

With the help of HEMIX GROUP additives and our assistance, our customers achieve performance, significantly reduce labor costs, save resources, and improve product quality.

HEMIX NORTH

Complex antifreeze additive for cold- and hot-weather concreting at low temperatures

HEMIX NORTH is based on the combination of polycarboxylate ethers and antifreeze components, along with natural water-soluble sulfo-derivatives of lignin. This additive significantly improves the workability of low-slump concrete mixtures at reduced temperatures (down to -20°C).

This additive serves as a water reducer and plasticizer at dosages up to 2% and as a superplasticizer at dosages of 3% and above, where the water reduction exceeds 20%. Additionally, the additive has a water retention effect.

HEMIX NORTH is classified as an antifreeze additive for hot- and cold-weather concreting, meeting the requirements of GOST standards 24211-2008 "Admixtures for concretes and mortars. General specifications."

Application

HEMIX NORTH is an antifreeze additive for non-heated winter concreting, ensuring rapid strength development in the concrete regardless of the temperature.

The additive is suitable for the production of ready-mix concrete of class B7.5 and higher, which will be used for cast-in-place concrete and reinforced concrete components and structures.

It is also suitable for mortars and plasters production when combined with HEMIX OXY additive.

Advantages

HEMIX NORTH facilitates the production of concrete mixtures with high strength, frost resistance, and water resistance. As a result, the workability of low-slump concrete mixtures is significantly improved at low temperatures.

The use of this additive enables:

- Obtaining mixtures with higher plasticizing and frost-resistant properties at a lower water-cement ratio
- Saving heat and electricity while using flexible work technology
- Increasing workability from grade П1 to grade П5 (according to GOST standards) without compromising concrete strength
- Ensuring rapid strength development at low temperatures (down to -20°C)
- Increasing concrete strength by 30% without heating
- Increasing segregation resistance

Reduced cement consumption helps reduce exothermic reactions, minimizing the risk of thermal cracking.

A lower water-cement ratio helps achieve early strength development and speed up the construction process.

Enhanced frost and water resistance extend the service life of concrete structures.

A wide range of chemical additives helps optimize every aspect of concrete production: from improving physical properties to enhancing product durability and reducing production costs.

All additives are produced at HEMIX GROUP's modern plants located in the Far East region. We guarantee high quality and compliance with the required standards.

We understand that additives are merely a part of concrete production. Effective technical support is just as essential for key processes.

To unlock the full potential of our products, we provide complete technical support services for plants manufacturing ready-mix concrete, reinforced concrete, vibro-pressed products, and more.

Appearance:

Aqueous solution, dark amber color

Predicted concentration:

40%

Density (at 20°C):

$1.1 \pm 0.02 \text{ g/cm}^3$

pH (at 20°C):

7.4

Maximum Chloride Ion Content:

$<0.1\%$

up to 25%

less cement used

+2 grades

and more to water resistance

+50

and more to frost resistance

Our extensive experience and professionalism allow us to tackle tasks of any level and provide the highest production efficiency.

HEMIX NORTH

Mechanism

The mechanism is based on the adsorption of polycarboxylate ether molecules with different molecular masses, combined with the early strength development effect.

HEMIX NORTH facilitates rapid dispersion, causing electrostatic repulsion and preventing particles from approaching each other and forming conglomerates. This reduces the amount of water required to achieve concrete mixtures with the necessary properties. The solubility of cement decreases, leading to the hydration of clinker minerals. The quantity of new compounds within the cement matrix increases, ultimately enhancing the strength of the mixture.

The additive contains alcohol-based components that chemically interact with water molecules, lowering the freezing point and letting hydration proceed even at temperatures below zero.

Temperature	Hot-weather concreting	Cold-weather concreting
0 °C	0.8%	1.5%
-5 °C	1.3%	1.5%
-10 °C	1.7%	2.5%
-15 °C	2%	3.5%
-20 °C	2.5%	4.5%

It is recommended to test the additive in laboratory conditions using the technical specifications. The testing method is defined in accordance with GOST standards 30459-2008 "Additives for Concrete and Mortars. Determination and Evaluation of Effectiveness".

Important. Since the additive concentration is 40%, the required amount should be calculated using the following formula:

$cement\ weight \times additive\ dosage \div 40\%$

Application Method

1. Shake or mix the additive before use.
2. Add to the concrete mixture after adding the necessary amount of water.
3. Ensure adequate mixing time after the additive is introduced.

⚠ NOTE: Do not add to the dry mixture.

Compatibility

HEMIX NORTH is best used with HEMIX OXY additive for better air entrainment

Packaging

1 000 kg containers

220 kg drums

Smaller containers (5 – 20 kg) are also available for laboratory and field trials

Transportation

Non-flammable and non-toxic product.

No special transportation requirements

⚠ Precautions

- Use protective gloves when working with the additive
- In case of skin contact, rinse with water
- Avoid contact with mucous membranes. In case of contact, rinse thoroughly with water

⚠ Precautions

The additive is not recommended for use in the following cases:

if the structure is exposed to direct electrical current;

if the structure is pre-stressed and steel-reinforced (grades АТ-III, АТ-IVC, АТ-IV, АТ-V, АТ-VI, А-IV, А-V) and is operating in harsh environments.

Shelf Life: 12 months

Store in closed containers at temperatures above –5 °C. Avoid direct sunlight and protect from high temperatures.

Product properties may alter before the expiration date if the storage guidelines are not followed.

**CONSTRUCTION INNOVATIONS
BEGIN WITH HEMIX GROUP**