



# ZENSTAT Prime **ZS-100**

### RANGE

ZENSTAT (ESD)

### MATERIAL FAMILY / GROUP

ESD groundwork / anti-static base

### CHEMISTRY

conductive primer + earthing groundwork base

## 1. PRODUCT DESCRIPTION

**ZENSTAT Prime ZS-100** is the earthing and grounding groundwork of the ZENSTAT static-control system: a conductive primer combined with a copper earthing network that establishes a continuous ground reference for the dissipative or conductive topcoat.

Prime is an **anti-static base** — it creates the grounding path on which ZENSTAT Dissipative (ZS-200) or Conductive (ZS-300) is built. Electrical performance is a property of the completed system and is verified at commissioning. Installed by POLYZEN.

## 2. SYSTEM (LAYER BUILD)

The ZENSTAT Prime system is applied by POLYZEN as one integrated installation:

LAYER	FUNCTION	DESCRIPTION
<b>1 — Conductive Primer</b>	Adhesion & conductivity	Conductive epoxy primer sealing and priming the prepared substrate and forming the base of the earthing network.
<b>2 — Earthing Grid</b>	Grounding path	Copper strips / grid laid to a designed pattern and bonded to building earth to provide a continuous ground reference.
<b>3 — Ground Bonding</b>	Reference to earth	Earthing points bonded to the building earth and documented for the commissioning report.

## 3. TYPICAL APPLICATIONS & SECTORS

- Electronics manufacturing
- Data centres & telecom
- Defence & munitions support
- Pharmaceutical cleanroom base
- Precision assembly
- Laboratories

## 4. KIT COMPOSITION

COMPONENT	DESCRIPTION
<b>Conductive Primer</b>	Carbon-loaded conductive epoxy primer
<b>Earthing Grid</b>	Copper strips / grid & earth bonding

Supplied as a pre-measured conductive primer + earthing 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	—	Conductive primer base (over-coated by ESD topcoat)
Solids content	—	High-solids / solvent-free class (indicative)
Applied thickness	—	primer + earthing network (indicative)
Pot life (mixed kit)	—	~25-40 min at 25 °C (indicative)
Overcoat interval	—	~12-24 h at 25 °C (indicative)
Light foot traffic	—	~24 h at 25 °C (indicative)
Full cure	—	~7 days at 25 °C (indicative)
Application temperature	—	10-35 °C; substrate $\geq 3$ °C above dew point (indicative)
Substrate moisture	ASTM F2170	Within system limits per project assessment (indicative)
Electrical role	ANSI/ESD S20.20 / IEC 61340-5-1	Provides the continuous grounding network for the ESD topcoat; standalone resistance not specified — measured at system level (per project TDS)
Pull-off adhesion to concrete	ASTM D4541	$>1.5$ N/mm <sup>2</sup> , typically concrete failure (indicative)
Abrasion resistance (Taber)	ASTM D4060	~40-80 mg loss, CS-17, 1 kg, 1000 cycles (indicative)
Chemical resistance	ASTM C267	Resists dilute acids, alkalis, oils & common spillage; schedule per project (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 / shot-blasting to a clean, open profile; remove laitance and contamination.
- **Earthing network:** install the copper earthing grid / strips and bond to the building earth as designed before the conductive coats.
- **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 ZENSTAT Prime system supports compliance with the following (subject to system design, project detailing & site testing):

- **ESD / static control:** supports compliance with ANSI/ESD S20.20 and IEC 61340-5-1; resistance per ANSI/ESD STM7.1 and body-voltage per ANSI/ESD STM97.2. Installed performance depends on floor + footwear + grounding + maintenance and is confirmed by site commissioning.
- **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).

## 9. PACKAGING, STORAGE & SAFETY

- **Packaging:** pre-measured conductive primer + earthing 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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ZENSTAT Prime — ESD Earthing / Grounding Base

*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.*