

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. It does not contain chlorides or similar corrosive substances. **StenMix® ANTIFREEZE** conforms to the requirements of EN 934-2 Table 6 (Set Accelerating Admixture) and ASTM C 494 Type C (Set Accelerating 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. In addition, by making the concrete set quickly, it prevents the adverse effect of cold weather conditions on the concrete. **StenMix® ANTIFREEZE** can be used to safely place concrete when ambient temperature is below freezing point.

StenMix® ANTIFREEZE enables the concrete to rapidly exceed the strength threshold (5 MPa) at which it is no longer damaged by frost. Because it contains no chlorides, **StenMix® ANTIFREEZE** does not cause corrosion of steel reinforcement and can be safely used in reinforced concrete structures.

3. Application

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

The dosage 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** alone is sufficient. However, additional measures to maintain an adequate 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 Safety Data Sheet (SDS) carefully and follow the instructions provided. Emptied packages must be disposed of in compliance with relevant regulations and laws. The application must be carried out by skilled workers under the supervision of experts and the applicators must use all personal protective equipment required for the worksite and the task such as goggles, mask and gloves.

Freeze-Protective, Set-Accelerating Concrete Admixture

Highlights

- Allows concrete placement at low temperatures without compromising quality
- Does not cause corrosion of steel reinforcement
- Allows concrete to be placed in cold weather
- Increases concrete's resistance to freezing
- Its set-accelerating action lets concrete pass quickly beyond the strength threshold for frost resistance
- 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 in unopened packaging.

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

6. Disclaimer

This document is provided for general information and is based on **Stenkim®**'s laboratory data and field experience at the time of publication. **Stenkim®** reserves the right to revise this information without prior 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 purpose and for all conditions of transport, storage, application, 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 @20 °C	EN ISO 2811-2	1.37 ± 0.02 g/cm ³
pH	ISO 4316	7 ± 1
Chloride Content	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.

