

# TERAPAVE<sup>®</sup> AEA

Air-entraining admixture ASTM C260

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## Product Description

TERAPAVE<sup>®</sup> AEA admixture is an aqueous solution of a complex mixture of organic acid salts. TERAPAVE<sup>®</sup> AEA is specially formulated for use as an air-entraining admixture for concrete paving and provides uniform, predictable performance. It is supplied ready-to-use and does not require premixing with water. TERAPAVE<sup>®</sup> AEA conforms to ASTM C260. One gallon weighs approximately 8.5 lbs (1.02 kg/L).

## Product Advantages

- Uniform, predictable air entrainment in paving applications
- Can be used in wide spectrum of mix designs
- Superior air stability minimizes air loss during placement

## Uses

TERAPAVE<sup>®</sup> AEA is used in low slump concrete, particularly for highway paving applications, where concrete is mixed and there is a need for purposeful air entrainment.

## Performance

Air is entrained by the development of a semi-microscopic bubble system—introduced into the mix by agitation and stabilized by TERAPAVE<sup>®</sup> AEA—in the mortar phase of the concrete.

TERAPAVE<sup>®</sup> AEA concrete is extremely durable, particularly when subjected to freezing, thawing and deicing salts.

## Addition Rates

There is no standard addition rate for TERAPAVE<sup>®</sup> AEA. The amount to be used will depend upon the amount of air required under job conditions, usually in the range of 4% to 8%. Typical factors that might influence the amount of air entrained are: temperature, cement, sand gradation and use of extra fine materials such as fly ash. Typical TERAPAVE<sup>®</sup> AEA addition rates range from ½ to 3 fl oz/100 lbs (30 to 200 mL/100 kg) of cement.

The air-entraining efficiency of TERAPAVE<sup>®</sup> 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 TERAPAVE<sup>®</sup> AEA required for the specified air content.

## Concrete Mix Adjustment

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.

## Packaging & Handling

TERAPAVE® AEA is available in bulk, delivered in metered tank trucks, totes and drums.

TERAPAVE® AEA freezes at about 30 °F (-1 °C), but its air-entraining properties are completely restored by thawing and thorough mechanical agitation.

## Dispensing Equipment

A complete line of automatic TERAPAVE® AEA dispensers is available. Accurate and simple, these dispensers are easily adapted to existing facilities on paving mixers and in batching plants.

## Compatibility with Other Admixtures and Batch Sequencing

TERAPAVE® AEA is compatible with most GCP admixtures as long as they are added separately to the concrete mix. In general, it is recommended that TERAPAVE® AEA be added to the concrete mix near the beginning of the batch sequence for optimum performance, preferably by “dribbling” on the sand. Different sequencing may be used if local testing shows better performance. Please see GCP Technical Bulletin TB-0110, *Admixture Dispenser Discharge Line Location and Sequencing for Concrete Batching Operations* for further recommendations. TERAPAVE® AEA should not come in contact with any other admixture before or during the batching process, even if diluted in mix water. TERAPAVE® AEA should not be added directly to heated water.

Pretesting of the concrete mix should be performed before use, as conditions and materials change in order to assure compatibility, and to optimize dosage rates, addition times in the batch sequencing and concrete performance. Please consult your GCP Applied Technologies representative for guidance.

## Specifications

Concrete shall be air entrained concrete, containing 4% to 8% entrained air. The air contents in the concrete shall be determined by the pressure method (ASTM Designation C231), volumetric method (ASTM Designation C173) or gravimetric method (ASTM Designation C138). The air-entraining admixture shall be TERAPAVE® AEA, as manufactured by GCP Applied Technologies, or equal. The air-entraining admixture shall be added at the concrete mixer or batching plant in such quantities as to give the specified air contents.

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