

NanoBlock® SD 1

Polycarboxylate Based Chemical Admixture for Semi-Dry Concrete

Product Definition

NanoBlock SD 1 is a polycarboxylate based chemical admixture specially designed to increase compactability of semi-dry concrete mixtures used for cementitious curbstone and paver block production. It presents typical properties of water reducing and accelerating type of chemical admixtures.

Use

NanoBlock SD 1 is recommended for use in the applications below.

- Production of cementitious curbstone and paver blocks.
- To increase the compactability and workability of semi-dry mixtures with zero or very low slump.

Advantages and Properties

- NanoBlock SD 1 is a polycarboxylate based chemical admixture designed for enhancing workability and compactability of zero or very low-slump normal or light-weight semi-dry concrete mixtures for curbstone and paver block production.
- Provides better dispersion of cement particles and enhances the workability of semi-dry mixture without decreasing the cohesiveness of the mixture.
- Increases the degree of compaction of low-slump mixtures.
- NanoBlock SD 1 decreases the vibration time in cementitious curbstone and paver block production. Reduced vibration time and increased workability increase the mould life and provides economy.
- Enhances the surface appearance and texture properties.
- NanoBlock SD 1 is compatible with different types of mineral admixtures such as ground granulated blast furnace slag, fly ash and silica fume.
- Increases the early strength.
- Reduces the efflorescence risk due to reduced permeability.

Application Details, Suggestions and Warnings

- NanoBlock SD 1 should be added to the mixing water. In case of the direct addition to the fresh mixture, mixing time should be increased. NanoBlock SD 1 should not be added to the dry mixture.
- As the dosage of the chemical admixtures is greatly influenced from cement type, properties of the concrete ingredients and mix design, it is recommended that the optimum dosage of admixture should be determined on trial batches.
- NanoBlock SD 1 is generally compatible with the Portland cement types described in EN 197-1 and ASTM C150. In addition, it can be used in concrete mixes containing mineral admixtures such as silica fume, fly ash and ground granulated blast furnace slag. However, the presence of mineral admixtures in the mixture is greatly influence the required dosage of the admixture for a specified target. The optimum dosage of NanoBlock SD 1 should be determined on trial batches.

! NanoBlock SD 1 is not compatible with sulfonated naphthalene and sulfonated melamine based chemical admixtures. There is no known incompatibility with the other type of chemical admixtures and can be used with the others in the same mixture. In case of the combined usage, the different types of chemical admixtures should not be mixed together and be used separately. Please contact R&D department of Lyksor for further information.

Recommended Dosage

The recommended dosage of NanoBlock SD 1 is between 0.5 % - 1.5 % of the weight of binding (cement + mineral admixture) material (0.5 to 1.5 kg for 100 kg cement).

Technical Properties

Colour and form	Brown – Liquid
Chemical base	Polycarboxylate
Density (kg/lt)	1.01 – 1.05 (at +20 °C)
Chloride ion content	Max 0.1% - Chloride free acc. to EN 934-2
Alkali content	Max. 5%
pH	3 – 7

Cleaning of Tools

Concreting tools contact with NanoBlock SD 1 can be easily cleaned with water.

Packaging

25 kg drum

200 kg tote

1000 kg IBC

Bulk delivery

Storage and Shelf Life

Shelf life of NanoBlock SD 1 is 12 months when stored in its original package and recommended storage conditions. NanoBlock SD 1 should be stored in dry conditions between +5 °C and +35 °C. It should be protected from direct sunlight.

Security and Health

In case of contact with skin, wash with clean water. In case of contact with eye, wash with clean water. Eye contact should be medically consulted immediately. For further information please refer to Material Safety Data Sheet (MSDS) of the product.

Legal Liability

The technical recommendations in this product data sheet are based on the experimental studies performed on reference concrete mixtures designed in the R&D laboratories of LYKSOR. The results may not be applicable to different concrete mixtures produced with different materials than the ones used in the experiments in Lyksor. All customers and users are required to determine the appropriate LYKSOR products for their intended use and to test the suitability of LYKSOR product for their application. Please contact LYKSOR for the appropriate product selection and usage details. LYKSOR is not responsible for the improper usage of the products.