WRDA® 35

Water-reducing admixture ASTM C494 Type A and D

Product Description

WRDA®35 is an aqueous solution of complex organic compounds containing a catalyst which promotes more complete hydration of Portland cement. It does not contain calcium chloride. WRDA®35 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. One gallon weighs approximately 10.0 lbs (1.2 kg/L).

Uses

WRDA®35 produces a concrete with lower water content, greater plasticity and higher strength which is less permeable and more durable. It is used in ready-mix plants, job site plants and concrete pavers for normal weight and light weight concrete, in block, precast and prestressed concrete plants.

Performance

WRDA®35 is a chemical admixture meeting the requirements of *Specification for Chemical Admixtures for Concrete*, ASTM Designation C494 as a Type A and as a Type D admixture.

As a dispersing agent, WRDA®35 lessens the natural interparticle attraction between cement grains in water. It does this by colloidal action by adsorption on the cement particles thus reducing their tendency to clump together and makes the mix more workable with less water. As a cement catalyst, WRDA®35 affects a more complete hydration of the cement beginning immediately after the cement and water come together. This occurs at the lower additions of WRDA®35 or immediately after a period of designed and controlled hydration at the higher additions. WRDA®35 increases the gel content of the concrete, the paste or binder that “glues” the concrete aggregates together. The increased gel content 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, easy to place and finish
- High compressive and flexural strengths

Addition Rates

The amount of WRDA®35 to be used will range from 2 to 8 fl oz/ 100 lbs (130 to 520 mL/100 kg) of cement depending upon job requirements. ASTM C494 Type A performance is typically achieved when dosed from 2 to 5 fl oz/100 lbs (130 to 325 mL/100 kg) of cement and ASTM C494 Type D performance is typically achieved when dosed from 5 to 8 fl oz/100 lbs (325 to 520 mL/100 kg) of cement.

Compatibility with Other Admixtures and Batch Sequencing

WRDA®35 is compatible with most GCP 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®35 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. Please consult your GCP Applied Technologies representative for guidance.

Packaging & Handling

WRDA®35 is available in bulk, delivered by metered tank trucks, in totes and drums.

WRDA®35 will freeze at about 28 °F (-2 °C) but will return to full strength after thawing and thorough agitation.

Dispensing Equipment

A complete line of accurate, automatic dispensing equipment is available. WRDA®35 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.

The water-reducing admixture shall be WRDA®35 as manufactured by GCP Construction Products, or equal. The admixture shall not contain calcium chloride. It shall meet the requirements of S*pecification for Chemical Admixtures for Concrete*ASTM Designation C494 as a Type A admixture or as a Type D admixture. 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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ca.gcpat.com/solutions/products/wrda-35