

1. Product Description

StenMix® HIPA 440HS is a polycarboxylate ether (PCE)-based, high-range water-reducing superplasticizer for high-performance concrete. **StenMix® HIPA 440HS** conforms to the requirements of EN 934-2 Tables 3.1 and 3.2 (High-Range Water Reducer/Superplasticizer Concrete Admixture) and ASTM C 494 Type F (High-Range Water Reducer/Superplasticizer Concrete Admixture Standard).

2. Uses

StenMix® HIPA 440HS creates a void-free concrete mass with a smooth finish in densely reinforced foundations, walls and columns that require flowable concrete. It can be used in high-strength precast and prestressed concrete applications, as well as in concrete work requiring early formwork removal. **StenMix® HIPA 440HS**, when added to ready-mix concrete, provides excellent workability.

It eliminates the risk of segregation during concrete transportation and placement. It reduces the amount of vibration required. It allows the concrete to set in normal time without a retarding effect.

It increases the impermeability of concrete by reducing the amount of mixing water and consequently reducing the amount of voids in hardened concrete. When used at the appropriate dosage, **StenMix® HIPA 440HS** reduces the water requirement of concrete by 15-30%.

3. Application

The recommended dosage is 0.5% to 2.0% based on weight of cement. **StenMix® HIPA 440HS** must not be added directly to dry cement, but must be added to the mixture along with the mixing water during concrete preparation. **StenMix® HIPA 440HS** must preferably be added to the mixing water at the concrete plant. The dosage to be used should be determined by laboratory tests related to the required workability and strength.

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.

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 +5 °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.

High Performance Superplasticizer

Highlights

- High-range water reduction
- Used to create a void-free concrete mass with a smooth surface finish
- Slump retention
- Can be used in high-early-strength precast and prestressed concrete
- Eliminates the risk of segregation
- Reduces the amount of vibration required
- Increases the impermeability of concrete



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		Liquid - Hazy White
Chemical Composition		Polycarboxylate Ether
Density @20 °C	EN ISO 2811-2	1.07 ± 0.05 g/cm ³
pH	ISO 4316	6 ± 1
Solids Content (by weight)	EN ISO 3251	35% ± 1.5%
Chloride Content	EN 480-10	≤ 0.1%
Freezing Point	ISO 3016	-5 °C
Shelf Life		1 year
Packaging		210 kg drums or 1,100 kg IBCs

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

