

Set Retarding, Plasticizing Admixture For TBM Backfill Grout



AddChem TARD T111®

Description

AddChem TARD T111® is a special retarder and plasticizer for TBM backfill grouts. It is a non chloride liquid admixture formulated to give water reduction, greater workability and extended open time.

AddChem TARD T111® is a high performance admixture especially designed for conditioning annular grout mixes injected behind the segmental concrete lining of TBM constructions.

AddChem TARD T111® extends the hydration process by retarding both initial and final set times and enhances strength through cement particle dispersion. In TBM backfill grouts the setting and hydration control can be regulated using silicate accelerators such as **AddChem SHOOT S101®**.

Advantages

- TBM backfill grout admixture.
- Hot weather concrete and grouting.
- Peak temperature controlled concrete.
- Ideal for long distance transportation of ready mixed concrete.
- Mixing logistics efficiency during large pour.
- High performance concrete.

USES

AddChem TARD T111® is recommended for all areas of use of high-performance concrete, it provides:

- Good cohesion, no segregation and minimal bleed water with extremely high levels of workability.
- Controllable, long open time, enhanced.
- Placement and delivery control.
- Provides low viscosity.

- High elastic modulus, low shrinkage.
- Generates good pumping abilities.
- Increasing the compressive, tensile and flexural strength of annular grout mixes.
- Superior surface finishes.

Technical Properties

Homogeneity	Homogenous
Colour	Brown to Dark Brown
State	Liquid
Density (20°C)	1.09 ± 0.02
pH-value	5.5 ± 2
Chloride content	chloride free acc. to BS EN 934-2
Alkali content (Na ₂ O equivalent)	< 8.5 mass-%

Standards Compliance

AddChem TARD T111® complies with the requirements of EN 934-2 and ASTM C⁹¹⁴ for Type B retarding.

Packaging

AddChem TARD T111® is available in IBC and other pack size.

Compatibility

AddChem TARD T111® is suitable for concrete designs containing OPC or SRC cement, micro- silica or silica fume, fly ash (PFA), Bentonite and ground granulated blast furnace slag (GGBS).

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Dosage

The dosage can be adjusted to meet the mix design requirements or to specific job site conditions. Due to the different compositions of annular grout mixes, the necessary dosage quantity varies and needs to be determined in field trials.

An independent dispenser and feed line must be used during the application.

Effect of Overdose

Overdose of **AddChem TARD T111[®]** may result in delay of initial setting, higher workability and may result in increased air content.

Method of Use

AddChem TARD T111[®] can be added to the mixed concrete/grout, or into the mixing water, but addition to any dry concrete/grout mix is not recommended.

In forced action mixers the mixing time should be at least 60 seconds per m³.

Precaution

AddChem TARD T111[®] should not be used in conjunction with any naphthalene based admixture.

When using other admixtures in the same concrete mixture, the products should be added separately and must not be blended prior to addition.

Using more than one admixture requires suitability and preliminary tests in order to ensure the required combination of its effects is attained.

Warehouse Conditions

AddChem TARD T111[®] should be stored at a temperature above 10° C.

Do not store the product at high temperatures over a long period of time.

Store under cover, out of direct sunlight and protect from extremes of temperature.

Shelf Life

Approx. 1 year from date of production if stored properly.

Quality, Environmental & HS

AddChem TARD T111[®] is classified as non hazardous according to the CLP regulations. See safety data sheet for further information.

Technical support

For any technical support, please contact IChem technical office or representatives.

Technical Data Sheet - January 2024, Version 1.1.5

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