WIN 300

POLYSTAR

HIGH PERFORMANCE EARLY STRENGTH ENHANCING ADMIXTURE FOR LIGHTWEIGHT PUMICE BLOCKS

Description: WIN 300 is high-performance liquid concrete admixture specially developed to significantly enhance early-age strength development in lightweight pumice (bims) block production.The product accelerates cement hydration kinetics, improves early matrix densification, and increases block stability immediately after pressing in semi-dry production systems. It is designed for high-capacity manufacturing plants requiring faster production cycles and improved operational efficiency.

Technical Properties:

Chemical Content	Inorganic salt
Appearance	Liquid
Color	Light brown
pH	9±1
Density (20 °C)	1.20 ± 0,02 g/cm³
Chloride Content (%)	< 0.1
Alkaline Content (%)	< 5
Freezing	-10 °C

Advantage:

- Strong enhancement of early-age compressive strength development.
- Improved green strength and handling stability.
- Faster demoulding and stacking capability.
- Increased production efficiency.
- Improved microstructure densification.
- Maintains long-term mechanical performance.

Area of Use:

- Lightweight pumice (bims) block production.
- Semi-dry concrete block manufacturing systems.
- High-speed automated production lines.
- Facilities aiming to reduce pallet circulation time.

Dosage: The recommended dosage of WIN 200 is between 1.3% and 1.8% by weight of cement, depending on the required level of early-age strength development and production conditions. The exact dosage should be determined through preliminary laboratory and plant trials, taking into consideration cement type, fineness, aggregate characteristics, water content, and ambient temperature. Adjustments may be required in cases of high supplementary cementitious material (SCM) content or extreme temperature conditions.When required, the Polystar Co. Technical Support Unit should de consulted.

Method of Application: WIN 200 specifically designed for use in semi-dry lightweight pumice (bims) block production systems.The admixture should be added to the mixing water or dosed directly into the mixer during the mixing cycle. For optimum performance, it is recommended to introduce the product after the dry materials (cement, pumice aggregates, and fillers) have been homogenized.

Recommended Procedure:

- Load pumice aggregates and cement into the mixer.
- Dry mix for 15–30 seconds to ensure uniform distribution.
- Add approximately 70–80% of the total mixing water.
- Introduce the calculated dosage of WIN 200 admixture.
- Add the remaining water and continue mixing until a homogeneous semi-dry consistency is achieved.

Total mixing time may vary depending on mixer type and plant configuration but should be sufficient to ensure full dispersion of the admixture throughout the matrix.

Important Application Notes:

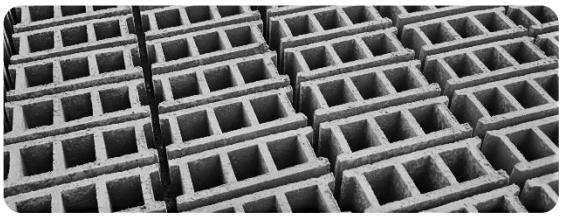
- Water content must be carefully controlled to maintain optimal semi-dry consistency.
- Overdosing may lead to excessive acceleration and reduced workability.
- Trial batches are strongly recommended before full-scale production.
- In cold weather conditions, performance may vary and dosage adjustments may be necessary.

Standards: - EN 934-2 Table 7 - ASTM C 494 Type C

Compatibility: WIN 200 admixture is compatible with other POLYSTAR plasticizer admixtures used in the same concrete mix.

Precautions in Application:

- The admixture must be thoroughly dispersed in the mix to ensure uniform performance. Insufficient mixing may result in inconsistent strength development.
- Water content must be carefully controlled in semi-dry systems. Excess water may reduce green strength, while insufficient water may negatively affect hydration.
- Dosage should not exceed the recommended range without prior laboratory validation. Overdosing may cause excessive acceleration, increased shrinkage risk, or surface cracking.
- The product should not be combined with other accelerating admixtures without compatibility testing.
- Cement type, sulfate balance, and alkali content may influence performance. Trial mixes are strongly recommended when changing cement suppliers.
- In hot weather conditions, hydration may accelerate rapidly. Production parameters and curing conditions should be adjusted accordingly.
- In cold weather, extended mixing time or dosage adjustment may be required.
- Ensure that storage tanks and dosing equipment are clean and free from contamination.



Cleaning: WIN 200 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.

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