

# Emckrete SCC 40

## High Performance, 2-Stage Shrinkage Compensated Pre-Packed Self-Compacting Concrete

### Product Properties

- Excellent workability with high flowability
- Self-compacting, no vibration is needed
- Low heat property enables large single pour size
- Long working time, good slump retention
- Shrinkage compensated

### Areas of Application

- Structural construction and restoration
- Pre-cast modular units
- Flat floors in warehouse
- Pre-cast panel joint infill

### Application

#### General

Emckrete SCC 40 is a special blend of low heat cement with proprietary additives, super-plasticizers and graded aggregates. It is ideal for concrete repair situations where there is little or no access for compaction.

It retains high flow ability for over an hour to achieve self-compaction for easy placement in difficult situations. No external vibration is required and placement shall be executed in a uni-directional manner to optimize flow and compaction.

#### Surface treatment

Surfaces to receive Emckrete SCC 40 shall be clean and free from laitance, oil, dust and unsound material and any contaminant which may affect adhesion.

For best adhesion, use high-pressure water jetting or granulate blasting to expose aggregates.

All absorbent surfaces such as formwork shall be thoroughly wetted but free of surface water before placement work begins.

#### Formwork and application

As Emckrete SCC 40 is a high flow material, all formwork must be tightly sealed and leak-proof to prevent loss of cement grout during placement of material. However, provisions must be made for outlets to drain away water used for pre-wetting the substrate.

Where the material is placed on the soffit, adequate air-release vents through the structure must be provided.

For thick sections larger than 300 mm, insulations is recommended to minimize temperature differential between edge and core of concrete section.

#### Mixing

Pour about 80% of the recommended dosage of water into a clean container and gradually add Emckrete SCC 40 while mixing with a slow speed drill (400-500 rpm). Add the remaining amount of water only as required until correct consistency is achieved. Use whole bag to ensure all no aggregates has been left out from the bag. Mix materials for 3-5 minutes until material becomes homogeneous.

For best results, let material stand for 1-2 minutes before stirring lightly with a paddle to release entrapped air.

#### Placement

Free falling of material shall be reduced to less than 1m and placement shall be unidirectional to optimize self-compaction Emckrete SCC 40 shall be casted to de-aerate through an external channel or throughout the length of the cast section. For formwork placement, pump the material in through the lowest point. Avoid air entrapment to ensure full contact with the substrate. For large section placements, plan material preparation to maintain continuous flow throughout.

No external mechanical vibration shall be used. Where constrictions are present due to formwork or rebars, flow may be assisted by manual light tamping.

#### Curing

Standard good concreting practices shall be followed. Emckrete SCC 40 shall be protected from direct sun or wind and cured until final set. If possible, leave formwork in place for at least 3 days. On removal of formwork, immediately apply a curing compound or cover with wet hessian, kept moist over a full curing period of 7 days.

### Technical Data for Emcekrete SCC 40

Characteristics	Unit	Value	Comments
Chipping Size	mm	< 10	
Fresh Mortar Density	kg/dm <sup>3</sup>	2.2 - 2.3	
Compressive Strength	N/mm <sup>2</sup>	~ 7.0 ~ 30.0 ~ 36.0 ~ 45.0	1 day 3 days 7 days 28 days
Slump Flow (Abrams cone)	mm	> 680 > 650	fresh, Class SF2 : 660 -750 after 1 hour
Viscosity (T <sub>500</sub> )	seconds	> 2.0	Class VS2 : > 2.0 seconds
Slump Flow (J- Ring with 16 rebars)	mm	> 670 > 640	fresh after 1 hour
Segregation Resistance (Sieve)	%	5 - 15	Class SR2 : < 20
Passing Ability (L-Box)		> 0.95	Class PA2 : >= 0.80 with 3 rebars
Blocking Step (J-ring with 16 rebars)	mm	< 10	
Linear Shrinkage @ 28 days	mm/m	0.30	in-house method
Yield	litres	~ 12.5	per 25kg bag
Mixing Time	minutes	3 - 5	
Water Dosage	litres	3.0 - 3.5	per 25kg bag
Pot Life	hours	~ 1.5	at 27°C

### Product Characteristics for Emcekrete SCC 40

Delivery	25 kg bag
Storage	Can be stored in shaded, cool and dry conditions for <b>12 months</b> in original unopened packs.
Disposal	In the interest of the environment, please empty all packs completely and dispose of in accordance with statutory regulations.

### Safety Advice

Please take notice of the safety information and advice given on the packaging labels and safety information sheets.

**Note:** The information on this data sheet is based on our experiences and correct to the best of our knowledge. It is, however, not binding. It has to be adjusted to the individual structure, application purpose and especially to local conditions. Our data refers to the accepted engineering rules, which have to observe during application. This provided we are liable for the correctness of this data within the scope of our terms and conditions of sale-delivery-and-service. Recommendations of our employees which differ from the data contained in our information sheets are only binding if given in written form. The accepted engineering rules must be observed at all times.

**Edition 08/23.** Some technical changes have been made to this print medium. Older editions are invalid and may not be used anymore. If a technically revised new edition is issued, this edition becomes invalid.