

1. Product Description

StenMix® ANTIFREEZE is an antifreeze admixture which protects the fresh concrete against freezing and allows production of high-quality concrete by decreasing setting time at low temperatures.

StenMix® ANTIFREEZE does not contain chlorides or similar corrosive substances. **StenMix® ANTIFREEZE** conforms to requirements of EN 934-2 Table 7 (Setting Accelerator Admixtures Standard) and ASTM C 494 Type C (Setting Accelerator Concrete Admixture Standard).

2. Uses

StenMix® ANTIFREEZE protects freshly placed concrete from freezing in concrete, plaster and injection works carried out in cold weather conditions with risk of frost. It decreases the negative effect of low temperatures on fresh concrete by shortening setting time. **StenMix® ANTIFREEZE** can be used to safely place concrete when ambient temperature is below freezing point.

StenMix® ANTIFREEZE ensures that concrete quickly exceeds the strength threshold (5 MPa) required to prevent freezing. Therefore, it does not cause corrosion of steel reinforcements and is safe to use with reinforced concrete.

3. Application

StenMix® ANTIFREEZE is mixed with the gauging water. It is used at 1 to 3% by weight of cement. Dosage varies with concrete grade and its properties, so it should be determined by prior laboratory tests or on-site evaluation.

Application of **StenMix® ANTIFREEZE** varies with temperature: Between 0 °C and +5 °C, using **StenMix® ANTIFREEZE** is not mandatory but recommended. Between -5 °C and 0 °C, using **StenMix® ANTIFREEZE** is sufficient for protection.

However, additional measures to maintain an adequate cure temperature are recommended. Between -10 °C and -5 °C, in addition to using **StenMix® ANTIFREEZE**, other protective measures specified in TS 1248 must also be taken. Therefore, cement, water and aggregates must not be frozen, the water/cement ratio must be kept at minimum, the cement dosage of concrete must not be below 300 kg/m³, the concrete mass must be properly covered to prevent heat and moisture loss, and the formwork removal time must be extended.

Hydration heat must be conserved so that the concrete remains above +5 °C.

4. Safety

Applicators and supervisors must read the Material Safety Data Sheet (SDS) carefully and follow the instructions provided. Emptied packages must be handled in compliance with relevant regulations and laws. The application must be carried out by skilled workers under supervision of experts and the applicators must use all kinds of protective equipment required for the worksite and the task such as goggles, mask and gloves.

Anti-Freeze and Quick Set Admixture for Concrete

Highlights

- Allows concrete placement at low temperatures without compromising quality
- Does not cause corrosion of steel reinforcements
- Allows concrete placement at low temperature
- Increases concrete's resistance to freezing
- Its setting-accelerating property enables concrete to quickly exceed the strength limit required to prevent freezing
- Can be used with reinforced and unreinforced, lightweight or normal weight concrete



5. Storage

The material must be kept in dry indoor storage. Protect the product from freezing. Shelf life is 1 year without opening the package.

Products must be stored at -10 °C to +35 °C in closed conditions protected from direct sunlight. Low temperatures may cause crystallization of the product; in this case, the product can be used after heating and homogenizing at +20 °C. The product must be stirred thoroughly before use after prolonged storage.

6. Disclaimer

This document is provided for general information and reflects **Stenkim®**'s laboratory data and field experience at the time of publication. **Stenkim®** reserves the right to revise this information at any time without notice.

Stenkim® warrants that its products conform to the stated specifications on delivery. The buyer is responsible for determining the product's suitability for the intended application and for all conditions of transport, storage, handling, and use. **Stenkim®** accepts no liability for results obtained under conditions outside its control. **Stenkim®**'s liability under this warranty is limited to replacement of non-conforming product and excludes any consequential or indirect damages.

7. Technical Data

Property	Method	Result
Appearance - Color		Brown Liquid
Chemical Composition		Inorganic Mixture
Density	EN ISO 2811-2	1.37 ± 0.02 g/cm ³
pH	ISO 4316	7 ± 1
Chloride	EN 480-10	Contains no chloride
Shelf Life		1 year
Packaging		240 kg drums or 1,200 kg IBCs

Stenkim® reserves the right to make changes to the values in this table at any time.

