

DYNAMON SX-23

Superplasticizing additive for concrete and mortar



PRODUCT DESCRIPTION

Dynamon SX-23 is a very effective superplasticizing admixture based on modified acrylic polymers. The product is part of the **Dynamon System**. This system is based on DPP technology (Designed Performance Polymers) developed by Mapei, where the properties of the admixtures are custom built for different kinds of concrete. The **Dynamon System** is developed from Mapei's own composition and production of monomers.

APPLICATION AREAS

Dynamon SX-23 is specially designed for ready-mix concrete production and can be used to increase the workability for all types of concrete and/or reduce water consumption.

Some special areas of application

- Watertight concrete that requires high or very high strength and strict requirement to concrete durability in aggressive environments.
- Concrete with high workability requirements.
- Self-compacting concrete with somewhat longer open times. If necessary, this type of concrete can be stabilised with a viscosity enhancing admixture, such as **Viscofluid** or **Viscostar**.
- Frost resistant concrete – in combination with an air entraining agent like **Mapeair**. The type of air entraining is chosen based on the properties of the other ingredients.
- Concrete for flooring to create a more pliable concrete with greater workability. High dosages of the product and low temperatures can lead to a certain retardation of the concrete.

Dynamon SX-23 differs greatly from superplasticizing admixtures based on sulphonated melamines and naphthalenes, as well as from first-generation acrylic-based polymers – by having a higher water-reducing effect and a longer open time. The necessary dosage to achieve the desired workability/water reduction will be significantly lower when using **Dynamon SX-23**, than with older types of superplasticizing admixtures.

The time of dosing **Dynamon SX-23** is not so important, but the shortest mixing time is generally obtained when adding **Dynamon SX-23** after at least 80 % of the mixing water is added. It is advisable to do some preliminary testing to obtain optimal utilization of the mixing equipment.

PROPERTIES

Dynamon SX-23 is a water soluble product of active acrylic polymers that effectively disperses cement within the mixture.

This effect can be utilised in three ways:

1. To reduce the amount of mixing water, but at the same time maintain the concrete workability. Lower w/c ratio gives increased strength, reduced permeability and improved durability.
2. To increase workability compared to concrete with the same w/c ratio. The strength remains the same but ease of placement is improved.

3. To reduce both the water and the cement without altering the mechanical strength. Through this method it is possible to reduce costs (less cement), shrinkage (less water) and also the risk of temperature gradients due to the lower heat of hydration. This last effect is particularly important for concrete containing a high percentage of cement.

COMPATIBILITY WITH OTHER PRODUCTS

Dynamon SX-23 can be combined with Mapei's other concrete additives, for example accelerators like **Mapefast** and setting retardants like **Mapetard**.
The product can also be combined with air entraining agents for production of frost-resistant concrete, **Mapeair** products. Selecting the type needed is done based on the properties of the other ingredients.
When combining products, it is recommended that testing is done to obtain the desired effect in the mixture. You may also contact our technical department.

DOSAGE

Dynamon SX-23 is added to achieve the desired effect, strength, durability, workability and cement reduction by varying its dosage between 0.3 and 2.0 % of the amount of cement + fly ash + microsilica.
Higher dosages increase the concrete's open time, which means the time where the concrete can be worked. A higher dosage and a lower concrete temperature will cause some retardation.
Test mixtures using the selected parameters are always recommended.

PACKAGING

Dynamon SX-23 is available in 25 liter cans, 200 liter drums, 1000 liter IBC tanks and in tank.

STORAGE

Dynamon SX-23 must be stored at temperatures between +8 and +35°C, and will retain its properties for at least 12 months when stored unopened in original packaging. If the product is exposed to direct sunlight, colour variation may occur, but this will not affect the technical properties of the product.

SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

Instructions for the safe use of our products can be found on the latest version of the SDS available from our website www.mapei.no

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY	
Appearance:	liquid
Colour:	yellow-brown
Viscosity:	low viscosity; <30 mPa·s
Solids content (%):	23.0 ± 1.1
Density (g/cm ³):	1.05 ± 0.02
pH:	6 ± 1
Chloride content (%):	< 0.05
Alkali content (Na ₂ O-equivalents) (%):	< 2.0

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above - information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the technical data sheet, available from our web site www.mapei.no

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