



Very flow able; no internal vibration required for consolidation.



Laviolette Bridge, Trois Rivières, Quebec, Canada. 10,000+ bags of SCC were used to repair patches on bridge piers that were up to 60m (200 feet) 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 11m (35 feet) into formwork.



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

DESCRIPTION

AMBEX SCC[™] is a blend of Portland cement, minerals, aggregates and selected additives to produce a flow able 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 flow ability 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 and Highways
- Dams and water basins
- Wharves and canal structures
- Machine bases
- Structures that need precise repairs

ADVANTAGES

- Rheological stability. No segregation or excessive bleeding
- Flow able mix and self compacting
- Eliminate use of vibrators
- Able to place in restricted and hard to reach areas
- High strength
- Uniform surfaces. No honeycombing
- Excellent Freeze-thaw durability and scaling resistance

FORMWORK PRECAUTIONS

Ensure formwork is tight and will prevent cement grout from escaping. This will affect the flow ability and appearance of the concrete. Formwork must be designed for full liquid head and verified by an engineer.

PREPARATION

For **AMBEX SCC[™]** to adhere to the existing concrete, the existing surface must be clean and free from any loose and deleterious material, damaged and unsound concrete, dust, dirt, and any other contaminant that may interfere with bonding of new concrete. The rebar must be clean and free from paint, dust, oil, rust or any other contaminants and properly attached in place. Saw cut perimeter of repair area. It is also recommended to use sandblasting. Clean the concrete surface with a high pressure water jet. **Surfaces must be roughened to ensure proper bonding and saturated with water immediately prior to concreting. All ponded and standing water shall be removed prior to concreting.**

TECHNICAL SPECIFICATIONS

	METRIC	IMPERIAL
Yield 30 kg (66 lbs) Bag	0.014 m ³	0.5 pi ³
Aggregate Size	2.5 – 10 mm	1/8 – 3/8 in
Sump Flow (CSA A23.2-5 C)	600 – 700 mm	24 – 28 in
Comprehensive Strength 21° C (70° F) (ASTM C- 39)	24 hrs: 10 MPa	1450 psi
	7 days: 35 MPa	5080 psi
	28 days: 50 MPa	7250 psi
Substrate Bonding CSA A 23.1-04	3 days: 1.06 MPa	154 psi
	7 days: 1.88 MPa	272 psi
Shrinkage (ASTM C- 157)	0.065%	
Freeze-Thaw Durability (ASTM C- 666) (313 cycles)	100%	
Air Void Spacing Factor (ASTM C- 457)	241µm	9.48 x 10 ⁻³ in
Chloride Permeability (ASTM C- 1202)	295 coulombs	
Scaling Resistance (ASTM C- 672)	0.04 kg / m ²	0.008 lbs / ft ²
Air Content	5% – 9%	
Color	Grey	
Temperature Application	5° C – 30° C	40° F – 86° F

MIXING

BAG WEIGHT	QUANTITY OF WATER
30 kg (66 lbs)	3.0 L (0.79 US Gal)

The use of a concrete mixer is recommended. The equipment must be clean and cannot contain any dry or humid residue of cement. Start mixer and add 80% of the water before slowly adding **AMBEX SCC™** in the mixer. Mix for two minutes. Pause for a minute so admixtures may react with water. Add rest of water and remix for two more minutes or until a homogenous mix and proper slump flow is obtained. Mixing time may vary with temperature and equipment used. Use warm water to accelerate concrete's setting time. **Too much water may cause segregation and affect properties.**

PLACING

Simply pour the flowable **AMBEX SCC™** in forms or on areas of repair. Ensure adequate mixing capacity and mixing and placing crews are available as cold joint may occur if placing is delayed and not continuous. Formwork and concrete must be saturated prior to placing of **AMBEX SCC™**. Place **AMBEX SCC™** when temperature is above 5° C (40° F). In warm weather, use ice water and/or retarder to retard setting. Consult AMBEX Technical Personnel for use of a retarder admixture. Trowel finish surfaces.

CURING

AMBEX SCC™ is cured like normal concrete using good concrete practice. In cold weather protect concrete from freezing. Use insulating tarps or heat to maintain concrete above 5° C (40° F). Heat concrete substrate as required. When formwork is not used, put down wet burlaps and keep humid for 7 days.

PACKAGING

30 kg (66 lbs) 63 bags per pallet
1000 kg (2,206 lbs) Supersac available
22.7 kg (50 lbs) available on special order

STORAGE

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

PROBLEMATIC SITUATIONS

Cold or hot weather concreting without adequate protection
Adding admixtures without authorization
Adding aggregate
Adding excess water

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. Material Safety Data Sheets 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

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