

# TYTRO® WR 112

## High-range water-reducing admixture for shotcrete

### Product Description

TYTRO WR 112 is a polycarboxylate-based high-range water-reducing admixture specifically formulated to provide prolonged workability, excellent plasticity and extended slump life in underground shotcrete applications.

Featuring the latest in the polycarboxylate technology, TYTRO WR 112 provides superior water reducing performance to shotcrete.

Manufactured under closely controlled conditions to provide uniform, predictable performance, GCP's TYTRO WR 112 contains no added chlorides

### Uses

TYTRO WR 112 is used in all shotcrete applications where it is desired to minimize the water-to-cementitious materials ratio yet maintaining workability, especially in the following applications:

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

### Addition Rates

The dosage of TYTRO WR 112 can vary based on the mix design, cementitious content, water-to-cementitious materials ratio, aggregate gradations and slump required.

The dosage of TYTRO WR 112 normally ranges between 0.4% and 0.9% by the total weight of cementitious materials. At a given water/cement ratio, the slump required for placement can be controlled by varying the addition rate. Should conditions require using more than the recommended addition rates, please consult your GCP representative.

GCP recommends that trials be performed with cement and aggregates under local conditions before use to assess and optimize dosage rates and performance.

### Product Advantages

- **Efficient dosage rate** - Produces high slump shotcrete at very low dosages
- **Operational flexibility** - Prolonged workability
- **Improved pumpability** - Improved consistency
- **Lower water-to-cementitious materials ratio** Enables designing shotcrete mix with higher strength and durability
- **Neutral impact on set time and air content**
- **Consistent performance** - across cement chemistries



## Mixing & Dispensing

In general, it is recommended that TYTRO WR 112 be added to the mix near the end of the batch sequence for optimum performance.

It is recommended that TYTRO WR 112 be introduced into the mixer by means of automatic dispensing equipment.

## Packaging

TYTRO WR 112 is available in bulk, totes, and drums.

## Storage

### Temperature

TYTRO WR 112 should be stored at a temperature range of 2°C to 35°C.

If TYTRO WR 112 freezes, it will return to full effectiveness after thawing and thorough mechanical agitation. It is recommended that your local GCP 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.

### Conditions

TYTRO WR 112 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 WR 112 has a shelf life of at least 12 months.

Please contact your local GCP sales representative regarding the suitability for use if the shelf life of TYTRO WR 112 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 representative.

## Compatibility

TYTRO WR 112 is compatible with all GCP TYTRO sprayed concrete admixtures.

GCP recommends that a suitable alkali-free set accelerator and a hydration control admixture be incorporated into the shotcrete mix to achieve the required strength performance and setting characteristics. TYTRO SA series of high performance set accelerator along with TYTRO HC series of hydration stabilizing admixtures are recommended for this purpose. For shotcrete requiring air entrainment, the use of TYTRO AE series is recommended to provide desired air content and air-void system for resistance against freezing and thawing cycles.

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 contact GCP for further advice.

## Properties

Colour	Amber / Straw
Specific Gravity	1.08
pH (20°C)	4.5
Chloride Content	Nil

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