

ADVA[®] 380

High-range water-reducing admixture ASTM C494 Type A and F and ASTM C1017 Type I

Product Description

ADVA[®]380 is a high efficiency polycarboxylate-based super-plasticizer intended for the production of Self-Consolidating Concrete (SCC) in ready-mix applications. ADVA[®]380 has been formulated to extend slump-flow life while imparting extreme workability without segregation to concrete, to achieve high early compressive strength. ADVA[®]380 is supplied as a ready-to-use brown liquid. One gallon weighs approximately 8.90 lbs (one liter weighs approximately 1.07 kg). ADVA[®]380 contains no intentionally added chlorides.

Product Advantages

- Imparts excellent stability to high flow concrete
- Improved air entrainment control
- Excellent surface finish

Uses

ADVA[®]380 is recommended for use in the production of self-consolidating concrete and is a component of GCP's Self Consolidating Concrete System. ADVA[®]380 can also be used as a conventional high-range water reducer.

- Can produce SCC concrete with extremely high levels of workability without segregation.
- Extended slump life to ease job site placement.
- Ideal for use in applications where concrete needs to achieve high early strength along with high levels of workability.
- Provides superior concrete surface finish characteristics with reduced bugholing.

Self-Consolidating Concrete

SCC produced with ADVA[®]380 has unique advantages over conventional flowing concrete.

- Self placement — vibration can be eliminated because SCC is highly flowable and will change shape under its own weight to self level and self consolidate within formwork.
- No segregation — SCC is a flowable yet highly cohesive material that will not segregate, and has significantly reduced bleeding.
- No blocking — SCC can pass freely through narrow openings and congested reinforcement without aggregate “blocking” behind obstructions that stop the flow of concrete.

The production of SCC typically requires both the use of specialty admixtures specifically tailored for SCC such as ADVA®380, as well as mix design adjustments. Therefore, for SCC applications, pre-placement testing is strongly recommended to determine the optimal admixture addition rate and appropriate mix design parameters.

Factors that influence optimum addition rate include other concrete mix components, aggregate gradations, form geometry, and reinforcement configurations. V-MAR®3 may be used with ADVA®380 to further modify the rheological properties of SCC Concrete.

Compatibility with Other Admixtures and Batch Sequencing

ADVA®380 is compatible with most admixtures as long as they are added separately to the concrete mix. However, ADVA® products are not recommended for use in concrete containing naphthalene-based admixtures including DARACEM®19 and DARACEM® 100, and melamine-based admixtures including DARACEM®65. In general, it is recommended that ADVA®380 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 assure compatibility with other admixtures, 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 representative for guidance.

Addition Rates

ADVA®380 is an easy to dispense liquid admixture. Dosage rates can be adjusted to meet a wide spectrum of concrete performance requirements. Addition rates for ADVA®380 can vary with the type of application, but will normally range from 4 to 16 fl oz/100 lbs (260 to 1050 mL/100 kg) of cement. Should conditions require using more than the recommended addition rate, please consult your GCP representative.

Packaging & Handling

ADVA®380 is available in bulk, delivered by metered trucks, in totes and drums. ADVA®380 will freeze at approximately 32°F (0°C) but will return to full functionality after thawing and thorough mechanical agitation.

Dispensing Equipment

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

ca.gcpat.com | North America customer service: 1-877-4AD-MIX (1-877-423-6491)

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