

# TYTRO<sup>®</sup> SA 528

Alkali-free, liquid high-performance set accelerator for shotcrete

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## Product Description

TYTRO<sup>®</sup>SA 528 is a high-performance, alkali-free set accelerator specifically formulated to provide high early strength at low dosage rates and improve productivity by shortening the time of setting without compromising long-term strength and durability.

TYTRO<sup>®</sup> SA 528 is an easy flow, ready-to-use non-alkaline and environmentally neutral liquid suspension, and is formulated to comply with the requirements of ASTM C 1141/C 1141M, Types I /II, Grade 9, Class A.

## Product Advantages

- Efficient dosage rate
- Reduced excavation downtime – Increased adhesion and faster setting
- Improved strength – Increased early age strength development without compromising later age strength
- Reduced cycle times – Quicker setting action and increased layer thickness for overhead work
- Minimum material waste – Lower rebound and dust
- Safer and healthier to handle – Non-alkaline formulation
- Robust and easy to formulate – Liquid product; easily measured and dosed
- Versatile – Wet as well as dry-mixed process

## Uses

TYTRO<sup>®</sup> SA 528 is used in all shotcrete applications where high early strength is required, 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<sup>®</sup> SA 528 can vary based on the type of application, mix design, cement type and content, water-to-cementitious materials ratio, temperature of the concrete, ambient temperature and temperature of the substrate on which the concrete is to be applied.

The dosage of TYTRO<sup>®</sup> SA 528 normally ranges between 3% and 8% by the total weight of cementitious materials. Overdosing (> 10%) may result in decreased final strength. Should conditions require using more than the recommended addition rates, please consult your GCP representative.

GCP recommends that trials be performed before use to assess and optimize dosage rates and shotcrete performance.

## Mixing

TYTRO® SA 528 is added at the nozzle. TYTRO® SA 528 is a suspension and therefore not all types of dosing pumps will work properly. Advice on dosing pumps is available from GCP on request.

## Packaging

TYTRO® SA 528 is available in drums and totes. In North America, TYTRO® SA 528 is also available in bulk, delivered by metered tank trucks.

## Storage

### Temperature

TYTRO® SA 528 should be stored at a temperature range of 5 °C to 35 °C. It is recommended that your local GCP sales representative be consulted prior to the use of any products that may be frozen. Performance tests should always be carried out prior to use.

### Conditions

TYTRO® SA 528 must be kept in closed plastic containers or closed tanks made of polypropylene, polyethylene, or PVC. Do not store in steel containers as the pH can cause corrosion which might affect the performance of the product. Containers must be tightly closed every day to avoid contact with air which can cause a chemical reaction (skin building on top and lumps which cause problems with dosing pumps).

After prolonged storage, TYTRO® SA 528 should be vigorously recirculated in the tanks by means of stirring apparatus or through recirculation before use. It can have a settlement that may not be visually detectable.

### Shelf life

Shelf life is 3 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local GCP sales representative regarding the suitability for use if the shelf life of TYTRO® SA 528 has been exceeded.

## Health and Safety

Avoid eye and skin contact and wear rubber gloves and goggles. If contact occurs, rinse with plenty of water. In case of eye contact, seek medical advice. For further information, refer to the SDS (Safety Data Sheet) or contact your local GCP representative.

## Compatibility

TYTRO® SA 528 is compatible with all GCP TYTRO® shotcrete admixtures.

GCP recommends that a suitable superplasticizer and slump life controlling admixture be incorporated into the shotcrete mix to achieve extended working life and maintain low water-to-cementitious materials ratio. TYTRO® WR high-range water-reducing and TYTRO® HC hydration control admixtures are 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 contact GCP for further advice.

## Properties

Form	Liquid
Color	Yellow
Density (g/cm <sup>3</sup> )	1.40 ± 0.02
pH (25 °C / 77 °F)	3 ± 1
Chloride Content	<0.1%
Thermal Stability	5 °C to 35 °C

## North America customer service: 1-877-4AD-MIX (1-877-423-6491)

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