DAREX® AE3

Air Entraining Agent

Product Description

DAREX® AE3 is a liquid air-entraining agent for use in the production of air entrained concretes, blocks and cement compositions.

DAREX® AE3 is formulated from carefully selected raw materials and is manufactured under controlled conditions. It is based on the salt of an ether sulfate and conforms to EN 934-2, for air-entraining admixtures.

Advantages

- Improves resistance to freeze/thaw conditions
- Resistance to the disruptive action of de-icing salts and other liquids is improved
- Concrete liable to segregation is improved and the workability of concrete or mortar is increased
- Bleeding of excessive mixing water is reduced
- Entrained air is not readily lost from plastic concrete mixtures on standing and prolonged mixing does not normally cause excessive over air entrainment
- Particularly suitable for use with concrete containing sands into which it is difficult to entrain air
- In the case of lean mixtures, or containing crushed rock aggregates, strength may be increased
- The volume yield of concrete mixtures is increased proportionally to the amount of air entrained

Typical Properties

DAREX® AE3	
Appearance	Amber Liquid
Specific Gravity (20°C)	1.005
Alkali Content (eq.Na_2O)	0.88%
Chloride Content	Nil
Air Entrainment	See "Addition Rates"
Freezing Point	-2°C

Method Of Use

DAREX® AE3 is supplied ready for use. It should be added to concrete or mortar mixtures during the mixing process at the same time as the water or with the aggregates. The amount of DAREX® AE3 required is dependent on the characteristics of the concrete concerned and the level of air entrainment required. Factors which affect this are:

- Nature and grading of the fine aggregates
- Cement content and type of cement used
- Water/cement ratio
- Workability of the mixture
- Temperature
- Type and efficiency of mixing equipment
- Normal site control gives good consistency of results

Compatibility

With Cements :

DAREX® AE3 can be used with most types of Portland cements. It is also effective in concrete containing fly ash or ground granulated blastfurnace slag. For use with special cements we recommend that you consult GCP Applied Technologies.

With Other Admixtures:

DAREX AE3 should not under any circumstances be premixed with other admixtures. The performance of the product will be affected by the presence of other chemical admixtures. We recommend that all admixtures be added separately into the mix.

Addition Rates

Range	30 ml - 180 ml per 100 kg cement
	0.03% -0.18% (v/w) by wt. of cement
As a guide to trials an addition rate of 0.06-0.18% volume by weight of cement is suggested.	
For advice and assistance with trials we recommend that you consult GCP Applied Technologies.	

It is essential that the final assessment of the dosage should be made after the site trials. As a guide to these trials, the addition rate will then determine the target requirement dependent of the contributing factors stated (where DAREX® AE3 is used in concretes containing fly-ash, the dosage rate may typically be twice the range quoted above). For semi-dry mixtures 280ml - 400ml DAREX® AE3 per 100kg
cement is suggested.

Effects of Overdosing

The effect of overdosing DAREX® AE3 is a function of the degree of overdose. Overdosing with DAREX® AE3 will produce an increase in air content and workability.

Dispensing

It is preferable that DAREX® AE3 should be introduced into the mixer by automatic dispensing equipment. Equipment or advice on dispensing can be obtained from GCP Applied Technologies.

Health and Safety

For further information on Health and Safety matters regarding this product we recommend that you consult the relevant Material Safety Data Sheet from GCP. In line with general chemical handling precautions avoid contact with skin or eyes and protective gloves/goggles should be worn.

Packaging & Storage

DAREX® AE3 is supplied in both 15 or 205 non returnable drums and 1,000 litre totes. Alternatively, bulk deliveries can be arranged. DAREX® AE3 should be stored away from extremes of temperature and then protected from frost. The product should be kept out of direct sunlight in shaded storage at all times.

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

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

Technical Service

Our Technical Service department of GCP Applied Technologies is available to assist you in the correct use of our performance chemicals.

GCP Applied Technologies (UK) Ltd, Gate St, Dukinfield SK16 4RU.

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gcpat.uk/solutions/products/darex-ae3