



ZENFLOR SOVEREIGN ZF-500

RANGE

ZENFLOR (Industrial epoxy flooring)

SYSTEM TYPE

Heavy-duty self-levelling epoxy system

NOMINAL BUILD

3 mm · 4 / 5 mm project builds

1. SYSTEM DESCRIPTION

ZENFLOR SOVEREIGN ZF-500 is the flagship grade of the ZENFLOR range: a heavy-duty, solvent-free self-levelling epoxy floor built at 3 mm, with 4 mm and 5 mm project builds for the severest duty.

The section is built up in quartz-filled levelling layers and finished with a pigmented self-levelling wearing coat. The thicker section carries higher point loads, absorbs impact and gives a longer wear reserve than thinner grades.

It is specified for heavy industry, process plants and compliance-driven environments where the floor is part of the production equipment, not just a surface.

2. RECOMMENDED USES

- Heavy industrial and process floors
- Engineering, fabrication and machine shops
- High-traffic aisles and loading areas
- Chemical handling areas — per chemical resistance table
- Food, beverage and pharmaceutical plants
- Floors specified to a written thickness

3. FEATURES & BENEFITS

- 3 mm heavy-duty seamless section
- 4 mm and 5 mm builds for severe duty
- Thick underlay carries the load economically
- Solvent free — 100% solids
- Custom shades matched to order on larger projects
- Specified thickness, delivered and measurable

4. SYSTEM BUILD-UP

#	Layer	Product / operation	Consumption
1	Surface preparation	Diamond grinding / shot blast to CSP 3	—
2	Primer	ZENPRIME 100	0.18 kg/m ²
3	Levelling underlay	ZENLEVEL 200 — 2.0 mm	4.00 kg/m ²
4	Wearing coat	ZENTOP SL 100 — 1.0 mm	2.00 kg/m ²

Consumption figures are practical site values including normal wastage; use them for estimating.

5. SYSTEM DATA

Typical / indicative values. Figures below are typical for this class of system and are stated as minimum declared values, not as a guaranteed specification. Project values are confirmed by POLYZEN batch testing and project commissioning.

Property	Value	Basis
Nominal system thickness	3.0 mm standard	4.0 / 5.0 mm project builds
Total consumption	6.18 kg/m ² at 3 mm	8.18 / 10.28 kg/m ² at 4 / 5 mm
Finish	Smooth, gloss	Anti-skid available on request
Shades	Confirmed at order stage from current availability; custom shades matched to order on larger projects	—
Compressive strength	≥ 50 MPa	ISO 604 — typical
Flexural strength	≥ 20 MPa	EN ISO 178 — typical
Hardness, Shore D	78 – 82	ASTM D2240 — typical
Abrasion resistance	≤ 90 mg loss	ASTM D4060, CS-17, 1 kg, 1000 cycles — typical
Pull-off adhesion	> 1.5 MPa, concrete failure	ASTM D4541 — typical
Service temperature, dry heat	–20 to +60 °C	Typical
Wearing surface data	Per ZENTOP SL 100 TDS	POLYZEN/TDS/ZT-SL100

6. CHEMICAL RESISTANCE

Rating	Media
Resistant	Water and salt water · most salt solutions · mineral oils, greases and hydraulic fluids · diesel and petrol · brake fluid · neutral and alkaline detergents · dilute alkalis · dilute mineral acids to 10%
Intermittent spillage	Dilute acetic acid · ethanol and isopropyl alcohol · hypochlorite bleach · dilute hydrogen peroxide · hot water spillage
Not resistant	Concentrated nitric and sulphuric acids · formic acid · phenol · chlorinated solvents · ketones such as acetone and MEK

Ratings are for short intermittent contact at ambient temperature followed by cleaning, and are typical for the binder class. For continuous immersion or aggressive cleaning regimes, refer the specific media to POLYZEN before specifying.

