

## DESCRIPTION

ShotRock CA 448 is a high-performance dry complex polymer-mineral fine grained additive that is created for shotcrete mix preparation, applied using the dry method. Change the amount of ShotRock 448 CA allows to adjust the setting time, the rebound and thickness in one shotcrete layer pass, as well as to increase its water resistance. Use of ShotRock 448 CA allows to reduce the cement consumption in shotcrete mix preparation.

## AREA OF APPLICATION

ShotRock 448 CA should be used for applying concrete mix by dry shotcreting and concrete spraying in areas where the coating must be enhanced by additional waterproofing properties. Use of ShotRock 448 CA allows for significant reduction of the concrete mixture setting time, increasing the initial strength of concrete spraying, applying substantially thick layer in a single pass.

In addition, the application of ShotRock 448 CA permits raising the water resistance of shotcrete pavement to grade W6-W16.

The specific value of the water resistance depends on the selected recipe, type and brand of used cements and aggregates.



## KEY BENEFITS

- Increases water resistance of sprayed concrete surface to grade W6-W16
- Perfectly regulates setting time
- Reduces losses of shotcrete mix
- Allows 15-20% reduction of cement consumption in the shotcrete mix preparation

## Technical Description

### PROPORTION

The average consumption of ShotRock 448 CA ranges from 19% to 21% of the cement weight. Use of ShotRock 448CA additive allows to reduce the cement dosage in shotcrete mix preparation at 15-20%. The amount of the dosage will depend on the setting time requirements, the rate of gaining early strength and thickness of the shotcrete layer, which must be applied in one pass. It should be noted that the setting time, early strength and, consequently, the dosage of additives will be affected by the ambient temperature and gauged water, as well as the activity of utilised cement. A significant excess of the recommended dosage may lead to lower final strength at the of 28 days age.

### SPECIFICATION

appearance	dry fine-drained powder
color	grey
dense loaded density	1200-1300 kg/m <sup>3</sup>
water content	less than 5%
water-resistance of shotcrete ready mix	W6 to W16 (depends on selected recipe, type and brand of used cements and aggregates)

### TECHNOLOGY OF APPLICATION

When preparing the shotcrete mix, thorough and uniform mixing of additives must be provided. Use of cement stored for extended period of time may lead to changes in the shotcrete mix's setting time. It is recommended to conduct a pretest to verify setting time and daily strength of those cement types, which are planned to be used in this project.

### SAFETY

Avoid ShotRock 448CA contact with your eyes. If contact occurs - rise with large amount of clean running water and immediately seek medical advice. Use rubber gloves and protective goggles during operation.

### PACKAGE TYPE

Comes in 3-layered paper valve bags with polyethylene liner weighing 25 kg ( $\pm 0.5$  kg).

### STORAGE SHELF LIFE

Store ShotRock 448CA in sealed bags in dry ventilated place with relative humidity of 60%, temperature from -50 up to +50°C. Storage period in the manufacturer's packaging is 12 months from the date of manufacture.

The provided information is based on our experience and present knowledge. Due to numerous factors (characteristics of cement, aggregates) having effect on the final result, a selection of recipes is required. For more information please contact to a manufacturer's representative.