



Description:

Sterling® TechFlow® MC 40 a blend of dry powders and graded aggregates which requires only the site addition of clean water to produce a highly consistent, high strength, free flowing repair concrete which self-compacts. The material is blend of inorganic cements, special fillers and chemical additives to control the rate of strength gain to provide a fluid micro-concrete.

Sterling® TechFlow® MC 40 is the ideal material for vertical or horizontal structural repairs where the thickness of repair is more than 25mm and use of pourable mortar is preferable to hand or machine applied repair systems.

Application Includes:

- Various structural strengthening measures such as jacketing of beams, encasement build-ups, columns and other structural elements for strengthening.
- Extensive repairs to beams, columns and other structural elements
- Repair of structural members subjected to repetitive loading

Features & Benefits:

- Very high flow, suitable for repair of steel congested areas.
- Shrinkage controlled cementitious repair mortar eliminates cracking.
- Easy to apply, single component, requires only addition of water.
- Extremely low permeability to water, providing excellent protection to steel reinforcements and host concrete.
- Can be used in mortar consistency for small repairs.
- Suitable for internal and external applications.
- Does not contain corrosive substrates.
- Impermeable to aggressive elements - Long life repairs Pourable mortar - Able to repair complex profiles easily.
- Fast and easy placing - Reduced time for repairs.
- High ultimate strengths and low permeability of cured repair.

Method of Application:

Substrate Preparation

- All damaged and weak concrete should be cut back to reach sound concrete or to a minimum depth of application.
- Corroded steel reinforcement should be grit blasted to remove all rust traces.
- One coat of **TechnoCoat® RR 100**-Rust Remover should be applied on the reinforcing steel. If any discontinuity in the applied film is noticed, one more coat has to be applied. In case of significant loss in the steel reinforcement cross section, the steel should be replaced.
- Corroded reinforcing steel should be exposed around its full circumference and cleaned to remove all loose scale and corrosion deposits. It is important to clean the steel to a bright condition.
- One coat of **TechnoCoat®ZR Special**-Two component epoxy based zinc rich primer should be applied on the reinforcing steel. If any discontinuity in the applied film is noticed, one more coat has to be applied. Remove all concrete form around exposed steel reinforcements by 20 mm thickness. The perimeters of the repair area should be saw cut to a minimum depth of 10 mm. The prepared area should be cleaned thoroughly by brush and/or compressed air.
- All prepared concrete substrates should be primed using **TechnoCoat®Bond EP**, a slow-setting epoxy bond aid. **TechnoCoat®Bond EP** shall be applied only on dry substrate.

Formwork:

A water tight formwork should be used to avoid any grout loss. The forms must be of good quality, treated with a chemical release agent such as **TechnoFinish®MRO** for smooth release, provided with water drain holes, strong and well braced to withstand the fluid pressure of the mortar until it hardens.

Mixing:

Only full bags are mixed. Damaged or opened bags should not be used. Mix **Sterling® TechFlow® MC 40** in a forced action pan mixer, or with a helical paddle attached to a low speed (300-600rpm) mixer for 3 minutes until a lump free, flowable consistency is achieved. Only use clean water. Mixing water needed: 4.00 to 4.20 litres per 30kg bag. Allow the mortar to rest for 2 - 3 minutes and then remix briefly before pouring into formwork. If temperature more than 40°C then use chilled water for mixing.

Note: W/P shall not be increased under any circumstances.

Notes:

The minimum temperatures must be maintained during application and for at least 24 hours thereafter for optimum curing of the product. The prepared substrate should be pre-soaked, preferably for 24 hours, but at least 2 hours before applying **Sterling® TechFlow® MC 40** ensure all water is removed from formwork prior to installation and formwork is resealed.

Sterling® TechFlow® MC 40 should be pumped or poured into the prepared formwork until the void is filled. Pumping is recommended for larger pours.

Do not vibrate **Sterling® TechFlow® MC 40** as it could lead to segregation. The formwork should be removed after 2-3 days and a curing compound applied. If subsequent coats are to be applied the use of clear polythene is recommended for the first three days after removal of formwork.

Curing:

As **Sterling® TechFlow® MC 40** is a cementitious based material, it should be cured in a similar method to concrete. Curing can be conducted by using a good concrete curing compound such as **TechnoFinish® ConKure 101/102** or by curing wet hessian sheets covered with polyethylene sheets.

Cleaning:

All tools should be cleaned immediately after application on using fresh water. Hardened materials must be cleaned mechanically

Packaging:

Sterling® TechFlow® MC 40 is available in 30 kg bags.

Storage & Shelf Life:

Sterling® TechFlow® MC 40 has a shelf life of 12 months from date of manufacture if stored at temperatures between 5°C and 40°C in original unopened bags. If these conditions are exceeded, STIPL Technical representative should be contacted for advice

Disclaimer: The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

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Thickness and size limitations:

Sterling® TechFlow® MC 40 can be applied in a single application for large repair voids at thicknesses between 50 mm and 100 mm. For greater thicknesses, 5-12 mm washed aggregate should be added at a percentage up to 40% from weight of **Sterling™ TechFlow® MC 40**. Please consult your local STIPL representative for Technical advice.

Typical Properties at 25°C

Appearance	Grey powder
Water to powder ratio	0.14 to 0.15
Compressive strength (ASTM C109 7cm cube)	15 MPa 1 Day 25 MPa 3 Days 35 MPa 7 Days 40 MPa 28 Days
Standards	ASTM C1107
Fresh wet density	2100 - 2200 kg/m ³ @25°C
Working time:	20 - 25 min @ 20°C 10 - 15 min @ 40°C
Minimum application Temperature	5°C
Setting time	Initial : 6 - 7 hr @ 25°C Final 22-24 hr. @ 25°C

Health & Safety Instructions:

Sterling® TechFlow® MC 40 may cause irritation to skin or eyes. In case of accidental contact with eyes, immediately flush with plenty of water and seek medical advice is necessary. For further information refer to the Material Safety Data Sheet.

Additional Information: Techno Builders Solutions® By Sterling Technotrade India Pvt.Ltd -The Specialist Construction Chemicals Company® range of associated products includes high performance concrete Admixtures, Adhesives, Protective Coatings, Concrete Repairs, Industrial Flooring, Grouts & Anchors, Joint Sealants, Surface Treatments, curing compounds, repair mortars, release agents, Grinding Aids & Waterproofing.

*Separate datasheet are available on these products.

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