



Placement-Specific Concrete

Self-Consolidating Concrete

Overview

Self-consolidating concrete (SCC) is a highly flowable concrete that can spread into place and surround rebar without mechanical aid.

Applications

Structural walls, columns and beams, structural members with high rebar congestion or non-typical formwork, earth retaining systems.

Benefits

SCC has been shown to allow concrete contractors to reduce labor hours by reducing placement, consolidation and finishing time.

Ask Central

- ▶ It is important to communicate with the ready-mixed producer regarding placing conditions and time needed for workability because self-consolidating concrete might inherently have shorter working time and require additional design considerations for adequate placement.
- ▶ Our Quality Assurance team will walk you through the self-consolidating specific testing.



- ▶ Central Concrete hosts the ACI certification for Self-Consolidating Concrete. Interested parties can sign up here: <http://aci-ncawnv.org/Certification/CertificationSchedule.aspx>
- ▶ View Concrete In Practice: Self-Consolidating Concrete. <https://centralconcrete.com/wp-content/themes/centralconcrete/images/cip/37pr.pdf>

Shotcrete

Overview

Shotcrete is pneumatically-placed concrete that is discharged through a hose and projected at high velocities onto a surface. Due to the force of the projectile material, concrete is placed and compacted simultaneously. A shotcrete mix design is characterized by low slump and a maximum coarse aggregate size of ½ inch.

Applications

Nearly limitless applications, including below grade walls, architectural/landscaping elements, curved structures, and tanks.

Benefits

- ▶ Cost savings from: reduced labor, formwork, and enhanced construction speed.
- ▶ Shotcrete can be placed in a multitude of hard to reach areas.
- ▶ Mix design can contain supplementary cementitious materials and/or fibers. Ability to provide a shotcrete mix with up to 8,000 psi compressive strength.



Learn more

- ▶ Visit www.concrete.org to download the ACI 506 Guide to Shotcrete.

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High Early Strength

Overview

High early strength concrete is concrete that achieves a specific target strength at an early age that allows projects to maintain or accelerate their schedules. High early concrete ranges from rapid setting concrete that allows State DOTs to open freeways overnight to normal setting concrete that allows building contractors to complete a floor cycle.

Applications

Post-tension slabs, columns, shear walls, foundations, elements where formwork removal is part of the project schedule's critical path, and pavement replacement requiring quick implementation for traffic use.

Benefits

- ▶ Maintain accelerated construction time
- ▶ Mix design proportions for high early strength inherently result in lower drying shrinkage, higher 28-day strength, and higher modulus of elasticity.
- ▶ Set time can be faster, but can be controlled with admixtures and specific mix design proportions.

Long-distance horizontal or vertical pumping

Our team can assist you in analyzing your placement requirements. Pumping is an efficient means of placing concrete into difficult to reach locations (i.e. multiple floors up, thousands of feet away, etc.). Pump selection, system diameter, type of pipe, number of turns of the system, and system length are all factors that will affect how decisions are made relative to pumping a mix through the entire system. When evaluating long distance pumping you also need to consider cementitious content and selection, aggregate selection, use of admixtures for maintaining cohesiveness and the ability of the mix to flow without significant slump loss. It is important to communicate these factors with our team to aid in selection of the proper mix design.

Questions?

We are ready to help.

Contact your Account Manager or
Regional Project Manager

www.centralconcrete.com

www.rightawayredymix.com



- ▶ Maturity method of measuring in-situ strength offers opportunity to manage construction schedule by tracking hour by hour compressive strength that does not rely on additional testing services.

Ask Central

- ▶ Contact your team member to learn about wireless, real-time maturity probes



Ask us about these other concrete solutions:

- Performance-Based Concrete
- Sustainable Concrete Solutions
- Application-Specific Concrete
- Architectural Concrete

