

TYTRO[®] WR 110

High-range water-reducing admixture for sprayed concrete

Product Description

TYTRO WR 110 is a polycarboxylate-based high-range water-reducing admixture specifically formulated to provide prolonged workability, excellent plasticity, and extended slump life in underground sprayed concrete applications.

Featuring the latest in the polycarboxylate technology, TYTRO[®] WR 110 provides superior water reducing performance to sprayed concrete.

Manufactured under closely controlled conditions to provide uniform, predictable performance, GCP's TYTRO WR 110 contains no added chlorides and is formulated to comply with specifications for Chemical Admixtures for Concrete EN 934-2.

Uses

TYTRO WR 110 is used in all sprayed concrete applications where it is desired to minimize the water/cement ratio yet maintaining workability, and 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 110 can vary based on the mix design, cementitious content, water/cement ratio, aggregate gradings and slump required.

The dosage of TYTRO WR 110 normally ranges between 0.8% and 1.5% 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 sprayed concrete at very low dosages
- **Operational flexibility** - Prolonged workability
- **Improved pumpability** - Improved consistency
- **Lower water-to-cementitious materials ratio**
Enables designing sprayed concrete 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 110 be added to the mix near the end of the batch sequence for optimum performance.

It is recommended that TYTRO WR 110 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 on request.

Packaging

TYTRO WR 110 is available in bulk, delivered by metered tank trucks, 1,000 litre totes, and 205 litre drums.

Storage

Temperature

TYTRO WR 110 should be stored at a temperature range of 2 °C to 35 °C.

If TYTRO WR 110 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.

Conditions

TYTRO WR 110 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 110 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 110 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 110 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 sprayed concrete 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 sprayed concrete 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 sprayed concrete mix should be performed before use and as conditions and materials change in order to ensure compatibility with other admixtures.

For use with other sprayed concrete admixtures systems, we recommend you to contact GCP for further advice.

Properties

Form	Liquid
Density (g/cm ³)	1.08
pH	5.1
Chloride Content	≤500 ppm

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