

Teknogunit Toz

Shotcrete Concrete Admixture, Powder



EN 934-5

Public Pos. No: 04.613/5

Product Description

TEKNOGUNIT TOZ, is a powder shotcrete concrete admixture accelerating setting, designed for dry system shotcrete production. It can be used by adding in dry mortar or concrete mixes.

Areas of Usage

- It's used in all kinds of spraying works,
- In high early strength concrete
- In supporting surfaces in tunnels or mines,
- In rock and slope stabilization.

Features and Benefits

- The acceleration effect of TEKNOGUNIT TOZ depends on the type of cement, its dosage and age, shotcrete and surface temperature, layer thickness and spraying process. The amount of mixing water is an important effect on the acceleration effect of TEKNOGUNIT TOZ in dry shotcrete system. The following benefits feature TEKNOGUNIT TOZ as an accelerator in shotcrete.
- It reduces spill and rebound rates.
- It improves adhesion of shotcrete to rock and concrete surface, facilitating overhead applications.
- It provides better adhesion in areas with slight leakage.
- It increases water impermeability.
- Chlorine-free, it does not damage the reinforcement.

Application Instructions

When the ambient temperature is +5°C - +35°C, in areas where screed or concrete to be cast, it should be preferred. At temperatures below +5°C; Noon hours are the best time. Additional precautions are necessary to be taken in advance to protect the surface from frost, rain, dew and rime.

The maximum grain diameter of the aggregate used in the concrete should be between 8-16 mm. The water / binder ratio should be around 0.48. Concrete strength should be min. C 25.

The correct dosage should be determined by preliminary tests. It's normally between 3% and 7% of the binder weight. The specified amount of TEKNOGUNIT TOZ is added to the concrete through a hose by the dosing pump in wet system shotcrete application. Mixing ratios depend on the quality requirements and application method for wet system shotcrete. Setting time may vary according to variable cement types.

If it is desired to apply thicker layers with shotcrete, the shotcrete admixture should ensure that the temperature of the concrete mixture to be used is less than +15°C. Lower temperatures require that the set accelerator additive be used at a higher dosage. Areas with severe water must be blocked beforehand with TEKNOPLUG. The use of TEKNOGUNIT TOZ requires technically accurate dosing, delivery and spraying technology.

Consumption: The correct dosage should be determined by preliminary tests. It's normally between 3% and 7% of the binder weight. Determined TEKNOGUNIT TOZ amount is added to dry sand / cement or dry sand / cement / gravel before being sent to the spraying equipment. Mixing ratios depend on the quality requirements and application method for dry system shotcrete. Setting time may vary according to variable cement types.

It must be protected after application against adverse weather conditions such as direct sunlight, high air temperature (above +35°C), rain and frost. Hands should be cleaned thoroughly with water and detergent before concrete or mortar is fully cured and hardened.

Application Notes / Restrictions

- During the application of the product, work clothes suitable for occupational health and safety rules should be worn and suitable glasses and mask should be used.
- It is recommended to use CEM I cement to obtain early high strength.
- In the case of concrete casting in low temperatures below +5°C, the measures recommended in the standard are required. Protective measures against frost must be taken.
- Casting pretesting concrete is recommended.
- There should be no elements in the components of the shotcrete that delay setting. The use of fly ash, set retardant additive in cement or concrete has a negative effect on the quality of shotcrete production.

Technical Data

General Information	
Color	Sand Beige
Chemical Structure	Organic and inorganic substance mixture powder
Packaging	20 kg kraft bag
Shelf life	12 months in unopened original packaging
Density	1,20 (±0,1) kg/lt
Set Start*	75 ± 15 sec.
Set End *	150 ± 30 sec.
Dosage **	3% - 7%
Chlorine Content	< 0,1% (EN 480-10)

* The start and end times of setting may vary depending on the cement type and dosage. These values have been obtained in the laboratory environment with standard cement type.

** The appropriate dosage should be determined in advance by the tests to be performed on the cement type.

Technical data are approximate values obtained from the laboratory study of Tekno Construction Chemicals for finished products obtained at +20°C air temperature and 50% relative air humidity.