

SOLHYDCRETE SCC-10

High performance self consolidating Concrete Repair Material

SOLHYDCRETE SCC-10 is a high performance self-consolidating concrete that offers prolonged working time and improved placeability to produce a permanent repair of concrete. **SOLHYDCRETE SCC-10** is dimensionally stable and forms an integral bond with the existing concrete to restore its structural integrity. **SOLHYDCRETE SCC-10** can be placed at thicknesses ranging from 25 mm to 450 mm (1" to 18") in a single operation.

USES

SOLHYDCRETE SCC-10 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 overpass repairs
- Structural repairs for tunnels and dams
- Vertical, horizontal and overhead structural repair

PRODUCT FEATURES

- Can be easily pumped and placed requiring little manpower
- Self consolidating concrete MTQ approved: no vibration needed while placing material
- No bleeding or segregation
- Compatible with the use of corrosion inhibitor*
- Prolonged working and set times
- Low shrinkage and low permeability
- Excellent bond strength and chemical resistance
- Excellent resistance to freeze/thaw cycling and salt scaling
- Modulus similar to conventional concrete resulting in an excellent compatibility with existing concrete
- Designed and formulated using inert non-reactive aggregates to eliminate potential Alkali-Aggregate Reactivity (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

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

| COMPRESSIVE STRENGTH CSA A23.2-3C CYLINDERS OF 100 X 200MM (4X6") | | | |
|---|--|--------------------------|-----------------|
| 24 hours | 12.0 MPa | 1812 psi | |
| 3 days | 22.0 MPa | 3200 psi | |
| 28 days | 35.4 MPa | 5100 psi | |
| FLEXURAL STRENGTH | | | |
| 7 days | 2.3 MPa | 335 psi | |
| 28 days | 3.1 MPa | 450 psi | |
| BOND STRENGTH CSA A23.2-6B | | BOND STRENGTH ASTM C-882 | |
| 7 days | 1.1 MPa Failure in substrate matrix | 150 psi | 15 MPa 2175 psi |

| FREEZE / THAW RESISTANCE ASTM C666 MODIFIED B PROCEDURE | | | |
|--|--------------------------------|--|-----------------|
| Cycles | Cycles Durability Factor (RDF) | | |
| > 300 | 85% | | |
| CURING | | Rapid Chloride Permeability ASTM C1202 | |
| Setting time | 240 min | 28 jours | ≤ 1000 coulombs |
| SCALING RESISTANCE ASTM C672 | | | |
| 50 cycles | 0 | Loss of 0.54 kg/m ² | |
| LENGTH CHANGE ASTM C157 WITH C928 MODIFICATION | | | |
| 28 days | 0.065% | | |

FORMWORK

An acceptable form release agent should be used to ensure easy removal of all forms. For soffit and wall repairs, vent holes should be included in form work. Injection ports when using **SOLHYDCRETE SCC-10** should not exceed 500mm (20 in). Formwork should be constructed to avoid trapping substrate pre-wetting water and should be sufficiently strong to avoid deflection during pumping operation. Minimum thickness required in a formwork should be 25 mm (1 in).

PRIMING

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

ESTIMATING / YIELD

SOLHYDCRETE SCC-10, is packaged in 25 kg (55 lbs) bags that yield 13 L (0.46 ft³) when mixed with 2.6 liters of clean, potable water.

Coverage per 25kg (55lb) 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 agent
- Do not apply when material, substrate or ambient temperatures are below 5°C
- Lower temperature can provide slower compressive strength results.
- Do not add admixture to this product

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PRODUCT MIXING

Place 2.4 liters of potable water into mixer and slowly introduce **SOLHYDCRETE SCC-10**. Once the entire bag has been added, add balance of required water while mixer is running. Do not exceed 2.62 liters of water per bag. Mix material for 2 to 3 minutes between 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-03 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 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 period of 7 days following the removal of the formwork. Prior to the installation of a curing compound, a minimum of 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-10 25 kg (55 lbs) bags

RECOMMENDED TOOLS

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

- Bunker 100 mortar pump or other acceptable 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.

SAFETY

See Material Safety Data Sheet.

MATERIAL FLOW PROPERTIES

CSA Standard A23.5 - 5°C

Flow Rate (at recommended water ratio)

| | |
|-----------------------|-----------------|
| Initial | 240 mm (9.5 po) |
| After 15 minutes | 200 mm (7 po) |
| Air Content ASTM C457 | 5 to 9% |
| Color | Concrete grey |
| Working time | 20-25 min |

SOLHYDROC WARRANTS that the product conforms to its chemical description and is reasonably fit for the purpose stated on its Technical Bulletin when used in accordance with its directions. SOLHYDROC makes NO OTHER WARRANTY either expressed or implied. Buyer assumes all risk in handling.

For Professional Use Only

www.solhydroc.com