

ZNR™ SELF LEVELLING FLOORING EP 2K

Two-Component, Solvent-Free, Self-Leveling Epoxy Flooring System

100% solids • High mechanical strength • Seamless gloss finish • Chemical & abrasion resistance

PRODUCT DESCRIPTION

ZNR SELF LEVELLING FLOORING EP 2K is a two-component, solvent-free, 100% solids epoxy resin flooring system designed to form a smooth, seamless and durable wearing surface on properly prepared concrete and cementitious substrates. The product combines self-leveling flow, high mechanical performance and chemical resistance for industrial and commercial floors exposed to medium-to-heavy service conditions.

TYPICAL APPLICATIONS

- Warehouses, logistics facilities, assembly halls and production areas.
- Maintenance workshops, plant rooms, loading bays, ramps, garages and multi-storey car parks.
- Aircraft hangars and industrial service areas.
- Hospitals, pharmaceutical manufacturing, clean rooms and electronics facilities.
- Dry food and beverage processing and storage areas, subject to project-specific regulatory requirements.
- Cold stores, service galleries and utility rooms.
- Concrete and cementitious floors requiring a seamless, dust-free, liquid-impermeable and wear-resistant finish.

KEY FEATURES & BENEFITS

- Self-leveling with excellent flow and surface-finish characteristics.
- Solvent-free, 100% solids and VOC-free formulation as declared in ZNR product data.
- High mechanical strength, abrasion resistance and resistance to a wide range of chemicals.
- Smooth, glossy, seamless and liquid-impermeable finish.
- Suitable for medium-to-heavy duty industrial flooring.
- Can be used in smooth self-leveling and broadcast/textured systems.
- Slip-resistant finish can be achieved using suitable graded quartz aggregate.
- Suitable for decorative flake broadcast systems.
- Easy to clean and maintain when installed as a continuous flooring system.

PRODUCT DATA

Property	Declared Value
Composition	Two-component pigmented epoxy resin
Appearance / Finish	Glossy, seamless self-leveling coating
Standard Color	RAL 7032; other RAL colors on request
Mixed Density	Approx. 1.30 g/cm ³ (10.85 lb/US gal) at 23 °C (73 °F)
Viscosity	70–80 KU (approx. 800 mPa·s / 800 cP)
Solids Content	100% by mass
Pot Life	Approx. 40 minutes at standard laboratory conditions
Full Cure	7 days
Packaging	20 kg (44.1 lb) set: A 15.5 kg (34.2 lb) + B 4.5 kg (9.9 lb)
Shelf Life	12 months in unopened original packaging

CONSUMPTION & RECOMMENDED THICKNESS

Approx. 1.30–1.40 kg/m² per 1 mm thickness (approx. 0.266–0.287 lb/ft² per 0.039 in). A 2–3 mm (0.079–0.118 in) total self-leveling thickness is recommended for optimum protection under typical industrial service. Actual consumption depends on substrate profile, porosity, filling grade, application method and wastage.

ASTM	Property / Condition	ZNR Value
ASTM D695	Compressive strength, 28 d	≥ 65 N/mm ² (≥ 9,430 psi)
ASTM D4541	Pull-off adhesion to concrete	≥ 2.0 N/mm ² (≥ 290 psi) or concrete failure
ASTM D4060	Taber abrasion, CS-10 / 1000 g / 1000 cycles	≤ 45 mg loss
ASTM D2240	Shore D hardness, 7 d	≥ 80 Shore D
ASTM D2794	Impact resistance	≥ 8 N·m (≥ 71 in·lbf)
ASTM D1308	Chemical resistance	No blistering / delamination after selected exposure
ASTM D1475	Mixed density	~1.30 g/cm ³ (10.85 lb/US gal)
ASTM D562	Stormer viscosity	~70–80 KU
ASTM D7091	Dry-film thickness	Project / system dependent

ASTM	Property / Condition	ZNR Value
ASTM E648	Critical radiant flux / flooring fire behavior	Qualification test recommended

CHEMICAL RESISTANCE

The cured system is intended to resist dilute acids; dilute and concentrated alkalis; cleaning agents and disinfectants; vegetable, mineral and animal oils; fresh water and seawater; diesel fuel, gasoline, alcohols and many other commonly encountered industrial chemicals. Chemical resistance depends on concentration, temperature, exposure time and combined chemical/mechanical loading. Slight discoloration may occur without necessarily reducing protective performance. For critical exposure, request project-specific confirmation from ZNR Technical Service.

SUBSTRATE REQUIREMENTS

- Concrete compressive strength: minimum 25 N/mm² (approx. 3,625 psi).
- Concrete pull-off strength: minimum 1.5 N/mm² (approx. 218 psi).
- Substrate moisture: maximum 4% by weight; no rising moisture.
- Relative air humidity: maximum 80%.
- Substrate, ambient and material temperature: +10 °C to +30 °C (+50 °F to +86 °F).
- Substrate temperature must be at least 3 °C (5.4 °F) above dew point during application and curing.

SURFACE PREPARATION

Concrete must be mechanically prepared by grinding, shot blasting or other suitable abrasive methods to remove laitance and weak surface material and to produce a clean, sound, open-textured profile. Remove weak concrete and fully expose blowholes, voids, pinholes and other defects. Repair and level using suitable **ZNR** epoxy repair/levelling products and graded quartz. Remove all dust and loose material by industrial vacuum before priming.

