testing & Control Services Singapore Pte Ltd, Test Report No. 10603785(1)
- **Footwear/Flooring System - Resistance Measurement in Combination with a Person:** ANSI/ESD STM 97.1 (2015), CEMSEAL E100WB-AS, ESD Consultancy Sdn Bhd, Report Ref: ESD/Test/CEM/2025-001
- **Footwear/Flooring System - Voltage Measurement in Combination with a Person:** ANSI/ESD STM 97.2 (2016), CEMSEAL E100WB-AS, ESD Consultancy Sdn Bhd, Report Ref: ESD/Test/CEM/2025-002

SYSTEM STRUCTURE

CEMSEAL E100WB-AS is designed to be used as the high-performance ESD topcoat within specific static dissipative flooring systems. It serves as the final, highly durable layer in the following system build-ups:

- **CEMSEAL ESDFLOR WB-AS (Standard):** A standard static dissipative water-based epoxy coating system designed for dry or suspended slabs.
- **CEMSEAL ESDFLOR WB-AS MB (with Moisture Barrier):** A static dissipative water-based epoxy system incorporating a moisture barrier (CEMSEAL MB200BC), specifically intended for slab-on-ground or damp substrates.
- **CEMSEAL ESDFLOR WB-AS HD (Heavy Duty):** A heavy-duty static dissipative water-based epoxy system that includes an epoxy mortar layer, built for high-traffic or equipment-loading zones.

*Always refer to the appropriate System Data Sheet (such as the CEMSEAL ESDFLOR WB-AS SysDS) for comprehensive application instructions and exact step-by-step system build-up details. (Please note: This product may only be used by experienced professionals.)

PRODUCT INFORMATION

Packaging	21.6kg set Part A : 16kg Part B : 4kg Part C : 1.6kg
Appearance	Part A : Neutral Liquid Part B : Transparent Liquid Part C : Colourant
Chemical Base	Waterborne Epoxy
Specific Gravity	~ 1.27

TECHNICAL PROPERTIES

Properties	**Test Method**	Typical Value
Adhesion Strength	ASTM D4541	> 1.5 N/mm^2
Shore D Hardness	ASTM D2240	> 60
Abrasion Resistance	ASTM D4060	< 0.1 g loss (CS17 wheel / 1000 cycles)
Slip Resistance*	BS 7976-2 (Typical values for 4-S rubber slider)	Dry ≥ 40, Wet depend on specification (in accordance with HSE and UKSRG guidelines)

*The slipperiness of flooring materials can change significantly due to the installation process, after short periods of use, due to inappropriate maintenance, longer-term wear and/or surface contaminants (wet or dry). Textured systems are recommended to meet slip resistance requirements for wet conditions and/or surface contaminants.

TECHNICAL PROPERTIES

Properties	Test Method	Typical Value
Resistance to ground	IEC 61340-4-1	$R_G < 10^9\ \Omega$
Typical average resistance to ground		$R_G\ 10^5 – 10^6\ \Omega$
Body voltage generation	IEC 61340-4-5	< 100 V
System resistance		$R_G < 10^9\ \Omega$

Note: Measurement results can be affected by ESD clothing, ambient conditions, measurement equipment, cleanliness of the floor and the test personnel.

SUBSTRATE REQUIREMENTS & PREPARATION

- The surface must be clean, sound, dry, and free from contaminants such as dirt, oil, grease, coatings, and surface treatments.
- The concrete substrate must possess sufficient compressive strength (min. 25 N/mm^2) and a minimum pull-off strength of 1.5 N/mm^2.
- Surfaces should be prepared mechanically using abrasive blast cleaning or diamond grinding to remove cement laitance and achieve an open-textured surface.
- All dust and loose material must be thoroughly removed via vacuum before application.

