DAREX® AE4
Concrete Foaming Agent

Description
Darex® AE4 is a liquid foaming agent for use in all types of mortar and concrete mixes. It is particularly designed for use in the production of foamed concrete and for use with synthetic and naturally occurring light-weight aggregates where the density of the fine aggregate/cement paste is normally required to be similar to that of the aggregate. Darex® AE4 is formulated from carefully selected raw materials and is manufactured under controlled conditions to give consistent product. It is a blend of anionic surfactants.

Advantages
• Darex® AE4 will entrain air into all types of concrete even those with highly angular crushed aggregates.
• It can be used with all types of lightweight aggregates to produce very low density concrete mixes.
• Darex® AE4 can be employed to entrain air in mixes containing high proportions of pulverized fuel ash.
• An aqueous solution of Darex® AE4 can be performed to give a very stable foam for use in the production of foamed concrete.

Typical Properties
Appearance: Pale straw colored liquid
Specific Gravity: 1.03 at 20°C
Chloride content: Nil
Solubility in Water: Indefinite
Freezing Point: Less than 0°C
Storage Life in Manufacturer’s Drums: 12 months from date of manufacture.
Bulk Storage: 12 months from date of delivery.
Corrosiveness to Mild Steel: Nil

Compatibility
With cements: Darex® AE4 can be used with all types of Portland cement including Sulphate Resisting Cements and cement replacement materials.
With other admixtures and cements: Darex® AE4 should not be pre-mixed with other admixtures. The performance of the material may be affected by the presence of other chemicals.

Method of Use
Darex® AE4 is supplied ready for use. It should be added to concrete mixes or mortar mixes during the mixing process at the same time as the water or the aggregates. It should not be added directly to the cement or mortar. No extension of normal mixing time is necessary.

Addition Rates
The performance of Darex® AE4 is best assessed after preliminary tests on site using the actual mix and the plant under consideration to determine the optimum dosage rate which will give the desired concrete properties. For foamed concrete/mortar a 5.0% -7.0% solution of Darex® AE4 is added usually via a foam tube. The quantity of foam added will determine the resultant density of the concrete/mortar produced. Hence the volume of aqueous solution added is proportional to the concrete/mortar density required. Conventional mixing equipment can be used to produce foamed lightweight aggregate concretes. As a guide to trials an addition level
Of 200ml Darex® AE4 per 50 kg cement should be evaluated. The air content of air entrained concrete should be regularly checked, and because of the absorptive nature of most lightweight aggregates, a gravimetric determination is most suitable.

**Effects of Overdosing**
As with all foaming agents, they are air entraining agents. Darex® AE4 in any given mix will proportionately reduce compressive strength as the level of entrained air is increased. Overdosing with Darex® AE4 will normally produce an increase in air content and workability, together with a loss in ultimate compressive strength.

**Dispensing**
It is preferable that liquid admixtures for concrete should be introduced into a mixer by means of automatic dispensing equipment, details of which are available upon request.

**Health and Safety**
For further information see the Darex® AE4 Material Safety Data Sheet, or consult Emirates Chemicals LLC.

**Packaging**
Darex® AE4 is supplied in nominal 1000 liter, returnable containers. Alternatively, bulk deliveries can be arranged.

**Storage**
Darex® AE4 should preferably be stored in sealed conventional containers protected from the elements.

**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.

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