

WRDA[®] with HYCOL[®]

Water-reducing admixture ASTM C494 Type A

Product Description

WRDA[®] with Hycol[®] water-reducing admixture is an aqueous solution of complex organic compounds. It is a ready-to-use low viscosity liquid which is factory premixed in exact proportions to minimize handling, eliminate mistakes and guesswork. One gallon weighs approximately 9.6 lbs (1.15 kg/L). WRDA with Hycol does not contain added chloride.

Uses

WRDA with Hycol produces a concrete with lower water content (typically 8% to 10% reduction), greater plasticity and higher strength. It is used in ready-mix plants, block and concrete products plants, in lightweight and prestressed work wherever concrete is produced. It is also used by contractors in field equipment such as job site plants and pavers.

Hydration Control

Hycol acts to optimize the rate and degree of hydration of the Portland cement in the concrete. This optimization gives concrete strength advantages at all ages without appreciably altering its setting time.

WRDA with Hycol also acts as a dispersing agent and lessens the natural interparticle attraction between cement grains in water. This reduces their tendency to clump together, making the mix more workable, placeable and finishable with less water.

The combination of water reduction and controlled hydration by Hycol optimizes the rate of formation of the gel, the paste or binder that “glues” the concrete aggregates together. This controlled rate of gel formation adds to the water retention and internal cohesiveness of the mix, reducing the bleeding and segregation, while increasing or improving the workability, placeability and finishability of concrete.

Product Advantages

- Consistent water reduction and set times
- Higher compressive and flexural strengths
- Produces more workable, pumpable concrete
- Easy to place
- Better finishability than plain concrete

Finishability

The cement paste, or mortar, in concrete containing WRDA with Hycol has improved trowelability. The influence of WRDA with Hycol on the finishability of lean mixes has been particularly noticeable. Floating and troweling, by machine or hand, easily imparts a smooth, close tolerance surface with less machine time and labor.

Addition Rates

Excellent results are obtained using addition rates of 3 to 6 fl oz/ 100 lbs (190 to 375 mL/ 100 kg) of WRDA with Hycol of cement. In some cases it may be necessary to slightly modify the addition rate due to variations in cement, aggregate or other job conditions.

Compatibility with Other Admixtures and Batch Sequencing

WRDA with Hycol 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 with Hycol 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, and as conditions and materials change, in order to ensure 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 with Hycol is available in bulk, delivered by metered tank trucks, and totes and drums.

WRDA with Hycol 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 dispensing equipment is available. WRDA with Hycol may be introduced to the 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 with Hycol, as manufactured by GCP Applied Technologies, or equal. The admixture shall not contain calcium chloride. It shall be used in strict accordance with the manufacturer's recommendations. The admixture shall comply with ASTM Designation C494, *Type A Water-Reducing Admixtures*. Certification of compliance shall be made available upon request.

The admixture shall be considered part of the total 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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