APPLICATION INFORMATION

Ambient Temperature	+10°C min. / +35°C max.
Substrate Temperature	+10°C min. / +35°C max.
Relative Humidity	Maximum 80%
Dew Point	Substrate temperature must be at least +3°C above the dew point.
Mixing Ratio	Part A : Part B : Part C = 16 : 4 : 1.6 (by weight)
Consumption	~0.15 kg/m^2 per coat
Pot Life (+ 25°C)	~60 minutes
Waiting Time / Overcoating (+ 30°C)	Min: 12 hours Max: 72 hours
Curing Matrix (+ 30°C)*	Foot Traffic: ~16 h Light Traffic: ~2 d Full Cure: ~7 d

*Note: Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity. When the relative air humidity is ≥ 80 % the waiting time should be increased by 24 hours.

MIXING

1. Stir Part A (Resin) mechanically prior to mixing to ensure homogeneity.
2. Add Part C (Colourant) to Part A and mix thoroughly until a uniform, streak-free colour is achieved.
3. Add Part B (Hardener) to the tinted Part A and continuously mix using a slow-speed electric mixer (300-400 rpm) for 2 minutes until a uniform consistency is achieved.
4. Scrape the sides and bottom of the mixing container with a flat-edge trowel to ensure complete mixing, while avoiding excessive mixing to prevent air entrapment.

APPLICATION METHOD

1. Apply the mixed CEMSEAL E100WB-AS evenly crosswise using a short pile roller or brush or airless spray equipment.
2. Always maintain a "wet edge" during application to achieve a perfectly seamless finish.
3. It is critical to apply the coating at the correct consumption rate (~0.15 kg/m^2/layer) to achieve proper appearance, colour development, and consistent ESD/dissipative properties.
3. Uneven substrates cannot be properly covered by thin seal coats.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened or cured material can only be removed mechanically.

IMPORTANT NOTES

- Damage to the floor surface can lead to changes in the floor characteristics or reduced dissipative performance. Monitor the conductivity/dissipative performance of the floor regularly. In the event of wear and tear, the final dissipative coating must be refreshed, coordinated with an authorised ESD-representative.
- Tires might generate dark marks on the surface due to plasticizer migration. To improve cleanability and protect aesthetic finishes, the floor can be overcoated with a static dissipative floor polish. 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.
- Direct UV exposure from the sun, lamps, or skylights may cause slight surface discolouration and colour deviation without compromising the coating's mechanical performance.
- Waterborne epoxy materials are highly sensitive to humidity, temperature, and variations in curing and application times, which can lead to different shades being observed on the finished floor.
- Avoid applying CEMSEAL E100WB-AS on substrates where significant vapour pressure may occur.
- Freshly applied CEMSEAL E100WB-AS must be strictly protected from dampness, condensation, and water contact for a minimum of 24 hours.
- Ensure the primer is properly applied to prevent and avoid pinholes on the surface.
- Always ensure adequate fresh air ventilation when using CEMSEAL E100WB-AS in confined spaces to avoid curing problems.
- The final silky matt finish can naturally vary depending on the ambient temperature and the absorbency of the substrate.
- Incorrect assessment and treatment of existing concrete cracks may lead to reflective cracking and significantly reduce the service life of the system.
- Exact colour matching requires that CEMSEAL E100WB-AS applied in each adjacent area comes from identical control batch numbers and is applied on the exact same day.
- The use of protective health and safety equipment is mandatory for any spray application.

STORAGE AND SHELF LIFE

Storage: CEMSEAL E100WB-AS should be stored in the original manufacturer's packaging in a shaded, cool, and dry place. Storage temperature should be between +5°C and +30°C. Keep at least 2 meters away from direct heat sources.

Shelf Life: Expected 12 months shelf life with the above-mentioned storage conditions.

HEALTH & SAFETY

The user must refer to the latest version of the Safety Data Sheet (SDS) for comprehensive information on the safe handling, storage, and disposal of this chemical product. The SDS contains essential physical, ecological, and toxicological data required for professional use.

BASIS OF TECHNICAL DATA

All technical data provided in this Technical Data Sheet are based on laboratory tests. Actual performance may vary due to factors beyond our control.

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.

For More Information:

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