AEA™

Air-entraining admixture

Product Description

AEA™ admixture is an aqueous solution of a complex mixture of organic acid salts. AEA is specially formulated for use as an air-entraining admixture for concrete and is manufactured under rigid control which provides uniform, predictable performance. It is supplied ready-to-use and does not require premixing with water. One litre weighs approximately 1.02kg ± 0.02kg.

AEA meets the requirements of the following specifications for chemical admixtures for concrete: ASTM C260; AS1478 and AASHTO M154.

Applications

AEA is used in ready-mix, block and concrete products plants. It is also used on the job with jobsite mixers, highway pavers and wherever concrete is mixed and there is a need for purposeful air entrainment. Because AEA imparts workability to the mix, it is particularly effective with slag, lightweight, or manufactured aggregates which tend to produce harsh concrete. It also makes possible the use of natural sand deficient in fines.

Air-Entraining Action

Air is entrained by the development of a semi-microscopic bubble system — introduced into the mix by agitation and stabilised by AEA — in the mortar phase of the concrete.

Workability is Improved

- Millions of tiny air bubbles entrained with AEA act as flexible ball bearings, lubricating and plasticising the concrete mix. This permits a reduction in mixing water with no loss in slump. Placeability is improved, bleeding and segregation are minimised.

Durability is Increased

- AEA concrete is extremely durable, particularly when subjected to freezing and thawing. It has resistance to frost and deicing salts, as well as to sulfate, sea and alkaline waters.

Compatibility with Other Admixtures

AEA is compatible in concrete with all known accelerating admixtures, water-reducing admixtures and water-reducing retarders. By combining the separate effects of air entrainment with the dispersion of a water-reducing admixture, the water requirement of concrete may be reduced with proportional increases in strength and improvement in durability. Each admixture should be added separately to the mix.

Mix Water Reduction

Entrained air will increase the volume of the concrete making it necessary to adjust the mix proportions to maintain the cement factor and yield. This may be accomplished by a reduction in water requirement and aggregate content.

Dispensing Equipment

Please contact your local GCP representative for further information regarding the dispensing equipment for this product.

Addition Rates

There is no standard addition rate for AEA. The amount to be used will depend upon the amount of air required under job conditions, usually in the range of 3 to 6%. Typical factors which might influence the amount of air entrained are: temperature, cement, sand gradation, and use of extra fine materials such as fly ash. Typical AEA addition rates range from 50 to 100mL / m^3 of cementitious material. Higher addition rates can be used for various projects. Addition rates as high as 300 to 500mL / m^3 of cementitious material can be considered. Lab and field trials are recommended to determine performance required.

The air-entraining efficiency of AEA becomes even greater when used with water-reducing and set-retarding agents. This may allow a reduction of up to two-thirds in the amount of AEA required for the specified air content.

Packaging

AEA is available in bulk, and 205L drums. AEA contains no flammable ingredients. It freezes at about-1 °C, but its air-entraining properties are completely restored by thawing and thorough agitation.

Health and Safety

See AEA Material Safety Data Sheet or consult GCP Applied Technologies.

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gcpat.com.au/solutions/products/darex-aea