



# ZENFLOR Sovereign ZF-500

**RANGE** ZENFLOR (Epoxy)      **MATERIAL FAMILY / GROUP** Epoxy SL, novolac build / chemical-resistant heavy-duty

**CHEMISTRY**  
3-part self-leveling epoxy (novolac build)

## 1. PRODUCT DESCRIPTION

**ZENFLOR Sovereign ZF-500** is a three-part heavy-duty self-leveling / mortar epoxy system, available in a **novolac build** configuration for enhanced resistance to aggressive chemicals. It delivers a dense, seamless, high-strength floor for demanding industrial and process environments.

Built at 3-6 mm as a self-leveling or trowel-applied mortar over prepared concrete, it withstands heavy traffic, impact and chemical exposure. Installed by POLYZEN as a complete engineered system.

## 2. SYSTEM (LAYER BUILD)

The ZENFLOR Sovereign system is applied by POLYZEN as one integrated installation:

LAYER	FUNCTION	DESCRIPTION
<b>1 — Primer Coat</b>	Penetration & adhesion	Chemically compatible epoxy primer sealing and anchoring the system.
<b>2 — Body / Mortar Coat</b>	High-strength wear layer	Novolac-build self-leveling or trowel-applied epoxy mortar (resin + hardener + graded aggregate); 3-6 mm.
<b>3 — Chemical-Resistant Seal</b>	Barrier finish	Novolac seal coat for enhanced resistance and cleanability in aggressive zones.

## 3. TYPICAL APPLICATIONS & SECTORS

- Chemical processing & storage
- Pharmaceutical & Life Sciences
- Battery, EV & plating plants
- Laboratories & QC areas
- Bund & containment areas
- Heavy engineering & metals

## 4. KIT COMPOSITION

COMPONENT	DESCRIPTION
<b>Part A — Resin</b>	Bisphenol-A / novolac epoxy resin base
<b>Part B — Hardener</b>	Cycloaliphatic amine curing agent
<b>Part C — Aggregate</b>	Graded chemical-resistant aggregate / filler

Supplied as a pre-measured three-part kit. Mix full kits only, exactly as supplied — no part-mixing, no site additions. Kit pack size: **to be confirmed**. The formulation is proprietary to POLYZEN and is not disclosed.

## 5. TYPICAL / INDICATIVE PROPERTIES

**Typical / indicative values — not a guaranteed specification; confirmed against POLYZEN batch testing & project commissioning.**

PROPERTY	TEST METHOD	TYPICAL / INDICATIVE VALUE
Finish	—	Matte-satin, seamless, heavy-duty
Solids content	—	High-solids / solvent-free class (indicative)
Applied thickness	—	3-6 mm self-leveling / mortar build (indicative)
Coverage / consumption	—	~1.5 kg/m <sup>2</sup> per mm of thickness (indicative)
Pot life (mixed kit)	—	~25-40 min at 25 °C (indicative; shorter when warmer)
Overcoat interval	—	~12-24 h at 25 °C (indicative)
Light foot traffic	—	~24 h at 25 °C (indicative)
Full mechanical / chemical cure	—	~7 days at 25 °C (indicative)
Application temperature	—	10-35 °C; substrate ≥3 °C above dew point (indicative)
Substrate moisture	ASTM F2170	Within system limits per project assessment (indicative)
Hardness, Shore D	ASTM D2240	~82-88 (indicative)
Compressive strength	ASTM C579	~70-90 MPa (indicative)
Pull-off adhesion to concrete	ASTM D4541	>1.5 N/mm <sup>2</sup> , typically cohesive failure in concrete (indicative)
Abrasion resistance (Taber)	ASTM D4060	~30-60 mg loss, CS-17, 1 kg, 1000 cycles (indicative)
Chemical resistance	ASTM C267	Novolac build for enhanced resistance to concentrated acids, alkalis and solvents; project chemical schedule to be reviewed (indicative)
VOC content	—	Low-VOC / solvent-free class (indicative)

## 6. SURFACE PREPARATION

- **Concrete age & strength:** new concrete cured a minimum of 28 days; sound, structurally stable substrate of adequate strength for the intended service.
- **Mechanical preparation:** diamond grinding or captive shot-blasting to remove laitance, curing compounds and contamination, producing a clean, open-textured profile. Acid etching is not accepted.
- **Moisture:** substrate assessed per ASTM F2170 (in-situ RH) before application; moisture-mitigation primer specified where readings exceed system limits.
- **Repairs:** cracks, joints and defects repaired with compatible epoxy repair mortars before priming.
- **Priming:** full-coverage primer applied to the prepared substrate; the body coat is applied within the primer's overcoat window.

## 7. APPLICATION (OVERVIEW)

- **Mixing:** pre-condition kits to 15-25 °C. Power-mix components in sequence to a homogeneous, lump-free consistency using a low-speed mixer. Mix full kits only, exactly as supplied.
- **Placement:** apply by the specified method (roller / squeegee-and-backroll / notched trowel + spike-roll) at the stated rate; maintain a wet edge.
- **Intervals:** respect pot life, overcoat windows and cure times; plan pours in continuous bays to avoid day joints in visual areas.
- **Environment:** control ventilation, dust and direct sunlight during application and initial cure; protect from water and contamination until full cure.

A full project-specific Method Statement (bay layout, joint detailing, coving, quality checkpoints) is issued by POLYZEN for every installation.

## 8. STANDARDS & COMPLIANCE

The ZENFLOR Sovereign system supports compliance with the following (subject to system design, project detailing & site testing):

- **Performance test methods:** ASTM C579 (compressive), ASTM D4541 (pull-off adhesion), ASTM D4060 (Taber abrasion), ASTM C267 (chemical resistance), ASTM D2240 (Shore hardness), ASTM F2170 (substrate relative humidity).
- **Hygiene-critical environments:** supports compliance with facility requirements under FSSAI and HACCP frameworks (Food & Beverage), and WHO-GMP, EU-GMP Annex 1, US FDA cGMP 21 CFR 211 and Revised Schedule M (Pharmaceutical & Life Sciences), through its seamless, non-dusting, cleanable finish — subject to overall facility design and validation.

## 9. PACKAGING, STORAGE & SAFETY

- **Packaging:** pre-measured three-part kits. Pack size: **to be confirmed**.
- **Storage:** keep in original sealed containers, off the ground, in a dry covered area at 5–30 °C, away from direct sunlight, heat and moisture. Shelf life per batch labelling.
- **Safety:** uncured resins and hardeners can cause skin/eye irritation and sensitisation. Wear PPE (chemical-resistant gloves, goggles, protective clothing); ensure ventilation. Do not allow uncured material to enter drains.
- **SDS:** refer to the product Safety Data Sheet before use.

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*Disclaimer: this interim Technical Data Sheet is given in good faith based on POLYZEN's current knowledge of this class of product. All values are typical / indicative only and do not constitute a guaranteed specification, warranty or certification. Final performance depends on substrate condition, system design, workmanship and service conditions, and is confirmed through POLYZEN batch testing and project commissioning. POLYZEN reserves the right to revise this document; the latest version supersedes all previous.*