



Super Absorbent Polymer (SAP) – Internal Curing Agent for Concrete

Internal curing admixture to reduce shrinkage and improve durability

Product Description

The Super Absorbent Polymer (SAP) is an internal curing agent designed for high-performance concrete. SAP absorbs large quantities of water during mixing and gradually releases it during hydration, reducing autogenous shrinkage and cracking. It enhances hydration, improves strength, frost resistance, and overall durability, especially under dry, windy, or hot conditions where external curing is insufficient.

Key Features & Benefits

- Provides internal curing water to reduce shrinkage and cracking.
- Improves hydration, compressive strength, and durability.
- Enhances frost resistance and freeze–thaw performance.
- Simple dosing at 0.02–0.03% of cement weight.

Product Parameters

Property	Specification
Appearance	White granules
Water absorption (distilled)	30–50 times its own weight
Particle size	50–100 mesh
Water absorption time	≤ 3 minutes
Alkali content	≤ 0.06%
Chloride ion content	≤ 0.06%
Initial setting time	≥ –90 min
Final setting time	≤ +120 min
Compressive strength 3 d	≥ 80% of reference
Compressive strength 28 d	≥ 90% of reference
12 h shrinkage ratio	≥ 60%
28 d shrinkage ratio	≥ 80%
28 d crack resistance	No cracking
Freeze–thaw durability (300 cycles)	Pass, mass loss 0.057 g/cm ² < limit 0.15 g/cm ²

Product Usage

- Dosage: 0.02–0.03% of cement weight (approx. 380–400 g per m³ concrete).
- Mix SAP evenly during batching to ensure uniform distribution.
- Adjust mixing water to account for SAP absorption.
- Conduct trial mixes to optimize dosage for project-specific requirements.

Packaging & Storage

- Supplied in 25 kg kraft paper bags with moisture-proof lining.
- Store in a cool, dry, and ventilated warehouse.
- Shelf life: 12 months unopened under proper storage conditions.

Notes

- Ensure proper dispersion of SAP in the mixture.
- Do not use at temperatures below freezing.
- Adjust dosage based on concrete mix design and performance requirements.