



Description:

ANTIFREEZE AF600 is a high-performance antifreeze admixture based on nitrate and formate technology. It enables safe concreting at temperatures down to -10 °C and significantly enhances early strength development.

Technical Properties:

Chemical Content	Special component
Appearance	Liquid
Color	Light yellow
pH	8±1
Density (20 °C)	1.22 ± 0,02 g/cm ³
Chloride Content (%)	< 0.1
Alkaline Content (%)	< 5
Freezing	-15 °C

Advantage:

- High acceleration performance at low temperatures.
- Suitable for concreting down to -10 °C
- Significantly increases early compressive strength.
- Enables earlier formwork removal.
- Improves productivity in precast operations.
- Chloride-free formulation minimizes corrosion risk.
- Optimized balance between workability and strength gain.

Area of Use:

- Precast concrete production in cold weather.
- Fast-track construction projects.
- Structural elements requiring early strength gain.
- Columns, beams and load-bearing elements.
- Industrial floors and high-performance concrete.
- Concrete placements at temperatures down to -10 °C
- Projects requiring early formwork stripping.

Dosage:

ANTIFREEZE AF600 is used % 1,5-3.0 of total binder. This ratio varies depending on the cement, aggregate, mineral admixtures, water components used in the concrete mix design, as well as the desired fresh and hardened concrete properties. Therefore, before determining the usage ratio, laboratory tests should be conducted according to the expected properties of fresh and hardened concrete, and the mix ratio should be determined based on these tests. When required, the Polystar Co. Technical Support Unit should be consulted.

Method of Application:

ANTIFREEZE AF600 should be added to the mixing water or directly into the concrete mixer during batching. Ensure uniform distribution by mixing for at least 60–90 seconds after addition. Do not add to dry cement or aggregates. In severe cold conditions, additional protective measures (heated water, insulated formwork, curing blankets) are recommended. Compatibility with other admixtures should be verified by preliminary trials.

Standards: - EN 934-2 Table 6 - ASTM C 494 Type C

Compatibility:

ANTIFREEZE AF600 admixture is compatible with other POLYSTAR plasticizer admixtures used in the same concrete mix.

Precautions in Application:

- Antifreeze admixtures do not eliminate the need for proper cold weather concreting practices.
- Fresh concrete temperature should be maintained above +5 °C whenever possible.
- Keep formwork and reinforcement free from water, snow and ice.
- Concrete must be protected against early freezing with insulation or curing blankets.
- Do not exceed recommended dosage without laboratory verification.
- Always perform trial mixes before large-scale application.
- Compatibility with cement type and other admixtures must be tested.
- Overdosing may cause excessive acceleration, reduced workability or cracking risk.
- Product performance depends on cement composition and environmental conditions.



Cleaning:

ANTIFREEZE AF600 admixture can be washed with fresh cold water and should not be allowed enter sewers or open bodies of water.

Packing:

- 30 kg plastic drum - 250 kg drum - 1000 kg container Bulk

Storage and Shelf Life:

Must be stored at temperatures between +5°C and +45°C. Under proper storing conditions, the product's shelf life is 24 months from production date if kept in original packaging unopened and undamaged. Packaged products must be shaken before use.

Security Information:

Use protective clothes, gloves, glasses and mask compatible with Health and Safety regulations during the application. It should not contact skin and eyes. In case it contacts to skin and eyes, rinse it with water and if swallowed ask for medical help. Food and beverage should not be allowed in the application area. It should be stored at the reach out of the children. The Material Safety Data Sheet (MSDS) should be read for detailed information.