7. SUBSTRATE REQUIREMENTS & PREPARATION

Requirement	Value	Standard
Concrete age	Minimum 28 days, or until the slab is dimensionally stable	—
Concrete compressive strength	Minimum 25 MPa	IS 516 / ASTM C39
Substrate pull-off strength	Minimum 1.5 MPa	ASTM D7234 / C1583
Surface profile after preparation	CSP 3 or greater	ICRI 310.2R
Surface cleanliness	Free of laitance, curing compounds, oil, grease and all bond-inhibiting matter	SSPC-SP 13 / NACE No. 6
Substrate moisture — in-situ RH	Maximum 75% RH	ASTM F2170
Substrate moisture — vapour emission	Maximum 5 lb / 1000 ft² / 24 h	ASTM F1869
Substrate moisture — site check	No visible moisture under plastic sheet	ASTM D4263
Where moisture exceeds the limits	Resin moisture-mitigation membrane before priming	ASTM F3010

8. CURING & PROTECTION

Foot traffic	24 hours at 25°C
Light vehicles	48 hours at 25°C
Full mechanical and chemical cure	7 days at 25°C
Protection during cure	Protect from traffic, water, spillage and dust for at least 48 hours. Do not wash the floor within 7 days.

9. INSTALLATION

Conditions	Ambient and material temperature 0 – 35°C; relative humidity below 65%; substrate at least 3°C above dew point. Application in monsoon conditions is not recommended.
Priming	ZENPRIME 100 at 0.15 – 0.20 kg/m². Overcoat the primer 3 – 4 hours after application, while it is still tacky. If the window is missed and the primer has cured hard, abrade mechanically and solvent wipe before proceeding.
Underlay	ZENLEVEL 200 placed at 2.0 mm in one pass (two passes of 1.5 mm for the 4 / 5 mm builds). Spread with a pin screed set to depth and spike roll. Overcoat after 16 – 24 hours; beyond that, abrade and solvent wipe.
Wearing coat	ZENTOP SL 100 at 1.0 mm (ZENTOP SL 200 at 2.0 mm for the 5 mm build), pin-screeded and spike rolled immediately. Maintain a wet edge.
Joints	Movement joints in the slab are carried through the full build and sealed with a flexible sealant.
Batch discipline	Mix full kits only; identical mixing time every batch.

10. MAINTENANCE

Routine cleaning	Dust mop or soft broom daily. Wet mop with warm water and a neutral or mild alkaline detergent. Rinse; do not leave detergent residue to dry on the floor.
Never use	Acid-based cleaners, abrasive powders, steel wool or coarse scrubbing pads — these dull the gloss permanently.
Spillage	Clean promptly, particularly staining media, strong chemicals and hot liquids.
Protection in service	Walk-off mats at external entrances; soft wheels or pads under trolleys and furniture; do not drag pallets or machinery across the floor.
Periodic	Inspect high-traffic lanes annually. Gloss worn by traffic is restored with a ZENTOP CL 100 refresh coat after mechanical abrasion — a fraction of the cost of a new floor.

11. COMPONENT PRODUCTS

Component product	Pack	Refer
ZENPRIME 100	7.5 kg kit	POLYZEN/TDS/ZP-100
ZENLEVEL 200	22.5 kg kit	POLYZEN/TDS/ZL-200
ZENTOP SL 100	19.9 kg kit	POLYZEN/TDS/ZT-SL100
ZENTOP SL 200	21.45 kg kit	POLYZEN/TDS/ZT-SL200

Each component is supplied as a pre-measured pack and is covered by its own technical data sheet. Mix full kits only; no part-mixing and no site additions.

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Basis of data. Values attributed to supplier data are taken from the raw material manufacturer's technical data sheet. Calculated values are design values derived from component densities and mixing ratio. Values marked typical are typical for this class of material and are stated as minimum declared values, not as a guaranteed specification; they are confirmed by POLYZEN batch testing and project commissioning.

Statement of responsibility. The information given reflects present knowledge and experience. It does not relieve the user of the responsibility to verify, by their own trials, that the product is suitable for the intended purpose and conditions of use. Final performance depends on substrate condition, system design, workmanship and service conditions. **Application outside the conditions stated in this sheet voids the written warranty.** Site services, where provided, do not constitute supervisory responsibility. Refer to the Safety Data Sheet before use.