

MICROSTRUCT 65



HIGH-PERFORMANCE, NON-SHRINK, CEMENTITIOUS MICRO-CONCRETE

hahne MicroStruct 65 is a factory-designed, pourable, shrinkage-compensated, high-strength micro-concrete, formulated with selected cement, graded aggregates, and advanced German additives. It is designed for large-section structural repairs and jacketing applications where high flowability, strength, and durability are essential.



PRODUCT INFORMATION

Area of Applications

- Structural strengthening by section enlargement and jacketing.
- Repair of reinforced concrete columns, beams, and foundations.
- Restoration of bridges, jetties, dams, and industrial floors.
- Repairs where vibration is difficult or not possible.
- Encapsulation of pile heads and retaining walls.

Features and Benefits

- Dual-stage expansion system for true non-shrink performance.
- Excellent flow and pumpability — easy to place without vibration.
- Rapid strength gain enabling early demoulding and load application.
- High ultimate compressive and flexural strength.
- Excellent bond strength with existing concrete substrates.
- Iron and chloride free, non-toxic, and non-corrosive.
- Low permeability and high durability.
- Consistent quality – pre-packed and ready-to-use.

Yield

Approx. 12.7 litres per 25 kg bag at recommended water dosage.

(Allow for wastage based on site conditions)

TECHNICAL SPECIFICATIONS

Property	Test Method	Result
Compressive Strength	ASTM C109	1 Day ≥ 25 N/mm ² 3 Days ≥ 40 N/mm ² 7 Days ≥ 50 N/mm ² 28 Days ≥ 65 N/mm ²
Flexural Strength	ASTM C348	≥ 6 N/mm ² @ 28 Days
Splitting Tensile Strength	ASTM C496	≥ 3.5 N/mm ² @ 28 Days
Fresh Density	ASTM C138	2.20 $\pm$ 0.05 kg/L
Expansion (Unrestrained)	ASTM C1090	1.0 – 3.5%
Drying Shrinkage	ASTM C137	<0.05%
Modulus of Elasticity	ASTM C369	28–32 kN/mm ²
Water/Powder Ratio	—	0.11 – 0.12
Working Time (Pot Life)	—	~20 minutes @ 30°C
Layer Thickness	—	Minimum 25 mm / Maximum 100 mm per pour (higher thickness possible with aggregates)

APPLICATION PROCEDURE

Surface Preparation

- All deteriorated or loose concrete should be removed by suitable mechanical methods such as chipping, grit blasting, or high-pressure water jetting, ensuring that the substrate is sound, clean, and free from oil, grease, dust, or any loosely adhering particles.
- The exposed reinforcement must be cleaned thoroughly to remove rust, scales, and other contaminants until a bright metal surface is achieved.
- Where required, the cleaned reinforcement should be coated with an anti-corrosive primer to prevent future corrosion.
- The prepared substrate should be thoroughly saturated with clean water for several hours before application, but care must be taken to remove any standing water or surface film prior to pouring the micro-concrete.

Mixing

- **hahne MicroStruct 65** must be mixed using a mechanical mixer fitted with a suitable paddle or in a high-torque, slow-speed drill (400–500 rpm).
- Begin by pouring approximately 80–90% of the pre-measured clean water into the mixing vessel.
- Gradually add the entire content of the **hahne MicroStruct 65** bag into the water while continuously mixing to avoid the formation of lumps. Mix for a minimum of 3 minutes until a smooth, homogenous, and flowable consistency is obtained.
- The remaining water, if required, may then be added to achieve the desired workability, keeping within the recommended water-to-powder ratio.
- For large volume applications exceeding 100 mm thickness, the material may be extended with well-graded, saturated surface-dry aggregates of 10 mm size (up to 50% by weight of powder).
- Under no circumstances should additional water be added beyond the specified limits.

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Placing

- The mixed material should be placed or pumped immediately after preparation.
- Ensure that the formwork is rigid, properly aligned, and completely leak-proof to prevent grout loss during placement.
- When pouring, maintain a continuous flow to avoid cold joints and ensure proper compaction.
- The micro-concrete should be poured from one side only to facilitate air release and minimize void formation.
- When pumping, standard concrete pumping procedures should be followed, and the equipment must be primed with a cement slurry before use.
- For large repairs or jacketing works, ensure adequate head pressure for uninterrupted flow.
- Avoid re-tempering or remixing of partially set material.

Curing

- After the removal of formwork, all exposed surfaces of **hahne MicroStruct 65** should be cured immediately using curing compound to prevent rapid moisture loss.
- The curing process should continue for a minimum of seven days to ensure complete hydration and maximum strength development.

PACKAGING, STORAGE AND SAFETY

Packaging

- **hahne MicroStruct 65** is available in 25 kg moisture-resistant bags.

Storage and Shelf Life

- Store the adhesive in a cool, dry place, away from direct sunlight and moisture, to maintain its quality.
- The shelf life of the product is 6 months if stored in its original sealed packaging.

Safety Instructions

- Contains Portland cement and is alkaline in nature.
- May irritate eyes and skin.
- Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly with water. Do not ingest.
- Avoid breathing dust. Wear a respirator in dusty areas.
- Non-toxic and non-flammable.

DISCLAIMER: The information and application guidelines provided by the company and its representatives are intended solely as a general reference. Users are strongly encouraged to conduct their own tests and trials to verify the product's suitability for their specific requirements before proceeding with full-scale use. As the identification of underlying issues, the quality of other materials and the workmanship on-site are beyond our control, we cannot offer any express or implied guarantees regarding the results. The company disclaims any liability for damages or unsatisfactory outcomes that may arise from the use of our products.