

DAREX[®] AE7

Air Entraining Plasticiser

Product Description

DAREX[®]AE7 is a liquid airentraining admixture with plasticising properties specifically designed for use in concrete mixtures where difficulties in entraining levels of air are encountered. It also permits reductions in the free water content to be made. These effects are achieved by a combination of the powerful deflocculating and air-entraining action of DAREX[®]AE7. DAREX[®]AE7 is formulated from a blend of natural and synthetic surfactants together with a hydroxylated polymer plasticiser. The air-entraining properties of DAREX[®]AE7 enable it to entrain into concrete controlled quantities of air bubbles of optimum spacing and diameter to give durability under freeze/thaw conditions.

Product Advantages

- Enables entrainment of specified levels of air into concrete mixtures containing crushed rock fines or pulverised fuel ash. The plasticising action of DAREX[®] AE7 will give increased workability enabling a reduction in the water content on the order of 10% - 15%. As a result, DAREX[®] AE7 produces controlled air entrainment in concrete without the same loss in compressive strength normally associated with plain air- entraining agents.
- Confers all the advantages of air entrainment: thus less susceptibility to bleeding and segregation, increased durability, and reduced permeability.
- Has moderate set-retarding properties, that can be of advantage where high cement content, high temperature or excess heat evolution are involved.
- At the recommended dosage the effect on setting time is slight and will not normally affect stripping times of formwork.
- After initial retardation of set, rapid hardening of the concrete takes place, normally overtaking control concrete within a few hours.
- The controlled air entrainment of DAREX[®] AE7 considerably improves the cohesiveness and workability of harsh mixtures, such as those produced with crushed aggregates.
- The physical nature, size and distribution of the air bubbles entrained by DAREX[®] AE7 will overcome the deficiencies normally associated with sea dredged, or crushed rock fine aggregates, where the finer particles may be absent.
- By increasing both the workability and cohesiveness, surface finishes can be improved and blemishes such as "sand runs" can be overcome.

Typical Properties

Appearance	palle yellow liquid
Air Entrainment:	See "Addition Rates"
Chloride Content:	nil as per EN480-10
Freezing Point:	0 °C

Addition Rates

Range: 120 ml – 360 ml per 100 kg cement.

The performance of DAREX[®]AE7 is best assessed after preliminary trial mixtures both in the laboratory and on site. The percentage of air entrained by DAREX[®]AE7 is very dependent upon a number of factors, such as mix design, workability, mixing and temperature. However, as a guide to these trials, it is recommended that in concrete utilising either crushed rock aggregates or sands containing relatively large proportions of dust, DAREX[®]AE7 should be evaluated at 240 ml – 360 ml per 100 kg cement (total cementitious materials, inclusive of pulverised fuel ash or slag). If DAREX[®]AE7 is used at a dosage rate in excess of 360 ml per 100 kg total cementitious material, then some retardation of initial set of the concrete is likely, particularly during cold weather.

DAREX[®]AE7 is supplied ready for use. It should be added to the concrete mix during the mixing cycle with the water, after the addition of the cementitious component. It should not be added directly to the cement.

Serious overdosing with DAREX[®]AE7 will generally produce a considerable increase in workability, an increase in air content and a retardation of the setting time. In cold weather, this retardation will be further increased. In such cases, however, provided the concrete is properly cured, the ultimate strength will not be seriously reduced.

Compatibility

With cements:

DAREX[®]AE7 can be used with all types of Ordinary Portland Cement, including Sulphate Resisting Cement and cement replacement materials. For use with special cements we recommend that you consult GCP Applied Technologies.

With other admixtures:

DAREX[®]AE7 should not be premixed with other admixtures. The performance of the material may be affected by the presence of other chemicals and we recommend that GCP be consulted in such circumstances.

Dispensing

It is preferable that liquid admixtures for concrete should be introduced into the mixer by means of automatic dispensing equipment. A range of equipment is available, and advice on supply and fitting is available from GCP on request.

Packaging

DAREX[®]AE7 is supplied in 205 litre, non-returnable containers. Alternatively, bulk deliveries can be arranged.

Storage

DAREX[®]AE7 should be stored above 0 °C and protected from frost. If the product does freeze, it should be carefully thawed before mixing.

Storage life in manufacturer's drums:

12 months from the date of manufacture.

Storage life bulk storage:

12 months from the date of delivery.

Health and Safety

See DAREX®AE7 Safety Data Sheet or consult GCP.

Technical Service

The Technical Service department of GCP is available to assist you in the correct use of our products.

gcpat.ae | United Arab Emirates customer service: +971 4 5139560

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GCP Applied Technologies Inc., 2325 Lakeview Parkway, Alpharetta, GA 30009, USA

P. O. Box 5006, Office 2104, 21 Floor, The Exchange Tower, Opp. JW Marriott Marquis Hotel, Business Bay, Dubai – United Arab Emirates

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