Fosroc Conplast AEA

constructive solutions

Air entraining agent

Uses

To produce air entrained concrete for increased durability, resistant to damage by frost and de-icing salts, and to improve the cohesion and workability of concrete mixes where poorly graded aggregates must by used, and in any situation where bleeding, segregation or sand runs occur. Typical applications include:

- Concrete roadways
- Bridge decks
- Airport runways and taxiways
- Other extensive areas of concrete exposed to potential frost damage

Advantages

- Provides concrete with resistance to freezing and thawing.
- Improves cohesion, reduces segregation and bleeding.
- Gives dense, uniform, close textured surface to concrete.
- Excellent air bubble stability.
- Consistent performance, even with changes in aggregate quality and ambient temperature.
- Effective in low workability concrete.
- Suitable for use in Middle East conditions.

Standards compliance

Conplast AEA conforms with BS 5075, BS:EN 934-2 and with ASTM C260 as an air entraining agent.

Description

Conplast AEA is a chloride-free admixture based on neutralised vinsol resin and is supplied as a dark brown solution. Conplast AEA acts on the interface of the cement/ aggregate particles and mixing water to produce microscopic air bubbles evenly distributed throughout the concrete.

Technical support

Fosroc provides a technical advisory service for on-site assistance and advice on admixture selection, evaluation trials and dispensing equipment. Technical data and guidance can be provided for admixtures and other products for use with fresh and hardened concrete.

Typical Properties

Appearance	**:**	Brown liquid
Chloride content	:	Nil to BS 5075 / BS:EN934
Specific gravity	**:**	1.02 at 25°C

The degree of air entrainment will be affected by a number of factors:

Sand content: The quantity of air entrained will increase with increasing sand content - typically from 4.5 to 6.0% for a sand content increase from 35% to 45%.

Cement fineness and content: The amount of air entrained reduces with an increase in cement fineness. Air content decreases with increasing cement content. A 1% air loss may be typical for a cement content increase of 90 kg/m^3.

Organic impurities: Carbon can reduce the effectiveness of Conplast AEA. This does not normally create a problem, but care may have to be taken when using PFA, certain pigments or lignite bearing sands.

Concrete temperature: A temperature increase will reduce air content, e.g. a rise from 10°C to 32°C may halve the amount of air entrained. In practice, daily fluctuations are much smaller and do not cause significant variations.

Mixing and pumping: Variations of mixer type and transit time will change the level of air entrainment. Small losses of air may occur during pumping. With long pipelines, air content in excess of 5% may seriously reduce the efficiency of the pump.

Compaction of concrete: Entrained air will not be lost by normal vibration, though prolonged vibration is best avoided.

Low workability concrete: i.e. slumps of less than 25 mm or compacting factors between 0.80 to 0.85 may require an increased dosage of Conplast AEA in order to achieve the normal required air content.

Setting time: Negligible effect at normal dosage rates.

Compatibility: Conplast AEA is compatible with other Fosroc Conplast admixtures, but it is recommended that all admixtures be added to concrete separately.

Conplast AEA can be used with all types of Portland cements. For advice on special cements, consult the technical department.

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Instructions for use

Dosage

The optimum dosage for Conplast AEA to meet the desired air content in concrete is best determined by site trials using local cement and aggregate . As a guideline a dose between 0.1 to 1.0 litre / m^3 of concrete may be adapted for lab trial and based on results of air content the final dosage can be optimised.

Overdosing

An overdose of double the recommended amount of Conplast AEA can result in slight increase in settling time and a reduction in compressive strength.

Dispensing

The correct quantity of Conplast AEA should be measured by means of a recommended dispenser. The company's technical department should be consulted regarding suitable equipment and its installation.

Conplast AEA should be added directly to the mixer and best results are obtained if added at the same time as the mixing water.

Curing

A Concure*† curing membrane should be used, or alternative curing methods such as polythene, water spray or wet hessian.

Cleaning

Spillages of Conplast AEA can be removed with water.

Estimating

Supply

Conplast AEA
210 litre drum, 1000 litre totes or bulk

For larger users, storage tanks can be supplied.

Storage

Conplast AEA has a minimum shelf life of 12 months provided the temperature is kept within the range of 2°C to 50°C.

Precautions

Health and Safety

Conplast AEA is slightly toxic and must not be ingested. It is mildly alkaline and prolonged contact with the skin must be avoided. Splashes to the skin should be washed with water. Any splashes to eyes should immediately be flushed with clean water and medical advice should be sought.

Fire

Conplast AEA is non-flammable.

*** Denotes the trademark of Fosroc International Limited**

† **See separate data sheet**

Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Service. **All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.**

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