

ADVA® CAST 555

High-range water-reducing admixture

ASTM C494 Type A and F, and ASTM C1017 Type I

Product Description



ADVA® Cast 555 is a high efficiency polycarboxylate-based superplasticizer. ADVA Cast 555 has been formulated to impart maximum desired workability without segregation to concrete, and to achieve high early compressive strength as required by the precast industry. ADVA Cast 555 is optimized for the production of Self-Consolidating Concrete (SCC) in precast/prestressed applications. ADVA Cast 555 is formulated to comply with ASTM C494 as a Type A and F, and ASTM C1017 Type I.

ADVA Cast 555 is supplied as a ready-to-use brown liquid. One gallon weighs approximately 8.90 lbs (one liter weighs approximately 1.07 kg). ADVA Cast 555 contains no intentionally added chlorides.

Uses

ADVA Cast 555 is recommended for use in precast and prestressed production in conventional and SCC applications.

Product Advantages

- Superior air entrainment control
- Excellent concrete cohesiveness even with less than optimum aggregate gradations
- Enhanced tolerance to slight moisture variability
- Consistently produces non-segregating concrete
- Superior finish on cast surfaces
- Enhanced strength development

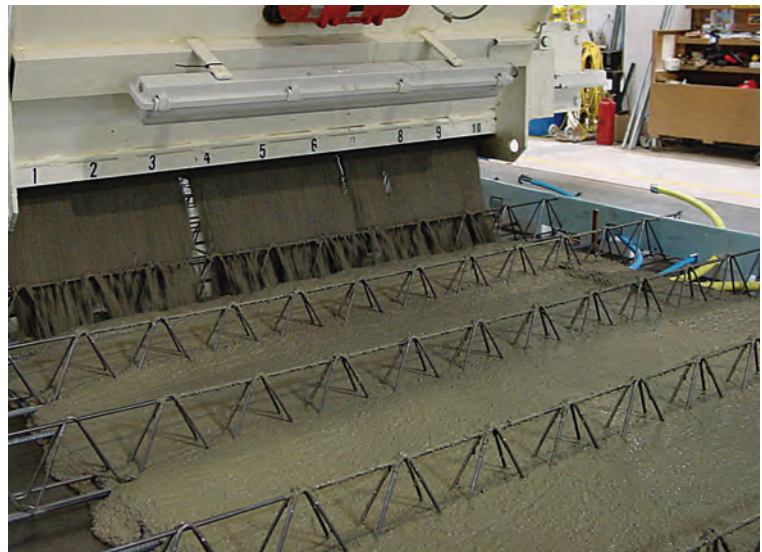
Conventional Concrete Applications of ADVA Cast 555:

- Can produce concrete with extremely high levels of workability without segregation.
- May be used to produce concrete with very low water/cement ratios while maintaining normal levels of workability.
- Ideal for use in precast and prestressed 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 Applications:

SCC produced with ADVA Cast 555 has unique advantages over conventional flowing concrete.

- Lower SCC viscosity — flow properties of SCC are enhanced, reducing SCC viscosity with no change in stability or segregation resistance.



- 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.
- High cohesion — the window of acceptable mix designs to maintain cohesive SCC's is increased, allowing for the production of SCC that is flowable and yet highly cohesive. Bleeding is significantly reduced.
- No blocking — SCC can pass freely through narrow openings and congested reinforcement without aggregate “blocking” behind obstructions that stop the flow of concrete.

Addition Rates

ADVA Cast 555 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 Cast 555 can vary with the type of application, but will normally range from 8 to 20 fl oz/100 lbs (540 to 1400 mL/100 kg) of cement. Should conditions require using more than the recommended addition rate, please consult your Grace representative.

For SCC applications, pre-placement testing is recommended to determine the optimum admixture addition rate and mix design. Factors that influence optimum addition rate include other concrete mix components, aggregate gradations, form geometry, and reinforcement configurations. Please consult your local Grace Construction Products representative for assistance with developing mix designs for Self-Consolidating Concrete.

Compatibility with Other Admixtures and Batch Sequencing

ADVA Cast 555 is compatible with most Grace 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 ML 330 and Daracem 65. In general, it is recommended that ADVA Cast 555 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 Grace Technical Bulletin TB-0110, *Admixture Dispenser Discharge Line Location and Sequencing for Concrete Batching Operations* for further recommendations. ADVA Cast 555 should not come in contact with any other admixture before or during batching, even if diluted in mix water.

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 Grace representative for guidance.

Packaging & Handling

ADVA Cast 555 is available in bulk, delivered by metered trucks, in 275 gal (1041 L) totes, and 55 gal (210 L) drums. ADVA Cast 555 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.

www.graceconstruction.com

North American Customer Service: 1-877-4AD-MIX1 (1-877-423-6491)

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