

# CONCERA<sup>®</sup> SA8080

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

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## Product Description

CONCERA<sup>®</sup>SA8080 is a high efficiency polycarboxylate-based superplasticizer intended for the production of Control Flow Concrete, a highly flowable concrete utilizing conventional mix designs. CONCERA<sup>®</sup>SA8080 is formulated to extend slump-flow life while imparting extreme workability without segregation to concrete.

CONCERA<sup>®</sup> SA8080 is supplied as a ready-to-use liquid that weighs approximately 8.65 lbs/gal (1.04 kg/L). It does not contain intentionally added chlorides.

## Product Advantages

- Uses conventional mix designs
- Enables the production of extremely high-flowing, segregation resistant concrete
- Yields consistent and predictable slump flows
- Provides extended slump flow retention
- Reduces/eliminates job-site QC support
- Provides consistent air management
- Easier and faster placement and finishing

## Uses

CONCERA<sup>®</sup> SA8080 is recommended for use in the production of Control Flow Concrete, a highly flowable conventionally proportioned concrete category with slump flows that reside between conventional and self-consolidating concrete.

Typical water content of base mixture (without CONCERA<sup>®</sup> SA8080) should be sufficient to produce an untreated 2-5 inch (50-125 mm) slump. Please consult your GCP Applied Technologies representative for information and assistance should concrete performance requirements require lower water contents.

- Produces concrete with extremely high levels of workability without segregation. Slump flows can vary from 16 to 25 inches (410 to 635 mm) with the types of materials used, but will typically range from 18 to 22 inches (460 to 560 mm).
- Provides superior water tolerance to the concrete, making it less susceptible to normal manufacturing moisture fluctuations
- Extends slump life to enable batch plant adjustments and predictable job site plastic properties

CONCERA<sup>®</sup> SA8080 can also be used as a conventional high-range water reducer.

## Control Flow Concrete

Control Flow Concrete is a highly flowable concrete utilizing conventional mix designs, which requires minimal external energy to properly consolidate.

Control Flow Concrete produced with CONCERA® SA8080 high range water reducing admixture has unique advantages compared to conventional flowing concrete and/or Self-Consolidating Concrete.

### Advantages compared to conventional concrete mixtures:

- **High flowability concrete** – enhanced flow properties with no change in stability or segregation resistance.
- **Easy placement and finishing** – minimized need for vibration due to high flow and high responsiveness to external energy.
- **Segregation resistant** – increased window of mix designs that maintain acceptable cohesiveness.
- **Minimized blocking** – high passing ability through congested reinforcement without aggregate “blocking” when produced with maximum size aggregate conforming to ACI 211.1.
- **Fast construction** – significantly faster concrete discharges and placement.
- **Reduced equipment wear** – pumps at lower pressures.

### Advantages compared to self-consolidating concrete mixtures:

- **Lower material costs** – uses conventional mix designs instead of specialized mix proportions.
- **Superior moisture tolerance** – consistent and predictable flow properties through a larger range of manufacturing moisture fluctuations.
- **Reduced job site quality control** – improved stability and segregation resistance reduces need for job site adjustments.

## Addition Rates

CONCERA® SA8080 is an easy to dispense liquid admixture. Dosage rates can be adjusted to meet a wide spectrum of concrete mix proportions and performance requirements. In cases where the admixture is to be used as a Type A water reducer, addition rates will normally be in the 2 to 8 fl oz/100 lbs (130 to 520 mL/100 kg) of cementitious material. Addition rates when used as a Type F high range water reducer to make Control Flow Concrete will normally range from 8 to 20 fl oz/100 lbs (520 to 1305 mL/100 kg) of cementitious material. Should conditions require using more than the recommended addition rate, please consult your GCP Applied Technologies representative.

## Compatibility with Other Admixtures and Batch Sequencing

CONCERA® SA8080 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 the product be added to the concrete mix near the end of the batch sequence for optimum performance. Please see GCP Technical Bulletin TB-0110, *Admixture Dispenser Discharge Line Location and Sequencing for Concrete Batching Operations* for further recommendations.

For concrete that requires air entrainment, the use of an ASTM C260 air-entraining agent such as DAREX®II AEA is recommended to provide suitable air void parameters for freeze-thaw resistance. Please consult your GCP Applied Technologies representative for guidance.

## Packaging & Handling

CONCERA® SA8080 is available in bulk, delivered by metered tank trucks, in totes, and drums.

CONCERA® SA8080 will begin to freeze at approximately 32°F (0°C) but will return to full strength after thawing and thorough agitation. In storage and for proper dispensing, the temperature should be maintained above 32°F (0°C).

## Dispensing Equipment

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

## Specifications

Concrete shall be designed in accordance with *Standard Recommended Practice for Selecting Proportions for Concrete*, ACI 211.

The high-range water-reducing admixture shall be CONCERA® SA8080 high range water reducer as manufactured by GCP Applied Technologies, or its equivalent. It shall be manufactured to meet all the requirements of Specification for Chemical Admixtures for Concrete, ASTM Designation C494 as a Type A and F and ASTM C1017 Type I admixture.

The admixture shall be delivered as a ready-to-use, liquid product and shall not contain added chlorides. It shall be used in strict accordance with manufacturer's recommendations.

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This product or its use may be covered by US Patent Nos. 8,070,875; 8,187,376; 8,317,918.

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