



Very flowable; no internal vibration required for consolidation.



Point Lavolette Bridge, Trois Rivieres, Quebec, Canada. 10,000+ bags of SCC were used to repair patches on bridge piers that were up to 200 feet (60m) high.



Autoroute 540/40, Quebec City, Quebec Canada. Repair of pier cap as seen through Plexiglas formwork. No internal vibration was applied. Ambex-SCC flowed freely by gravity 35 feet (11m) into formwork.



Autoroute 540/40, Quebec City, Quebec, Canada. Repair of pier cap.

### DESCRIPTION

Ambex Self-Consolidating Concrete – SCC is a blend of Portland cement and minerals, aggregates and selected additives to produce a flowable and self-consolidating concrete for the construction or repair of concrete structures. Its ease of application allows it to be pumped or placed by gravity and its flowability allows it to flow in all the cavities and through restricted and difficult to reach areas. The quality and uniformity of the mix is assured with production under strict standards. Simple and easy to use, simply add water to mix.

### APPLICATIONS

- Structural repairs
- Retaining or building walls
- Tunnels
- Bridges
- Dams and water basins
- Wharves and canal structures
- Machine bases

### ADVANTAGES

- No segregation
- Flowable mix and self compacting
- Eliminate use of vibrators
- Able to place in restricted and hard to reach areas
- High strength
- Uniform surfaces. No honeycombing
- Freeze-thaw durability and scaling resistance

### FORMWORK PRECAUTIONS

Ensure formwork is tight and will prevent cement grout from escaping. This will affect the flowability and appearance of the concrete.

**TECHNICAL SPECIFICATIONS**

	METRIC	IMPERIAL
Yield 30 kg (66 lbs) bag	0.014 cu.m.	0.5 cu.ft.
22.7 kg (50 lbs) bag	0.011 cu. m	0.38 cu ft
Aggregate size	2.5-10 mm	1/8"- 3/8"
Flow	600-700 mm	24"- 28"
Compr. strength (70° F)	3.9 MPa	565 psi (24 hrs)
(ASTM C-39)	33 MPa	4780 psi (7 days)
	50 MPa	7250 psi (28 days)

Shrinkage (ASTM C-157)		0.065 (28 days)
Freeze- thaw durability (313 cycles) ASTM C-666		100%
Air void spacing factor (ASTM C-457)		241µm
Absorption (ASTM C-642)		2.8%
Permeable voids (ASTM C-642)		7.8%
Chloride permeability (ASTM C-1202)		619 Coulombs
Scaling (ASTM C-672)		0,04 kg / m <sup>2</sup> (0.008 lbs / ft <sup>2</sup> )
Air (%)		5% - 9%
Color		Grey
Bonding to existing concrete (Pull-out)	3 days 1.06 MPa (154 PSI)	7 days 1.88 MPa (272 PSI)

**PREPARATION**

In order to ensure Ambex Self-Consolidating Concrete-SCC bonds properly to the existing concrete, the existing concrete surface must be clean and free from all contaminants and loose or delaminated concrete. Rebar must be clean and properly attached in place. The surface of the concrete substrate must be roughened and sound. It is recommended to wash the surfaces with a high pressure jet prior to forming. Make sure surfaces and formwork are wet prior to placing the concrete.

**MIXING**

Bag Size	Water To Be Added
30 kg (66 lbs)	3 – 3.2 lts (0.8 – 0.85 US Gal)
22.7 kg (50 lbs)	2.25 – 2.4 lts (0.6 – 0.63 US Gal)

The use of a concrete or mortar mixer is recommended. Mix can also be done with drill mixer in a 5 Gal. pail but proportion must be respected. Add 80% of water before adding material to mixer. Mix for 2 minutes until a homogeneous and consistent mix is obtained, wait 1 minute and remix for another 2 minutes. Use warm water to accelerate concrete's setting time.

**PLACING**

Mix can be pumped or placed by gravity. Ensure formwork is watertight and has been prehumidified before pouring.

**CURING**

AMBEX-SCC is cured like normal concrete using good concrete practice. In cold weather protect concrete from freezing.

**PACKAGING**

- 22.7 kg bag (50 lbs bag) 64 bags per pallet
- 30 kg bag (66 lbs bag) 63 bags per pallet
- 1000 kg (2,206 lbs) Supersac available

**STORAGE**

Cementitious material sensitive to humidity. Store in a dry area. Shelf life 1 year if properly protected.

**SAFETY PRECAUTIONS**

This product contains Portland cement and is alkaline when mixed with water. It may irritate skin and eyes. Avoid splashing and contact with skin. If material is in contact with skin or eyes, rinse with water and consult a doctor if irritation persists. Do not rub eyes. Do not swallow. Wear adequate protective wear. MSDS available on request.

**CLEANING**

Clean tools and equipment with water immediately after use.

**WARNING**

Do not modify or add admixtures without consulting Ambex Technical Representative.

**GUARANTEE**

Ambex Concrete Technologies Inc. (Ambex) guarantees that its products meet the technical specifications presented on its data sheets. The products must be used as per directions stated on data sheets. Ambex is not responsible for any damages resulting from improper use and application of its products. Ambex's liability is limited to the replacement only of product considered defective. Ambex does not give any other warranty, implicit or explicit, and in no way can be held responsible for loss of profits, demands from third parties or any other damages

**TECHNICAL SERVICE**

AMBEX CONCRETE TECHNOLOGIES INC.  
1522 Blvd. des Laurentides,  
Laval, Quebec, Canada H7M 2N7  
Tel. 450.662.9147 Toll free 1.888.351.7585  
Fax 450.662.9013 www.ambexcorp.com

Questions? E-mail us at [ambexinfo@ambexcorp.com](mailto:ambexinfo@ambexcorp.com)

© COPYRIGHT ALL RIGHTS RESERVED 2008.  
AMBEX CONCRETE TECHNOLOGIES INC. (01/12/2009)