

WRDA[®] 86

Water-reducing admixture ASTM C494 Type A

Product Description

WRDA[®]86 is an aqueous solution of complex organic compounds containing a catalyst which promotes more complete hydration of Portland cement. WRDA 86 is manufactured under rigid control which provides uniform, predictable performance. It is supplied as a dark brown, low viscosity liquid, ready-to-use as received and contains calcium chloride. One gallon weighs approximately 10 lbs (1.2 kg/L).

Uses

WRDA 86 water-reducing admixture produces a mix with lower water content and yields a stronger, less permeable and more durable concrete. It is used in ready-mix plants, job site plants and concrete pavers, for normal weight and light weight concrete, in block and precast.

Performance

WRDA 86 lessens the natural interparticle attraction between cement grains in water. It does this by colloidal action. Adsorption on the cement particles reduces their tendency to clump together and makes the mix more workable with less water. As a cement catalyst, WRDA 86 initiates a more complete hydration of the cement, beginning immediately after the cement and water come together. WRDA 86 increases the gel content of the concrete, the paste or binder that "glues" the concrete aggregates together. Also WRDA 86 adds to the water retention and internal cohesiveness of the mix, reducing bleeding and segregation as it increases workability and placeability.

Product Advantages

- Consistent water reduction and set times
- Improves performance concrete containing supplementary cementitious materials
- Produces concrete that is more workable and easy to place
- High compressive and flexural strengths
- Improves finishability

Addition Rates

WRDA 86 water-reducing admixture provides water reduction with no retardation. The amount of WRDA 86 to be used will range from 3 to 6 fl oz/100 lbs (190 to 375 mL/100 kg) of cement depending upon job requirements. However, higher dosage rates are acceptable as conditions require.

Compatibility with Other Admixtures and Batch Sequencing

WRDA 86 is compatible with most admixtures as long as they are added separately to the concrete mix, usually through the water holding tank discharge line. In general, it is recommended that WRDA 86 be added to the concrete mix near the end of the batch sequence for optimum performance. 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.

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. For concrete that requires air entrainment, the use of an ASTM C260 air-entraining agent (such as DARAVAIR® or DAREX® product lines) is recommended to provide suitable air void parameters for freeze-thaw resistance. Due to a synergistic effect of WRDA 86, the quantity of AEA added to WRDA 86 admixed concrete may be reduced by 25% to 50%. Please consult your GCP representative for guidance.

Packaging & Handling

WRDA 86 water-reducing admixture is available in bulk, delivered by metered tank trucks and in drums.

WRDA 86 contains no flammable ingredients.

Dispensing Equipment

A complete line of accurate, automatic dispensing equipment is available. WRDA 86 water-reducing admixture may be added to the concrete mix on the sand or in the water.

Specifications

Concrete shall be designed in accordance with *Standard Recommended Practice for Selecting Proportions for Concrete*, ACI 211.1.

The water-reducing admixture shall be WRDA 86 as manufactured by GCP Applied Technologies, or its equivalent.

It shall meet the requirements of Specification for Chemical Admixtures for Concrete ASTM Designation C494 as a Type A admixture when used at an addition rate of 3 to 6 fl oz/100 lbs (190 to 375 mL/100 kg) of cement. Certification of compliance shall be made available on request. The admixture shall be considered part of the total mixing water.

The admixture shall be delivered as a ready-to-use liquid product and shall require no mixing at the batching plant or job site.

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