PRODUCT INFORMATION

Matcrete PC®110

Superplasticiser for enhanced impermeable concrete

Description

MATCRETE PC -110is a high efficiency, liquid superplasticiser which has a multi-functional effect on concrete. It has been designed to improve slump retention whilst providing reductions in absorption and permeability, thus, enhancing the durability of concrete.

MATCRETE PC -110 is based on modified synthetic carboxylated polymers and is manufactured under controlled conditions to give a consistent product.

Conforms to the requirements of ASTM C-494, Type D and G and EN 934-2.

Advantages

- MATCRETE PC -110provides a multifunctional effect in a single product.
- Highly efficient and can produce high slump concretes at economical dosage rates.
- MATCRETE PC -110can be added to concrete mix designs to effect reductions in permeability, and other durability factors.
- Provides good surface finish for aesthetic appearance.
- MATCRETE PC -110can be used effectively in all types of concrete mix designs, including those with mineral additives.
- Permeability reductions can be achieved together with an increase in strength.
- MATCRETE PC -110can be utilised in concretes using pigmented mixes to reduce the occurrence of efflorescence.

Typical Properties

Appearance:
Brown Liquid

Specific Gravity:
1.08 ± 0.02 at 20ºC.

Air Entrainment:
Air content of concrete will normally be increased by 3 %.

Chloride Content:
Nil.

Storage Life in Manufacturer's Drums:
12 months from date of manufacture.

Storage Life in Bulk Storage:
12 months from date of delivery.

Compatibility

With cements:
MATCRETE PC -110 can be used with all types of Portland Cements, including sulphate resisting cements. It is effective in concrete containing pulverised fuel ash, microsilica or ground granulated blast furnace slag.

For use with special cements, we recommend that you contact Grace Construction Products.

With Other Admixtures:
MATCRETE PC -110should not be premixed with other admixtures prior to addition to a concrete mix. The performance of the material may be affected by the presence of other chemicals.

We recommend that all admixtures be added separately into the mix.

MATCRETE PC -110should not be used in combination with NSFC and MSFC superplasticisers. Caution should be exercised when using

GRACE
Construction Products

MATCRETE PC -110together with a
retarder, as excessive retardation can occur if the admixture dosages are too high.

Pre testing of the concrete should be performed to optimize dosages, and addition times. The admixtures should not contact each other before they enter the wet concrete.

Method of Use

MATCRETE PC -110is supplied ready for use.

MATCRETE PC -110 should be added in its supplied form to concrete mixes preferably at the same time as the batching water, during the mixing cycle following addition of aggregates and cement.

MATCRETE PC -110 should not be added directly to the cement.

Addition of any further chemical admixtures should be undertaken separately.

After the addition of cement, a further mixing cycle of at least 2 minutes is recommended to enable MATCRETE PC -110to efficiently disperse the mix components.

Addition Rates

Range: 1000 ml - 2500 ml per 100 kg cement (1.0% - 2.5% [v/w] by weight of cement)
Addition rates may vary, however, as with most products of this type, the magnitude of the effect obtained with MATCRETE PC -110is governed by the quantity of product used, water cement ratio and specific nature of the concrete and constituent materials.

It is necessary therefore to assess performance under site conditions using site materials to determine optimum performance and dosage.

The effect on plastic and hardened concrete properties should be measured, such as workability retention, set characteristics, ultimate compressive strength and permeability levels when these are of importance.

As a guide to these trials an addition rate of 1.0 % - 1.5 % of MATCRETE PC -110volume / weight of cement is recommended.

For advice and assistance with your trials we recommend that you consult Grace Construction Products.

Effects of Overdosing

The effect of overdosing MATCRETE PC -110is a function of the degree of overdose.

When concrete produced has been overdosed, the level of workability will increase and may, in certain situations, lead to the onset of segregation. Depending upon the level of overdose, and the constituent materials in the mix, an increase in setting time may also occur.

Increase in setting times may also be extended at low temperatures, and / or when sulphate resisting cement or certain pozzolanic materials are employed.

In any situation were overdosing is suspected a careful inspection of the concrete in its plastic state should be conducted. Attention should be paid to consistency and cohesion prior to a decision on the suitability of the concrete, for the particular application in question.

Dispensing

It is preferable that liquid admixtures for concrete should be introduced into the mixer by means of automatic dispensing equipment. Such equipment is available from Grace Construction Products and details are available upon request.

Health and Safety

For further information consult the MATCRETE PC -110material safety data sheet, or consult Grace Construction Products.

Packaging

MATCRETE PC -110is supplied in 1000-liter drums. Alternatively, bulk deliveries can be arranged.

Storage

MATCRETE PC -110 should preferably be stored protected from frost, and extremes of heat. Should the product become frozen; we suggest that you contact Grace Construction Products.

Technical Service

The Technical Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

GRACE
Construction Products