



STERLING[®] TechFlow[®] MC 60

TECHNOTRADE Dual shrinkage compensated, High Performance
flowable Micro concrete for concrete repairs.
The Specialist Construction Chemical Company

Description:

Sterling[®] TechFlow[®] MC 60 ready to use pourable mortar is a dual shrinkage compensated, high flow, high strength, flowable, specially formulated for repairs and restoration of damaged or weakened structural concrete members.

Sterling[®] TechFlow[®] MC 60 require addition of plain water at site for obtaining a non-shrink free flowing repairs MicroConcrete. **Sterling[®] TechFlow[®] MC 60** contains performance enhancing additives which provide controlled expansion characteristics in the plastic as well as hardened state, reducing crack formation and minimize water demand.

Sterling[®] TechFlow[®] MC 60 is suitable for placing in thicknesses of 50mm to 200 mm.

Application Includes:

General repair and renovation of decayed, defective or damaged concrete such as:

- Jacketing of beams, columns and other structural elements for strengthening
- Repair of structural members subjected to repetitive loading
- Sewage and water treatment plants or anywhere a high quality engineered grout is required.
- Extensive repairs to beams, columns and other structural elements
- Repairs to piers, navigation locks, dams seawalls and other marine structures
- Repairs to bridges, tunnels, garages, silos etc.

Features & Benefits:

- High flow/High early compressive strength capability
- Minimize project downtime
- Controlled positive expansion for maximum effective bearing & Chloride free.
- Non-metallic / non-corrosive and Non-shrink grout
- Pourable / pumpable versatility
- Easy to apply, single component, requires only addition of water at site.
- Durable - utilisation of low water cement ratio ensures minimum permeability and high durability.
- Free flowing - eliminates honeycombing in areas of congested reinforcement.
- Self-compacting - ensures complete filling of spalled /damaged areas
- Shrinkage compensated - unique formulation provides dual expansion system in plastic and hardened states.

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 60** 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.

Thickness and size limitations:

Sterling[®] TechFlow[®] MC 60 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 60**. Please consult your local STIPL representative for Technical advice.

Typical Properties at 25°C

Appearance:	Grey powder
Water to powder ratio:	0.14
Compressive strength (ASTM C109 7cm cube)	25 MPa 1 Day 35 MPa 3 Days 45 MPa 7 Days 65 MPa 28 Days

Curing:

As **Sterling® TechFlow® MC 60** 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 60 is available in 30 kg bags.

Storage & Shelf Life:

Sterling® TechFlow® MC 60 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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Standards	ASTM C1107-02, Grade A.
Fresh wet density	2250-2300 kg/m ³ @25°C
Working time:	20 - 25 min @ 20°C 10 - 15 min @ 40°C
Minimum application Temperature:	5°C
Flexural Strength (ASTM C 348)	8MPa @ 28 days
Tensile Strength (ASTM C496)	3.5MPa @ 28 days
Setting time:	Initial : 6 - 7 hr @ 25°C Final 22-24 hr. @ 25°C

Health & Safety Instructions:

Sterling® TechFlow® MC 60 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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