

Technical Data of PNS

Product description

PNS is a High Range Water Reducing Superplasticizer (Sodium Polynaphthalene Sulfonate). PNS is made in powder form.

Application

PNS – Sodium Salt of Polynaphthalene Sulfonate. It is used as raw material in the production of admixtures for the construction industry. It is one of the basic ingredients for formulation of chemical admixtures for concrete and mortars. It has a powerful dispersing action on concrete. The main application of PNS is the production of admixtures for ready-mixed concrete. PNS in powder form is used in the preparation of dry mortars. The use of admixtures based on PNS to produce flowing concrete reduces the water/cement ratio and consequently increases the strength of the hardened material.

PNS as a concrete admixture is recommended to use in reinforced concrete and constructions of monolith heavy-weight concrete of high compression strength, in production of constructions of fine concrete, and in production of dense-clad constructions, thin-slab structures and constructions with complex configuration.

The highest efficiency of superplasticizer is gained by production of high-flow mixes with the slump of 16-21 cm and higher and by gaining high-strength concretes. PNS is recommended to use by the necessity of production of concrete mixes with the use of non-standard fillers and fine sands, and in using of slag Portland cement, Pozzolan and aluminous cements.

- 1) PNS is recommended to use as the basic ingredient in the formulation of chemical concrete admixtures;
- 2) PNS is recommended to use as high range water reducing superplasticizer for concrete.

Advantages of using PNS:

- Increase concrete mix flow up to 16-21 cm and higher without loss of strength and durability of concrete (at constant water/cement ratio);
- Increase strength characteristics of concrete up to 20% and more (owing to reducing of water consumption at constant cement consumption and concrete mix flow);
- Gain concretes with high water-proofing, frost-resistance (300 cycles and more) and corrosion resistance;
- Reduce cement consumption in equally-flow mixes by 15-20%;
- Reduce time and power inputs at thermal moisture treatment of concrete;
- Greatly reduce time and power inputs for vibrating of concrete mix, and sometimes fully refuse vibrating.

Technical Data of PNS:

| Superplasticizer PNS | DATA |
|---|---------|
| Appearance | Powder |
| Color | Brown |
| Solids content, % min in dry product | 92.0 |
| Mass fraction of water, % max | 5.0-8.0 |
| Hydrogen Ion Value (pH) | 7-9 |
| Mass fraction of ion chloride in dry product, % max | 0.1 |
| Mass fraction of sodium sulphates in dry product, % max | 5.0 |

Dosage

PNS is added into concrete and mortar mixes in condition of water solution of working concentration in the amount 0.3-0.8% of dry substance from cement mass.

Storing

Shelf life of PNS is: in powder form - 1 year.

Packing and delivery

In powder form the admixture is packed in polypropylene or paper sacks with polyethylene insert of 25kg or Jumbo bags (700-1MT) and delivered by means of trailer trucks and marine containers.

Safety requirements

PNS – is substance of fire- and explosive-safe. During work with the admixture the usage of individual security equipment (hands-safety, eyes and breathe equipment) is necessary.