

WRDA[®] 35

Water-Reducing Admixture and Retarder ASTM C 494,
Type A and Type D

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 Liter weighs approximately 1.2 kg (10.0 lbs/gal).

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.

Chemical Action

WRDA 35 is a chemical admixture meeting the requirements of Specification for Chemical Admixtures for Concrete, ASTM Designation C 494 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 effects 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.

Addition Rates

WRDA 35 will meet the requirements of ASTM C 494 as a Type A and as a Type D admixture thus providing water reduction with no retardation through mild to full initial retardation as job conditions require. After a period of initial retardation at the higher addition rates, hydration continues rapidly and completely.

The amount of WRDA 35 to be used will range from 130 to 520 mL/100 kg (2 to 8 fl oz/100 lbs) of cement depending upon job requirements.

Compatibility with Other Admixtures

WRDA 35 is compatible with all air-entraining admixtures such as Darex® II AEA or Daravair®. Due to a synergistic effect of WRDA 35 the quantity of air-entraining admixture added to WRDA 35 admixture concrete may be reduced by 25 to 50%. By combining the separate effects of air

entrainment and dispersion, the water requirement of concrete may be reduced up to 20%. EACH ADMIXTURE SHOULD BE ADDED SEPARATELY. WRDA 35 contains no calcium chloride but is compatible in concrete with calcium chloride. Again, each admixture should be added separately.

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.

Packaging


WRDA 35 is available in bulk, delivered by metered tank trucks, and 210 L (55 gal) drums, WRDA 35 contains no flammable ingredients. It will freeze at about -2°C (28°F) but will return to full strength after thawing and thorough agitation.

Architects' 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 Grace Construction Products, or equal. The admixture shall not contain calcium chloride. It shall meet the requirements of Specification for Chemical Admixtures for Concrete ASTM Designation C 494 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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