

ZYLA[®] R

Water-reducing and retarding ASTM C494 Type B and D

Product Description

ZYLA[®]R is a ready-to-use aqueous solution of organic compounds specifically designed as an admixture for Portland cement concrete. The ingredients are factory pre-mixed in exact proportions under strict quality control to provide uniform results. One gallon weighs approximately 8.9 lbs (one liter weighs approximately 1.07 kg).

Product Advantages

- No impact on concrete air content
- Better control of water reduction and setting times as compared to traditional lignin-based water reducers
- Synergistic performance of polycarboxylate-based mid-range and high-range water reducers, which includes water reduction and concrete strength and air control
- In the hardened state, improves the compressive and flexural strengths at all ages of concrete versus traditional lignin-based water reducers
- Linear set retardation with increasing addition rates

Product Uses

Set Retarder

ZYLA[®]R is used to retard the initial and final set of concrete. At the usual addition rate of 3 to 5 fl oz/100 lbs (195 to 325 mL/100 kg) cementitious it will extend the initial setting time of Portland cement concrete by approximately 2 to 3 hours at 70 °F (21 °C). It is specifically designed to be a linear set retarder with increasing dosage rate. See Table 1. ZYLA[®]R is used wherever a delay in setting time will insure sufficient delivery, placement, vibration or compaction time. It may be used in all types of concrete.

Water-Reducing Properties

Along with set retardation, ZYLA[®]R typically provides 5% water reduction in a concrete mix. This water-reducing action of ZYLA[®]R produces greater plasticity and workability in the fresh concrete and the strength and permeability of the hardened concrete are measurably improved. ZYLA[®]R is designed for use on jobs where high temperatures or extended setting times are the prime factors. It is recommended only when the primary purpose is to delay and control the setting time of concrete.

Concrete Workability

Although ZYLA®R is formulated primarily as a concrete set retarder for all types of concrete, it is also used to aid placing of low-slump concrete such as curb and gutter, paving and pervious concrete. It reduces the amount of hand finishing required in these applications and makes it easier to discharge from the truck, while better controlling the setting time.

Addition Rates

Addition rates of ZYLA®R as an ASTM C494 Type D retarder, may be 2 to 12 oz/100 lbs (130 to 780 mL/100 kg) of cementitious. Proper dosage rate selection can only be achieved through pretesting before a project starts, and as job and environmental conditions change. Consult your local GCP Applied Technologies admixture representative.

Compatibility with Other Admixtures and Batch Sequencing

ZYLA®R 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 ZYLA®R 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.

Dispensing Equipment

A complete line of accurate, automatic dispensing equipment is available. ZYLA®R should be introduced to the mix through the water tank pipe or through a separate hose.

Packaging & Handling

ZYLA®R is available in bulk, delivered by metered tank trucks, totes and drums.

ZYLA®R will freeze, but will return to full effectiveness after thawing and thorough mechanical agitation.

Specifications

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

The set-retarding/water-reducing admixture shall comply with ASTM Designation C494, Type D admixture, and shall be ZYLA[®]R, as manufactured by GCP Applied Technologies, or equal. Certification of compliance shall be made available on request. It shall be used in strict accordance with the manufacturers' recommendations.

The addition rate shall be adjusted to produce the specified retardation of the concrete mix at all temperatures.

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