



Epoxy Coating (High-Build)

SYSTEM FAMILY

Resin flooring / application methodology

TYPE

High-build protective epoxy coating

NOMINAL BUILD

200–400 µm / coat

1. SCOPE & SYSTEM DESCRIPTION

This Application Data Sheet describes POLYZEN's method for installing a **high-build epoxy floor coating** — a seamless, hard-wearing protective film applied over prepared concrete to eliminate dusting and improve cleanability and chemical resistance.

It is a **brand-flexible application guide**: the same methodology applies whether the material is a POLYZEN system product or a client-approved equivalent of the same type.

2. SUBSTRATE REQUIREMENTS

- New concrete cured a minimum of 28 days; sound and structurally stable.
- Compressive strength typically ≥ 25 N/mm² and surface tensile (pull-off) ≥ 1.5 N/mm² (indicative; per project).
- Falls, drainage and movement / isolation joints identified and detailed before starting.
- Substrate dry and free of oil, grease, curing compounds and previous coatings.

3. SURFACE PREPARATION

- Mechanically prepare by diamond grinding or captive shot-blasting to a clean, open profile (typical CSP 2–3). Acid etching is not accepted.
- Remove laitance, contamination and unsound material; repair cracks, spalls and joints with compatible epoxy repair mortars.
- Assess substrate moisture per **ASTM F2170** (in-situ RH); apply a moisture-mitigation primer where readings exceed the selected system's limit.
- Vacuum the prepared surface immediately before priming.

4. ENVIRONMENTAL CONDITIONS

- Substrate & ambient temperature 10–35 °C; substrate ≥ 3 °C above dew point throughout application and initial cure.
- Relative humidity within the selected material's limits; do not apply in falling temperatures.
- Protect the area from dust, water, direct sunlight and traffic during application and cure.

5. MATERIALS

Materials: POLYZEN high-build epoxy coating system (**ZENFLOR Coat ZF-100**) — primer, body and any seal/top coat from one compatible system — **or a client-approved equivalent** of the specified type meeting the project specification and standards. Exact mix ratios, consumption, film thickness and cure times are per the **selected material's Technical Data Sheet**.

6. MIXING

- Pre-condition components to 15–25 °C.
- Power-mix the resin, add the hardener and mix thoroughly, then add graded filler/aggregate (where used) to a homogeneous, lump-free, streak-free consistency with a low-speed mixer.
- Mix full kits only, exactly as supplied — no part-mixing, no site additions of solvent or water. Respect the material's pot life.

7. APPLICATION PROCEDURE

- **Prime:** apply full-coverage epoxy primer to the prepared substrate.
- **Coat 1:** apply the high-build epoxy by roller / squeegee-and-backroll at the specified rate; maintain a wet edge.
- **Coat 2:** apply within the overcoat window for full build and uniform colour.
- **Anti-slip (optional):** broadcast aggregate into the coat or into a seal where texture is specified.

8. COVERAGE, COATS & THICKNESS

- Primer: ~0.3-0.4 kg/m² (indicative).
- Each build coat: ~0.3-0.5 kg/m² at 200-400 µm DFT (indicative).
- Coats and exact consumption per the selected material's TDS.

9. CURING & RETURN TO SERVICE

- Light foot traffic typically ~24 h at 25 °C (indicative).
- Return to service / wheeled traffic typically ~48-72 h at 25 °C (indicative).
- Full mechanical & chemical cure typically ~7 days at 25 °C (indicative). Cure times extend at lower temperatures — always per the selected material's data sheet.

10. FINISHING & DETAILING

- Anti-slip texture by broadcast aggregate; slip evaluated per **ANSI A326.3 / ASTM E303** for the chosen finish.
- Cove and edge detailing where a hygienic detail is specified.

11. QUALITY-CONTROL CHECKPOINTS

- Record substrate moisture (ASTM F2170), temperature and dew point before each application.
- Verify surface profile, cleanliness and primer coverage.
- Check wet-film / applied thickness during placement.
- Spot-check adhesion and visual finish; log ambient conditions through cure.

12. DO'S & DON'TS

Do

- Respect pot life and overcoat windows.
- Maintain a wet edge and continuous bays.
- Control temperature, dust and dew point.
- Follow the selected material's data sheet for ratios & cure.

Don't

- Don't add solvent or water to thin the mix.
- Don't apply over damp or contaminated substrate.
- Don't exceed pot life or apply below dew point.
- Don't mix products from different systems.

13. CLEANING & MAINTENANCE

- Allow full cure before wet cleaning.
- Routine: dust-mop and neutral-pH auto-scrub; avoid harsh abrasives and aggressive solvents.
- Renew the seal coat periodically in high-traffic areas to extend service life.

14. HEALTH, SAFETY & ENVIRONMENT

- Uncured epoxy resins and amine hardeners can cause skin/eye irritation and sensitisation — wear chemical-resistant gloves, goggles and protective clothing.
- Ensure adequate ventilation during mixing and application; control spills and prevent uncured material entering drains.
- Refer to the selected material's Safety Data Sheet (SDS) for full handling, first-aid, spill and disposal information.

Disclaimer: this interim Application Data Sheet describes POLYZEN's typical application methodology for this class of system and is provided in good faith. It is a brand-flexible application guide; exact mix ratios, consumption, film thickness and cure times are governed by the selected material's data sheet. All parameters are typical/indicative and are confirmed in the project-specific Method Statement. POLYZEN reserves the right to revise this document; the latest version supersedes all previous.