

SOLHYDROC

SOLHYDCRETE SCC-06

High-Performance Self-Consolidating Concrete

SOLHYDCRETE SCC-06 is a high-performance self-consolidating concrete offering prolonged workability and improved spreading ability to produce permanent concrete repairs. **SOLHYDCRETE SCC-06** is dimensionally stable and forms an integral bond with the existing concrete to restore its structural integrity. **SOLHYDCRETE SCC-06** can be placed at thicknesses ranging from 25 mm to 450 mm (1 in to 17 in) in a single operation.

USES

SOLHYDCRETE SCC-06 is placed in indoor and outdoor formwork for partial or full depth repair of concrete slabs, beams, columns, soffits and walls.

TYPICAL USES

- Parking garages, balconies, walkways, elevated slabs, slabs on grade and underground slabs
- Bridges and overpasses repairs
- Structural repairs of tunnels and dams
- Vertical, horizontal and overhead structural repair

PRODUCT FEATURES & BENEFITS

- Can be easily pumped and placed requiring little manpower
- Self-consolidating concrete MTQ approved: no vibration needed when placing material
- No bleeding or segregation
- Compatible with the use of corrosion inhibitor*
- Prolonged workability and set times
- Low shrinkage and permeability
- Excellent bond strength and chemical resistance
- Excellent resistance to freeze/thaw cycles and de-icer salts
- Modulus properties similar to conventional concrete, resulting in an excellent compatibility with existing concrete
- Designed and formulated using inert non-reactive 5 mm aggregates to eliminate potential Alkali-Aggregate Reactions (AAR)

SURFACE PREPARATION

The surface to be repaired must be clean and rough and free of curing agents, oil, grease, delaminated concrete, dirt and dust or any other substance that may impair adhesion. Remove any damaged concrete to obtain a healthy substrate. Mark with a kerf of at least 25 mm around the surface to be repaired. Preparation should be done mechanically to achieve a contoured surface condition (CSP) of 6 - 10 according to ICRI Guideline 310.2. Saturate the surface to be repaired with clean water; remove any standing water before and during the work. The surface must be saturated, superficially dry (SSS). Reinforcing steel must be well cleaned and free of all traces of rust in accordance with SSPC SP10. A gap of at least 25 mm must be released behind any exposed reinforcing.

*For more information regarding the use of corrosion inhibitors, contact your SOLHYDROC representative

FORMWORK

A suitable form release agent should be used to ensure easy removal of all forms. For overhead and vertical repairs, vent holes should be included in the formwork. Injection ports when using **SOLHYDCRETE SCC-06** should have a maximum diameter of 500 mm (20 in). Formwork should be constructed to avoid trapping substrate pre-wetting water and should be sufficiently strong to avoid deflection during pumping operations. Minimal thickness required in a formwork should be 25 mm (1 in).

PRIMER

No primer required. If necessary, prime rebars and substrate with **SOLHYDBOND ARMATURE**.

ESTIMATION AND YIELD

SOLHYDCRETE SCC-06 is packaged in 25 kg (55 lbs) bags or buckets that yield 13 L (0.46 ft³) when mixed with 2.5 L of clean, potable water.

Coverage per 25 kg (55 lb) bag:

Nominal Thickness	Approximate Coverage
25 mm (1")	0.5 m ² (5.5 ft ²)
50 mm (2")	0.25 m ² (2.75 ft ²)
100 mm (4")	0.125 m ² (1.38 ft ²)

PRECAUTIONS / RESTRICTIONS

- Do not apply on fresh concrete
- Do not use bonding agents
- Do not apply at temperatures below 5 °C
- Lower temperature can provide slower compressive strength result.
- Do not add admixture to this product

MATERIAL PHYSICAL PROPERTIES @ 22.2 °C (72 °F)

COMPRESSIVE STRENGTH CSA A23.2-3C CYLINDERS OF 100 X 200 MM (4" X 6")			BOND STRENGTH CSA A23.2-6B			SETTING TIME		
24 hours	25 MPa	3,600 psi	7 days	1.8 MPa	261 psi	Setting time	180 minutes	
3 days	36 MPa	5,200 psi	Failure in concrete matrix			Final time	300 minutes	
BOND STRENGTH ASTM C-882 SLANT SHEAR			FREEZE/THAW RESISTANCE ASTM C666 MODIFIED B PROCEDURE			SCALING RESISTANCE ASTM C672		
7 days	42 MPa	6,000 psi	18 MPa	2,600 psi		50 cycles	0	Loss of 0.42 kg/m ²
28 days	51 MPa	7,400 psi						
BENDING STRENGTH			LENGTH CHANGE ASTM C157 WITH C928 MODIFICATION					
7 days	3.4 MPa	500 psi	Cycles	Cycles Durability Factor (RDF)		28 days	- 0.003 %	
28 days	4.7 MPa	680 psi	300	94 %				

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PRODUCT MIXING

Place 2.4 litres of potable water into the mixer and slowly introduce **SOLHYDCRETE SCC-06**. Once the entire bag has been added, add balance of required water while the mixer is running. Do not exceed 2.62 litres of water per 25 kg bag. Mix material for 2 to 3 minutes at 350-500 rpm until a smooth and homogeneous mix is obtained.

PRODUCT APPLICATION

PLACING

The surface must be saturated, superficially dry (SSS). The temperature must be between 5° C and 30°C. Above 30°C, ice may substitute part of the water (Ref ACI 305). Pour or pump the **SOLHYDCRETE SCC-06** into the formwork and allow the material to fill the formwork and well coat the reinforcing steel that is cleared. Continue flowing or pumping until all voids are filled to prevent air pockets and honeycombs. Forms should not be removed until the material reaches 70% of ultimate strength (Ref ACI 347).

FINISHING

Level and screed material to proper height. Float edges with wooden or magnesium trowel only.

CURING

Wet curing of **SOLHYDCRETE SCC-06** with burlap immediately after the forms are removed is crucial to maximize physical properties of the self-consolidating concrete and to minimize any plastic shrinkage.

Moist curing should be performed for a minimum of 7 days following the removal of the formwork. Prior to the installation of a curing compound, a 24-hour moist cure is recommended (Ref ACI 308). Conditions such as high temperatures, direct sun light, wind and low humidity will increase the potential for plastic shrinkage and further increase the need for proper moist curing.

PACKAGING

SOLHYDCRETE SCC-06 25 kg bag

RECOMMENDED TOOLS

The following tools will assure a cost-effective, satisfactory installation:

- Bunker 100 mortar pump or other suitable pumping equipment
- 3/4" power drill with paddle mixer
- Mortar mixer
- Wood or magnesium trowel

CLEANING

Use water to clean all tools immediately after use.

STORAGE

Store in cool dry area avoiding all moisture. Product will remain usable for 12 months after manufacturing date if kept in closed bags.

SAFETY

See Material Safety Data Sheet.

MATERIAL FLOW PROPERTIES

CSA Standard A23.5 - 5 °C

Flow Rate (at recommended water ratio)	
Initial	600 mm (24 po)
After 15 minutes	500 mm (20 po)
Air Content ASTM C457	5 à 9 %
Color	Concrete grey
Working time	20-25 min

SOLHYDROC WARRANTS its products' quality. They conform to their data sheet and chemical description and are reasonably fit for the purpose stated. Solhydroc Inc. cannot be held responsible for the construction sites conditions and uses. The Solhydroc warranty solely covers its product's high quality.

For Professional Use Only

www.solhydroc.com