Prime concrete and cementitious substrates with **ZNR PRIMER EP 1500** to obtain a continuous, pore-free surface. Rough or irregular substrates should be levelled before the self-leveling wearing course is applied.

MIXING

Pre-mix Component A mechanically. Add the complete quantity of Component B and mix with a low-speed electric mixer at approximately 300–400 rpm for at least 2–3 minutes until homogeneous and streak-free. Scrape the sides and bottom of the container. For filled systems, add the specified clean, dry graded quartz gradually and continue mixing until uniform. Avoid excessive mixing and air entrainment. Do not split packs unless accurate component proportioning can be assured.

APPLICATION

Pour the mixed **ZNR SELF LEVELLING FLOORING EP 2K** onto the prepared and primed substrate and spread evenly using a notched/serrated trowel or pin rake to the specified thickness. Deaerate with a spiked roller while the material remains workable. At approximately +20 °C (+68 °F), spike rolling should normally begin about 15 minutes after spreading and be completed within approximately 30 minutes.

For broadcast/textured systems, broadcast clean, dry graded quartz uniformly to excess onto the wet layer. After curing, remove all loose aggregate by sweeping and industrial vacuum before applying the subsequent coat.

SYSTEM BUILD-UP

System	Layer	Product	Typical Requirement
Smooth self-leveling	Primer	1 × ZNR PRIMER EP 1500	Project dependent
Smooth self-leveling	Wearing course	ZNR SELF LEVELLING FLOORING EP 2K	2–3 mm (0.079–0.118 in) typical
Textured / broadcast	Primer	1 × ZNR PRIMER EP 1500	Project dependent
Textured / broadcast	Intermediate layer	ZNR epoxy intermediate + graded quartz	Project dependent
Textured / broadcast	Finish coat	1 × ZNR SELF LEVELLING FLOORING EP 2K	Project dependent

APPLICATION CONDITIONS

Condition	Requirement
Ambient temperature	+10 °C to +30 °C (+50 °F to +86 °F)
Substrate temperature	+10 °C to +30 °C (+50 °F to +86 °F)
Material temperature	+10 °C to +30 °C (+50 °F to +86 °F)
Relative humidity	≤ 80% RH
Substrate moisture	≤ 4% by weight
Dew point	Substrate ≥ 3 °C (5.4 °F) above dew point

SERVICE TEMPERATURE - QUALIFICATION TARGET

For international qualification, the system should be evaluated for permanent dry-heat exposure up to +50 °C (+122 °F), short-term dry heat up to +80 °C (+176 °F), and occasional short-term wet/steam-cleaning exposure up to +80 °C (+176 °F), subject to system thickness and absence of simultaneous severe chemical and mechanical loading. These temperature limits are competitive qualification targets and require verification for the final ZNR system.

CURING / RETURN TO SERVICE - GUIDANCE

Temperature	Foot Traffic	Light Traffic	Full Cure
+10 °C (+50 °F)	~72 h	~6 d	~10 d
+20 °C (+68 °F)	~24 h	~4 d	~7 d
+30 °C (+86 °F)	~18 h	~2 d	~5 d

LIMITATIONS

- Do not apply on substrates with rising moisture or moisture above the stated limit.
- Protect freshly applied material from water, condensation, dust and contamination during early cure.
- Incorrect crack assessment or treatment may result in reflective cracking and reduced service life.
- Use material from the same production batch for visually continuous areas where exact color matching is critical.
- High point loads combined with elevated temperatures or underfloor heating may cause temporary or permanent indentation.
- Epoxy systems may discolor or chalk under prolonged UV exposure; evaluate color stability for exterior use.
- Do not add solvent or unauthorized thinner.
- Food, pharmaceutical, clean-room or other regulated applications require project-specific confirmation of applicable approvals.

CLEANING & MAINTENANCE

Clean tools and application equipment immediately after use with a suitable cleaner for epoxy systems. Hardened material can only be removed mechanically. To maintain floor appearance and service life, remove spillages promptly and clean routinely using appropriate mechanical scrubbers, rotary brushes, scrubber-dryers, pressure washing or wash-and-vacuum methods with compatible detergents.

STORAGE & SHELF LIFE

Store in original, unopened and undamaged packaging in dry conditions between +5 °C and +30 °C (+41 °F to +86 °F), protected from direct sunlight, moisture and frost. Shelf life is 12 months from the date of manufacture when stored as recommended.

HEALTH, SAFETY & ENVIRONMENT

For professional use only. Wear suitable protective gloves, protective clothing and eye/face protection. Avoid skin and eye contact and provide adequate ventilation. Do not discharge uncured material into drains, soil or waterways. Allow product residues to cure before disposal where permitted by local regulations. Refer to the current ZNR Safety Data Sheet (SDS) for detailed handling, first-aid, transport and disposal information.

LEGAL DISCLAIMER

The information contained in this Technical Data Sheet is provided in good faith based on current product information and the stated development targets. Site conditions, substrate quality, workmanship, application methods and service exposure are beyond the manufacturer's control and may influence final performance. Users must verify suitability for the intended application and comply with applicable local regulations and project specifications. For critical or unusual applications, consult **ZNR** Technical Service and carry out a representative trial.