

AdCon PC 500

High Performance Water Reducer for High Early Strength and High Fluidity Concrete

Description:

AdCon PC 500 is a poly-carboxylic ether base super-plasticizer especially designed for concretes used at high temperatures such as Middle East and shows better water reducing effects and slump retention than existing water reducers.

Uses:

- For manufacturing concretes of general strength.
- For manufacturing concretes of high strength and fluidity.

Advantages:

- Produce consistent concretes by protecting materials separation.
- Reduces bleeding and therefore reduce the precipitations of concrete.
- Shows high fluidity and thus can be used for self-compacting concrete.
- Shows excellent dispersion and retention at high temperatures and dry conditions in the Middle East.
- Shows proper setting, even though it has good slump retention.

Main Applications:

- Skyscrapers and large size buildings.
- Self-Compacting Concrete structures in the areas of high steel content requiring high fluidity.

- Bridges requiring high strength more than 50 N/mm².
- Others such as high water reducing for engineering works and structures.

Properties:

Appearance	Transparent
Specific Gravity	Typically 1.06 ± 0.01 at 25°C
PH	6.0 ± 1.0
Air Entrainment	Less than 2% at normal dosage

Standards Compliance:

AdCon PC 500 Complies with ASTM C494 Types A & F.

Instructions for Mix Design:

Where the main requirement is to improve strength, initial trial should be made with normal concrete mix designs.

The addition of the admixture will allow the removal of water from the mix whilst maintaining workability after initial trials, minor modification to the overall mix design may be made to optimize performance.

Typical Dosage:

The optimum dosage of AdCon PC 500 to meet specific requirements should always be determined by trial mixes using the materials and conditions that will be experienced in use.

- For manufacturing concrete of general strength: weight % of binder 0.4 to 1.0%
- For manufacturing concrete of high strength: weight % of binder 0.5 to 1.8%

Decide a target dosage depending on mix design conditions, materials used, temperatures & mixer types.

Compatibility:

AdCon PC 500 is suitable for use with all types of Portland cements and cement replacement materials such as PFA, GGBFS and micro silica.

Effects of Overdosing:

An overdose of AdCon PC 500 will result in an increase in retardation. Provided that adequate curing is maintained, the ultimate strength of the concrete will not be impaired by increased retardation and will generally be increased.

Over dosage may also 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:

The correct quantity of AdCon PC 500 should be measured by means of a recommended dispenser. Normally, the admixture should then be added to the concrete with the mixing water to obtain the best result. AdCon PC 500 is not recommended to be added to the dry aggregates or cement; it should always be added to the wet mix conditions.

Full blending of the admixture and the concrete should be ensured by mixing at high speed for a period at least five minutes.

Packaging:

AdCon PC 500 is supplied in 1000 liter bulks.

Shelf Life/ Storage:

Shelf life is 12 months if stored at temperature between 2°C and 50°C.

Safety Precaution:

AdCon PC 500 does not fall into the hazard classification of current regulations. However, it should not be swallowed or allowed to come into contact with eyes. Suitable protective gloves and goggles should be worn.

Splashes on the skin should be removed with water. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately – do not induce vomiting.