

# ROCK ADMIX G 421

Workability Retention, High Range Water Reducer and Superplasticizer Admixture for concrete & Mortar

## DESCRIPTION:

- ROCK ADMIX G 421 is a chloride free brown liquid, workability retention admixture based on selected organic polymers which instantly disperses in water.
- It disperses the fine particles in the concrete mix enabling the water content of the concrete to perform more effectively.
- The increased workability, cohesion and retardation minimizes loss of workability.

## USES:

- ROCK ADMIX G 421 is recommended for all cement types in the following areas:
  - Ready to use concrete.
  - Heavily reinforced concrete works.
  - Incubated concrete.
  - Paving and industrial floors.
  - Fluid concrete for long maintenance of slump.

## ADVANTAGES:

- Gives increased working life to fresh concrete.
- Increases workability without extra water, reducing placing time and costs.
- Improves cohesion, minimizing segregation and improving surface finish.
- Aids pumping by improving cohesion and reducing workability loss.
- Allows a reduction in water/cement ratio, enhancing durability by producing low permeability concrete with reduced shrinkage cracking potential.
- Chloride free, safe for use in pre-stressed and reinforced concrete.
- Can be used with concrete containing micro silica and other cement replacements.
- Suitable for use in Middle East and Arabian area conditions.

## STANDARD COMPLIANCE:

- BS 5075 Part 3.
- ASTM C494 Type G.

## TECHNICAL PROPERTIES:

**Appearance** Brown liquid  
**Specific gravity** 1.15 @25°C  
**Chloride content** Nil

## COMPATIBILITY:

Compatibility with cement:

- Compatible with all types of Portland cements and sulphate resistance cements type (V).

Compatibility with other admixtures:

- ROCK ADMIX G 421 can be used with other Rock admixtures in the same concrete mix.
- All admixtures should be added to the concrete separately and must not be mixed together prior to addition.
- The resultant properties of concrete containing more than one admixture should be assessed by trial mixes.

## INSTRUCTIONS FOR USE:

Mix design for workability retention:

- The mix design should be one suitable for use as a pump mix.
- To obtain the best results for workability retention, the initial workability should be above 150 mm slump.
- The retardation and improved cohesion provided by ROCK ADMIX G 421 then act to enhance the workability retention characteristics.
- In correctly designed flowing, the improved dispersion of the cement particles and the more efficient use of mixing water will improve mix cohesion.
- The improved cohesion obtained with ROCK ADMIX G 421 will also help to minimize bleed and segregation.
- After initial trials, minor modifications to the mix design may be made to optimize performance.

## DOSAGE:

- The optimum dosage should be determined by site trials with the particular concrete mix under ambient conditions.
- As a guide, the dosage will fall into one of two range dependents on use:
  - 0.6 - 1.5 liter/100 Kg of cementitious material.

## USE OVERDOSING:

- Dosages outside the typical range quoted above may be used if necessary and suitable to meet particular mix requirements.

**EFFECT OF OVERDOSING:**

- An overdose of double the amount of ROCK ADMIX G 421 will result in a significant increase in retardation as compared to that normally obtained.
- Provided that adequate curing is maintained, the ultimate strength of the concrete will not be impaired by increased retardation and will generally be increased.
- The effects of overdosing will be increased if sulphate resisting cement or cement replacement materials are used.
- Over dosage is also likely to cause increased air entrainment, which will tend to reduce strength. The degree of this effect will depend on the particular mix design and overdose level.

**DISPENSING:**

- ROCK ADMIX G 421 liquid should be dispensed directly into the mixing water or added simultaneously into the concrete mixer.

**CONCRETE PLACING:**

- The standard rules of good concreting practice concerning production and placing must be followed.

**CURING:**

- As with all structural concrete, the surface must be cured immediately after drying by water spray, wet hessian or one of the Rock Curing Products.

**CLEANING:**

- Spillages of ROCK ADMIX G 421 can be removed with water.

**PACKAGING:**

- Available in 20 liters. Plastic pails, 210 liters' drums and 1000 liters bulks.

**STORAGE & SHELF-LIFE:**

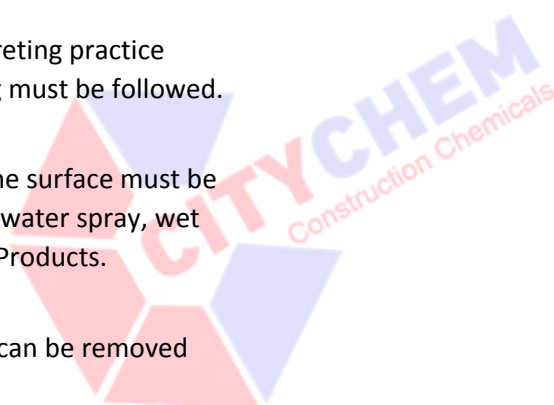
- Approx. 12 months in dry shaded conditions in its original closed bags.

**HEALTH AND SAFETY:**

- ROCK ADMIX G 421 is non-toxic, non-corrosive and any splashes of the skin should be washed off with water, if contact with eyes occurs wash with water immediately and seek medical advice.

**FIRE:**

- ROCK ADMIX G 421 is nonflammable.



Al-Obour Buildings - Salah Salem Road - Nasr City - Cairo - Egypt.  
10th Of Ramadan City.



[info@CityChem.net](mailto:info@CityChem.net)



[@City\\_Chem](https://twitter.com/City_Chem)



[City Chem](https://www.facebook.com/CityChem)



+202 240 456 35



+2010 277 810 11



+2010 672 213 44

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