

TYTRO[®] HC 250

Hydration stabilizing admixture for shotcrete

Product Description

TYTRO[®] HC 250 is a ready-to-use, liquid, non chloride solution specifically designed to control and stabilize the cement hydration of shotcrete for long periods (up to 72 hours) without negatively influencing the quality of shotcrete. The ingredients are factory pre-mixed in exact proportions under strict quality control to provide uniform results.

When added to the shotcrete mixes at the batching plant, TYTRO[®] HC 250 stabilizes cement hydration process and fully prevents it from reaching initial set by forming a protective barrier around the cement particles. The stabilized shotcrete resumes normal hydration process when it is activated by the addition of TYTRO[®]SA series of alkali-free set accelerators at the nozzle.

TYTRO[®] HC 250 is formulated to comply with the requirements of ASTM C494, Specification for Chemical Admixtures for Concrete, as Type D water reducing and retarding.

Uses

TYTRO[®] HC 250 is used in all shotcrete applications where a controlled set time extension is required, and especially in the following applications:

- Temporary and permanent rock support in tunnels
- Underground rock support in mining
- Slope stabilization

Product Advantages

- Total operational flexibility – Full control over set time
- Minimum material waste – Complete use of loads. No need for waste disposal
- Consistent quality shotcrete
- Robust and easy to formulate

Addition Rates

The dosage of TYTRO[®] HC 250 can vary based on the mix design, cement type and content, water-to-cementitious materials ratio, concrete temperature, ambient temperature, and required set time extension.

The dosage of TYTRO[®] HC 250 normally ranges between 0.6% and 2% by the total weight of cementitious materials for applications requiring set time extensions in excess of 3 hours. GCP Applied Technologies recommends that trials be performed with cement and aggregates under local conditions before use to assess and optimize dosage rates and performance.

Mixing & Dispensing

In general, it is recommended that TYTRO®HC 250 be added to the mix near the end of the batch sequence for optimum performance. It is recommended that TYTRO® HC 250 be introduced into the mixer by means of automatic dispensing equipment. A range of equipment is available, and advice on supply and fitting is available from GCP Applied Technologies on request.

Packaging

TYTRO® HC 250 is available in bulk, delivered by metered tank trucks, 1,000 litre totes, and 210 litre drums.

Storage

Temperature

TYTRO® HC 250 should be stored at a temperature range of 2 °C to 35 °C. If TYTRO® HC 250 freezes, it will return to full effectiveness after thawing and thorough mechanical agitation. It is recommended that your local sales representative be consulted prior to the use of any products that may have been frozen. Performance tests should always be carried out prior to use. The maximum storage temperature for TYTRO® HC 250 is +60 °C. Performance tests should always be carried out prior to use.

Conditions

TYTRO® HC 250 must be kept in closed plastic containers or closed tanks.

Shelf life

If stored in tightly closed original containers and under the above mentioned conditions, TYTRO® HC 250 has a shelf life of at least 12 months. Please contact your local GCP Applied Technologies sales representative regarding the suitability for use if the shelf life of TYTRO® HC 250 has been exceeded.

Health and Safety

Avoid eye and skin contact and wear rubber gloves and safety glasses when handling this product. If contact occurs, rinse with plenty of water and seek medical advice. For further information, refer to the Material Safety Data Sheet or contact your local GCP Applied Technologies representative.

Compatibility

TYTRO® HC 250 is compatible with all TYTRO®shotcrete admixtures. GCP Applied Technologies recommends that a suitable alkali-free set accelerator be incorporated into the shotcrete mix to reactivate the cement hydration process. TYTRO® SA series of high performance set accelerator is recommended for this purpose. Pretesting of the shotcrete mix should be performed before use and as conditions and materials change in order to ensure compatibility with other admixtures. For use with other shotcrete admixtures systems, we recommend you to contact GCP Applied Technologies for further advice.

Properties

Form	Liquid
Color	Red
Density (g/cm ³)	1.15 ± 0.02
pH (25 °C / 77 °F)	< 2
Chloride Content	<0.1%
Thermal Stability	>1 °C

gcpat.com | North America customer service: 1-877-423-6491

We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate, and is offered for consideration, investigation and verification by the user, but we do not warrant the results to be obtained. Please read all statements, recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

TYTRO is a trademark, which may be registered in the United States and/or other countries, of GCP Applied Technologies Inc. This trademark list has been compiled using available published information as of the publication date and may not accurately reflect current trademark ownership or status.

© Copyright 2021 GCP Applied Technologies Inc. All rights reserved.

GCP Applied Technologies Inc., 62 Whittemore Avenue, Cambridge, MA 02140 USA.

In Canada, 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6.

This document is only current as of the last updated date stated below and is valid only for use in the Canada. It is important that you always refer to the currently available information at the URL below to provide the most current product information at the time of use. Additional literature such as Contractor Manuals, Technical Bulletins, Detail Drawings and detailing recommendations and other relevant documents are also available on www.gcpat.com. Information found on other websites must not be relied upon, as they may not be up-to-date or applicable to the conditions in your location and we do not accept any responsibility for their content. If there are any conflicts or if you need more information, please contact GCP Customer Service.

Last Updated: 2021-03-09

ca.gcpat.com/solutions/products/tytro-shotcrete-system/tytro-hc-250