



# Pharmaceutical & Cleanroom Flooring

### SYSTEM FAMILY

Cleanroom resin flooring / application methodology

### TYPE

Seamless GMP / cleanroom floor (coved, ISO 14644)

### NOMINAL BUILD

epoxy SL / PU 2-4 mm

## 1. SCOPE & SYSTEM DESCRIPTION

This ADS describes POLYZEN's method for installing **Pharmaceutical & Life Sciences / cleanroom flooring** — a seamless, coved, low-particulate, chemically resistant floor engineered for GMP and cleanroom classification.

Delivered brand-flexibly. The system (epoxy self-leveling or PU, with an ESD-controlled option where required) is detailed with continuous coving, sealed junctions and, where specified, integration into the wall / cleanroom envelope for ISO 14644 classification.

## 2. SUBSTRATE REQUIREMENTS

- New concrete cured a minimum of 28 days; sound and structurally stable.
- Compressive strength typically  $\geq 25$  N/mm<sup>2</sup> and surface tensile (pull-off)  $\geq 1.5$  N/mm<sup>2</sup> (indicative; per project).
- 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 repair mortars.
- Assess substrate moisture per **ASTM F2170** (in-situ RH); treat 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  $\geq 3$  °C above dew point throughout application and 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 pharmaceutical / cleanroom flooring system (ZENPU Level ZP-200 / ZENFLOR Sovereign ZF-500 (with ZENSTAT for ESD zones)) — **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 data sheet**.

## 6. MIXING

- Pre-condition components to 15-25 °C.
- Power-mix resin and hardener to a homogeneous, lump-free consistency; add graded filler/aggregate where used.
- Mix full kits only, exactly as supplied — no site additions of solvent or water. Respect the material's pot life.

## 7. APPLICATION PROCEDURE

- **Prime:** prime the prepared substrate; moisture-mitigate where required.
- **Seamless body:** apply the self-leveling / PU body (2–4 mm) to a smooth, non-porous, low-particulate finish.
- **Coving & junctions:** form continuous coving to walls and integrate with the wall / cleanroom panel junction; seal all penetrations, drains and thresholds.
- **ESD option:** where an anti-static / ESD floor is specified, incorporate the conductive primer + earthing + dissipative/conductive coat (see ESD ADS).

## 8. COVERAGE, COATS & THICKNESS

- Body ~1.5 kg/m<sup>2</sup> per mm (indicative); coving and seal per specification. Per the selected material's data sheet.
- Coving radius and junction detail to the cleanroom specification.

## 9. CURING & RETURN TO SERVICE

- Light foot traffic typically ~24 h at 25 °C (indicative).
- Return to service typically ~48–72 h at 25 °C (indicative).
- Full cure typically ~7 days at 25 °C (indicative); cure extends at lower temperatures — per the selected material's data sheet.

## 10. FINISHING, DETAILING & COMPLIANCE

- Seamless, coved, cleanable, low-particulate finish; sealed junctions and penetrations.
- Supports compliance with **WHO-GMP, EU-GMP Annex 1, US FDA cGMP 21 CFR 211, Revised Schedule M**, and cleanroom **ISO 14644** — subject to overall facility design and validation.
- ESD-controlled variant where the process requires static control.

## 11. QUALITY-CONTROL CHECKPOINTS

- Verify coving radius, junction integration and seal continuity.
- Check finish smoothness / low-particulate quality and chemical-resistant seal.
- For ESD variants, commission resistance-to-ground; record all details for validation.
- Log ambient conditions.

## 12. DO'S & DON'TS

### Do

- Cove continuously and integrate with wall / panel junctions.
- Seal every penetration, drain and threshold.
- Specify the ESD variant where static control is required.
- Follow the selected material's data sheet.

### Don't

- Don't leave open junctions or particulate-shedding surfaces.
- Don't skip moisture assessment in critical areas.
- Don't claim classification without facility validation.
- Don't mix products from different systems.

## 13. CLEANING & MAINTENANCE

- Compatible with cleanroom cleaning / disinfection regimes.
- Neutral / approved cleaners; maintain coving and junction seals.
- Re-validate after any repair in classified areas.

## 14. HEALTH, SAFETY & ENVIRONMENT

- Follow the selected material's SDS; maintain cleanroom gowning / contamination controls during works where areas are live.
- Provide PPE and ventilation; coordinate with facility validation.
- Control spills and prevent uncured material entering drains.

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*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, electrical values and cure times are governed by the selected material's data sheet and the project specification. All parameters are typical/indicative and are confirmed in the project-specific Method Statement and commissioning report. POLYZEN reserves the right to revise this document; the latest version supersedes all previous.*