

Plast Z



Expansive Powder Concrete Admixture

Description

It is an expansive admixture for grout, mortar and concrete. The product is a powder admixture that entrains small and dense hydrogen bubbles uniformly into the mix, enabling volumetric expansion of the material in its plastic state before setting.

Advantages

- Reduces mixing water while improving flowability and increasing resistance to freeze–thaw conditions.
- Provides high mortar fluidity by allowing a low water/cement ratio, facilitating placement or injection of the grout.
- Prevents rapid setting of the mixture and ensures proper curing.
- Enables cementitious mixtures to expand before the material sets.
- Does not contain iron or chloride.
- Compatible with all Portland cements.
- Pre-measured packaging prevents mixing errors on site.

Areas of Use

- Injection applications in tunnels.
- Non-shrink filling applications.
- Filling of post-tensioning cable ducts with cement grout.
- Grouting applications in narrow gaps.
- Rock and soil anchoring applications.
- Filling under base plates.
- Concreting of preplaced aggregates

Surface Preparation

- The substrate must be free from oil, grease and all loosely adhered materials. If the concrete surface is defective or covered with laitance, it must be removed by mechanical means until sound concrete is reached.
- The cleaned concrete foundation surface should be thoroughly saturated with clean water. Any standing water on the surface must be removed. Particular care should be taken to ensure that all bolt holes and pockets are completely dried using compressed air.
- Anchor bolt holes and fixing pockets must be cleaned with compressed air to remove any dirt, dust and debris.

Mixing Ratio and Preparation

The product is applied by adding it directly into the cement–water mixture in the mixer. (Sand may be added if required.)

For prestressed concrete applications, when mechanical mixing is used, the following parameters are recommended for optimum results:

- Water/Cement ratio: 0,36 – 0,40 (Segregation must not occur)
- Mixing time: 5 minutes (A homogeneous mixture must be obtained)
- Mixing sequence: Water → Cement → Admixture

Mixing Procedure:

- 1- The mixing sequence should be Water → Cement → Hammerfast Plast Z.
- 2- The water quantity must be measured accurately.
- 3- Cement (and sand if required) should be added slowly.
- 4- Hammerfast Plast Z should then be added.
- 5- The mixture should be mixed for at least 5 minutes until a homogeneous consistency is obtained.

Exposed surfaces should be cured using water, curing compounds or wet burlap.

The optimum dosage should be determined through preliminary trials carried out on site using local materials, taking into consideration the required mechanical properties of the concrete, the desired flowability of the mix and other project requirements. Application should be carried out by qualified personnel.

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Application Guidelines

- The prepared mixture should be applied immediately without delay.
- In injection applications, the pouring process should be carried out continuously without interruption.
- Exposed surfaces should be protected using water, curing compounds or wet burlap.
- The expansion time ranges between 10 minutes and 2 hours, depending on ambient temperature.

Precautions

- Not compatible with high alumina cements.
- Hammerfast Plast Z is generally intended for use by specialists working in prestressing and grouting applications.
- Excessive dosage may increase expansion and cause foaming.
- It should be noted that the properties of the grout admixture are significantly influenced by the mixing procedure, cement characteristics, the amount of added water, sand and temperature. For critical applications, preliminary site trials are recommended to determine the most suitable procedure.

Consumption

Approximately 2% by weight of cement.

The actual dosage should be determined through trial mixes, as it may vary depending on the type, amount and fineness of cement, the water/cement ratio, and the type, absorption and grading of the sand.

Technical Properties

Color and Appearance	Cream-colored powder
Content	Blend of special inorganic materials
Density	0,94±0,05 kg/L (dry and loose)
Expansion Time	10 min – 2 h (depending on cement dosage and ambient temperature)

Note: Values are obtained at 23 ± 2 °C and 50 ± 5% relative humidity.

Packaging

Supplied in 5 kg plastic buckets.

Cleaning of Tools

All tools and equipment must be cleaned with water immediately after use. Hardened material can only be removed mechanically.

Storage and Shelf Life

When stored in its original, unopened packaging, in dry and moisture-free conditions, protected from direct sunlight, and at temperatures between +10 °C and +35 °C, the product has a shelf life of 12 months from the date of production.

If not used, the packaging must be tightly sealed. A maximum of 2 pallets may be stacked on top of each other.

Safety Precautions

- Keep out of reach of children.
- Do not ingest or swallow.
- Keep away from foodstuffs.
- Avoid inhalation and contact with skin.
- May cause allergic reactions.
- In case of eye contact, rinse immediately with plenty of water and seek medical advice.
- It is recommended to use gloves, safety goggles, and protective clothing during handling.
- Wash hands thoroughly with water after application.
- For detailed safety information, consult the Material Safety Data Sheet (MSDS).

Quality Certificates

- CE
- ISO 9001
- ISO 14001



9001:2015

14001:2015