

What you should know about **Self Consolidating Concrete**

WHAT IS SELF-CONSOLIDATING CONCRETE?

Self-Consolidating Concrete (SCC), also referred to as self-compacting concrete, is able to flow and consolidate on its own. At the same time it is cohesive enough to fill spaces of almost any size and shape without segregation or bleeding. This makes SCC particularly useful wherever placing is difficult, such as in heavily reinforced concrete members or in complicated formwork.

This technology, developed in Japan in the 1980's, is based on increasing the amount of fine material without changing the water content, compared to conventional concrete. This changes the rheological behaviour of the concrete and produces the outstanding flow characteristics that are required for production.

SCC is highly flowable, non-segregating concrete that can spread into place under its own weight to fill formwork and encapsulate extremely congested reinforcing steel, with little or no mechanical vibration. SCC's unique properties give it significant economic, constructability and aesthetic performance on conventional construction projects. SCC allows for rapid concrete placement with significantly reduced labour requirements, consolidation and finishing. The outstanding flow characteristics of SCC can also result in dramatically improved surface finishes. Its use for architectural applications has increased significantly.



ADVANTAGES OF SCC:

- Elimination of the need for internal vibration of the concrete
- Extreme ease of placement and flowability
- Ability to fully encapsulate heavily congested reinforcing steel applications
- Rapid rate of concrete placement
- Significant reduction in concrete placement crew sizes
- Dramatically improved concrete surface finish
- Excellent durability properties with a low W/CM ratio and potential for high early strength development



Self Consolidating Concrete COST COMPARISON TOOL



SCC Cost Compare Software can show you how self consolidating concrete can be cost effective on your project. Let the RMCAO show you how SCC can be used for both horizontal and vertical concrete applications.

If you would like to take advantage of SCC on one of your projects, go to www.rmcao.org and click on the SCC Cost Compare Software.

References:

1. Best Practice Guidelines for Self-Consolidating Concrete -2009, Ready Mixed Concrete Association of Ontario.
2. Concrete in Practice C37 – Self Consolidating Concrete, 2004, National Ready Mixed Concrete Association.