cemseal®

Technical Data Sheet

CEMSEAL E100WB

3-PART WATER-BASED EPOXY COATING

DESCRIPTION

CEMSEAL E100WB is a high-performance, water-dispersed, solvent-free, three-part epoxy resin coating. Engineered to provide a coloured, silky matt-finish, it serves as a highly durable sealer coat for concrete and cementitious substrates. Its advanced water-based formulation allows for excellent water vapor permeability, making it the ideal solution for damp substrates while withstanding normal to medium-heavy mechanical and chemical loading.

FEATURES AND BENEFITS

- High solid content creates a thicker, more protective dry film.
- Highly breathable to safely dissipate moisture without blistering.
- Outstanding abrasion resistance withstands heavy traffic.
- Solvent-free and virtually odorless application.
- Environmentally preferred and ideal for green building projects.
- Cures to an attractive and easy-to-clean silky matt finish.

RECOMMENDED USES

- Protects light-to-medium duty industrial and commercial floors subjected to foot traffic and light loads.
- Suits hygienic environments like food processing areas, laboratories, breweries, and pharmaceutical facilities.
- Seals damp concrete floors with high moisture content perfectly.
- Coats walls effectively in tunnels and de-contaminable areas.

CERTIFICATES AND TEST REPORTS

- Singapore Green Label certification for Environmentally Preferred Paints & Surface Coatings under Certificate No. 032-299-4435
- HACCP International certification for food and beverage facilities under Food Zone Classification SSZ with Certificate No. I-PE-792-BES-R2-15-03

SYSTEM STRUCTURE

CEMSEAL E100WB is designed to be used as the high-performance topcoat within specific CEMSEAL flooring and wall systems. The exact system build-up depends on the substrate moisture and expected traffic conditions.

Always refer to the appropriate System Data Sheet for comprehensive application instructions and system build-up details.

- For floor applications refer to the CEMSEAL EPOFLOR ECO-WB System Data Sheet
- For wall applications refer to the CEMSEAL WALLCOAT-WB System Data Sheet

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	~ 1.29

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)
Hardness (Shore D)	ASTM D2240	≥ 75
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.

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.
- urfaces 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.
Substrate Moisture Content	≤ 6% for the Breathable System (CEMSEAL E100WB diluted primer) ≤ 4% for the High-Adhesion System (CEMSEAL P100SLF primer) (measured by Tramex CM Method)
Mixing Ratio	Part A : Part B : Part C = 16 : 4 : 1.6 (by weight)
Consumption	0.10 - 0.30 kg/m² per coat (Depending on type of application)
Pot Life (+ 25°C)	~60 minutes
Waiting Time / Overcoating (+ 30°C)	Min: 12 hours Max: 48 hours
Curing Matrix (+ 30°C)	Foot Traffic: ~12 h Light Traffic: ~2 d Full Cure: ~5 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 selected primer coat using a short pile roller or brush, ensuring a continuous, pore-free coat thoroughly covers the substrate.
2. Apply the subsequent topcoats using a short pile roller or airless spray equipment, maintaining a "wet edge" throughout the application process to achieve a perfectly seamless finish.
3. If a non-slip finish is required, anti-slip aggregates can be broadcast into the wet coat, followed by a subsequent top seal coat.

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

- 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 on substrates where significant vapour pressure may occur.
- Freshly applied CEMSEAL E100WB 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 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 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 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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