ZNR™ PUTTY EP
Epoxy-Based Adhesion, Anchorage, Repair and Leveling Mortar

Product Description	A two-component, solvent-free, epoxy resin-based, anti-corrosive, and flowable bonding mortar designed for new-to-old concrete bonding, anchoring, repair, and leveling applications. The product provides exceptional adhesion between existing and freshly placed concrete, while also serving as a high-performance anchorage and repair material. Its flowable consistency ensures easy application and effective void filling. The cured material exhibits excellent mechanical strength, chemical resistance, and corrosion protection. Suitable for use in both dry and damp environments, it can be applied on concrete, cementitious substrates, steel, and other common construction materials where durable structural bonding and repair performance are required.
Product Number	308-1
Areas of Application	• Bonding of fresh concrete to hardened concrete as an adhesion bridge in structural repair and strengthening applications. • Adhesion bridge for reinforced concrete elements such as columns, beams, walls, and shear walls. • Anti-corrosive protection coating for reinforcing steel prior to repair and rehabilitation works. • Repair of joints, cracks, voids, honeycombs, and damaged areas in concrete structures. • Repair and reprofiling of industrial concrete floors, airport runways, highways, pavements, and heavy-duty concrete surfaces. • Fixing and grouting of machinery foundations, bridge bearings, crane rails, and other structural installations. • Anchorage of reinforcing bars, anchor bolts, dowels, and connection elements in concrete structures. • Structural bonding applications for newly constructed columns, walls, and concrete extensions connected to existing concrete. • Protection of embedded steel elements against corrosion in anchoring and repair applications. • Suitable for both horizontal and vertical structural repair and bonding works in dry or damp environments.
Characteristics /Advantages	• Flowable consistency allows easy application and excellent placement on horizontal surfaces. • Cures at low temperatures and exhibits non-shrink characteristics after hardening. • Provides exceptional adhesion between existing and newly placed concrete. • Ensures strong bonding between reinforcing steel and concrete substrates. • Can be applied on damp substrates and continues to cure effectively under humid conditions. • Solvent-free formulation with low odor and user-friendly application characteristics. • High mechanical strength and excellent load-transfer capability. • Resistant to water, moisture, and a wide range of environmental conditions. • Provides anti-corrosive protection for embedded reinforcing steel and anchoring elements. • Suitable for structural bonding, anchoring, repair, and leveling applications.

Technical Data

Color	Light Grey, White
Package	A : 5 kg B : 5 kg (10.0 kg sets)
Density	~1.40 gr /cm³ mix of A+B sets (at 23 °C)
Mixture life	~40 min (at 23 °C)
Adhesion on Concrete	~ 2 N/mm² (7 days) (Rupture from Concrete)
Full Curing Time	7 days
Change in Volume	No change Non-shrink.
Consumption	~1.40 kg/m² for 1mm of thickness You can obtain consumption table for anchorage applications.
Storage	Shelf life is approximately 1 year. Products should be stacked in a cool and dry place.

Surface Preparation	The substrate must be structurally sound, clean, and free from dust, loose particles, oil, grease, curing compounds, paint residues, and any other contaminants that may impair adhesion. All unsound concrete, laitance, and weak surface layers should be removed by suitable mechanical preparation methods. The surface may be dry or slightly damp at the time of application; however, it must be free from standing water, surface moisture films, and water accumulation. Proper substrate preparation is essential to achieve optimum adhesion and long-term performance of the epoxy bonding and repair system.
Preparation Instructions and Application	Mix Component A and Component B thoroughly using a low-speed electric mixer (approximately **400 rpm**) until a uniform color and homogeneous consistency are achieved. Mixing should continue for approximately **3 minutes**. Care should be taken to minimize air entrainment during the mixing process. For large packaging units, do not mix the entire contents unless the full quantity can be applied within the specified pot life. Instead, transfer the components into a clean mixing container and proportion them according to the specified mixing ratio using calibrated measuring equipment or by weight using a suitable scale. Mix only the amount of material that can be applied within the product's working time. For repair applications, apply the material in thin layers to ensure proper curing, adhesion, and performance.
Considerations	• The substrate and ambient temperature should be between **+5°C and +35°C** during application and curing. • Protect the freshly applied material from water, rain, condensation, and moisture exposure for at least **24 hours** after application. • Do not apply the product on frozen substrates or when frost is expected during the curing period. • Curing and hardening times may vary depending on substrate conditions, ambient temperature, and relative humidity. • At an ambient temperature of **+20°C to +25°C**, the product achieves full cure and develops its final mechanical properties in approximately **7 days**. • Lower temperatures will extend curing times, while higher temperatures will accelerate the curing process and reduce the working time.
General Matters	The information, technical data, and recommendations contained in this Technical Data Sheet are based on our current knowledge, laboratory testing, practical experience, and extensive studies. They are provided in good faith for guidance purposes only. As the quality of substrates and related materials, environmental conditions, workmanship, and application methods are beyond our control, no warranty can be given regarding the final performance of the product in any specific application. Our liability is limited solely to the quality of the product supplied. No warranty, express or implied, is given with respect to application results, workmanship, or suitability for a particular purpose. This Technical Data Sheet supersedes all previous editions and replaces all previously published versions. The quality, durability, and performance of the completed work depend on proper substrate preparation, application methods, site conditions, and workmanship. Users are responsible for determining the suitability of the product for their intended use and for carrying out any necessary preliminary tests. In cases of doubt, a trial application is recommended or technical assistance should be sought from ZNR™ Technical Services.
Disposal	Empty packaging should be disposed of through authorized collection or recycling facilities in accordance with applicable local and regional regulations and recycling requirements. Unused product residues and waste materials should be allowed to fully cure and harden before disposal. Hardened material may be disposed of as construction and demolition waste in compliance with local environmental regulations. Do not discharge uncured product residues into drains, waterways, groundwater, or soil. Do not burn product residues, packaging, or waste materials. Burning may release hazardous substances and may pose significant health, safety, and environmental risks.
Safety Information	Keep out of the reach of children. Keep containers tightly closed when not in use. Wear appropriate protective gloves, safety goggles, and protective clothing during handling and application. Avoid contact with skin and eyes. In case of skin contact, wash immediately with plenty of soap and water. In case of eye contact, rinse cautiously with clean water for several minutes and seek immediate medical attention. Do not ingest the product. Avoid inhalation of vapors and ensure adequate ventilation during handling and application. Remove contaminated clothing and wash before reuse. For detailed information regarding hazards, safe handling, storage, disposal, first-aid

	measures, and emergency procedures, please refer to the relevant Material Safety Data Sheet (MSDS) or Safety Data Sheet (SDS).