

INGUNIT TS EKO

*Admixture for concrete – alkali free accelerator of setting
In compliance with: EN 934-5 T2*

FILED OF APPLICATION

Preparation of Sprayed concrete - *Shotcrete* for construction of primary lining in tunneling (wet shotcrete treatment), stabilization of slopes, mining etc;

Preparation of sprayed reparation mortar used for reparation of concrete elements with curved and irregular forms, such as domes, etc.

With careful dosing it can also be used as admixture for controlled acceleration of setting in classical concretes, usually for production of prefabricated concrete elements;

PROPERTIES

- Intensive acceleration of setting concretes and mortars;
- Gaining high early strength characteristics;
- Minimal decrease in accelerated concrete strength;
- Improves application of sprayed concrete and mortar;
- Enables application of sprayed concrete on vertical, inclined and ceiling surfaces;
- Reduces the rebound material during spraying;
- Does not cause pollution of ground waters dye to leached out alkalis;

TECHNICAL FEATURES

PROPERTY	METHOD	DECLARED VALUE
Appearance	Visual	whitely suspension
Density (at 20°C)	ISO 758	(1.42±0.03) g/cm ³
pH-value (at 20°C):	ISO 4316	3,0±1,0
Chlorides content:	EN 480-10	≤0.1%
Alkali content:	EN 480-12	≤1.0%
Dynamic viscosity :	/	< 400 cP

DOSAGE AND PERFORMANCES:

For production of Shotcrete, recommended dosage is 3 to 9%, in relation to cement mass. Dosing depends on the acceleration time which need to be achieved, consistency of concrete, type and quantity of cement, temperature conditions, rock category, inclination etc. For construction of primary tunnel lining, dosage for sprayed concrete used for concreting the calotte section of the tunnel is usually 6-7%, while for the tunnel bottom part dosing is much lower. Ingunit-TS EKO is added automatically, with admixture pump, at the exit part of the hose which is used for spraying. Metal parts of the dosage equipment need to be protected from corrosion. Temperature of the fresh spayed concrete need to be higher than +12°C. At lower temperatures it is necessary to increase admixture dosage for achieving same effect for concrete setting.

Before using concrete accelerator, it is necessary to make industrial testing in order to determine optimal admixture dosage and concrete setting time, in the realistic temperature conditions, using real shotcrete equipment. Information provided in this technical leaflet are based on the laboratory

testing and can vary depending on the actual site conditions. Using fresh cement usually gives better results concerning setting time and strength development of concrete.

When used as accelerator for classical concretes, recommended dosage is 1-2%, and Ingunit-TS EKO is added immediately prior to concrete casting directly into the ready-mixed concrete, mixing and placement are fast, since there is a risk of quick workability loss and concrete setting. In this case, concrete pump should not be used.

Effects of overdose: Overdosing Ingunit-TS EKO can cause fast setting of concrete. For production of classical concrete, overdosing Ingunit-TS EKO can cause setting of concrete in the mixer or during mixing, thus causing damage to the equipment.

COMPATIBILITY

Ingunit-TS EKO is compatible with a number of admixtures of ADING production program. If in the concrete mixture two or more admixtures are used, it is necessary to perform preliminary tests. Different admixtures are batched separately, and they are not intermixed with each other prior to insertion into the concrete mixture. Ingunit-TS EKO is compatible with all types of Portland cements and sulfate resistant cements. It is recommended to use accelerator Ingunit-TS EKO in combination with superplasticizer SUPERFLUID-21 EKO.

PACKAGING

Containers: 1400 kg

STORAGE

In the original packaging, at temperature between 5°C and 35°C. Recommended temperature for usage is above 20°C. Shelf life: 6 months.

Before usage, it is necessary to mix admixture (usually with compressed air) until homogenization. It is possible for sedimentation to occur in the admixture that cannot be determined by visual inspection. For prolonged storage, it is recommended for the containers to be closed in order to prevent loss of water and creation of "film" at the liquid surface.

At temperatures lower than 10°C viscosity of the admixture can increase rapidly, so the reservoirs for storage need to be provided with heating equipment.

Health hazard: Contact with the skin and eyes should be avoided, and material should not be swallowed. In case of contact to skin or to eyes, rinsing is required with clean running water. If swallowed, medical assistance must be immediately requested. Additional formations are provided in Material Safety Data Sheet for the material.

Fire: Ingunit-TS EKO is a non-flammable liquid. Additional formations are provided in Material Safety Data Sheet for the material.

Cleaning and deposit: Ingunit-TS EKO is cleaned with water. Old and used packaging must be disposed according to local regulations for that type of waste. Additional formations are provided in Material Safety Data Sheet for the material.