



# STERLING<sup>®</sup> RockSet<sup>®</sup> Conwrap Fibre-MF

**TECHNOTRADE** Structural Synthetic Macro Fiber for reinforcement of concrete optimized  
For road surfaces, industrial floors prefabricated items and shotcrete.

The Specialist Construction Chemical Company

## Description:

Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF is a polypropylene and polyethylene synthetic structural macro fiber designed to improve the durability and mechanical properties of concrete and to replace steel fibers, welded wire mesh and conventional reinforcing bars in a wide variety of applications where high chemical and corrosion resistance are required. Additional reinforcement of concrete, due to the homogeneous distribution of a huge amount of Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF throughout the concrete matrix, controls the process of cracking and provides concrete with further reinforcement.

Concrete reinforced with Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF will have three-dimensional reinforcement with increased bending strength, shock resistance and surface abrasive hardness and will also help minimize cracking during shrinkage of concrete. The special corrugated surface of the Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF provides excellent adhesion to concrete, increasing their effectiveness, especially in shotcrete.

## Application Includes:

Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF may be used in a variety of ready mix and precast applications including residential and commercial slab-on-ground flooring, thin and conventional white toppings and overlays, pavements, composite steel deck floor assemblies, and thin-walled precast elements (septic tanks, vaults, walls, etc.)

**Slab on ground:** Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF are specially designed for ease of use, rapid dispersion, excellent finishability and improved pumpability in slab-on-ground flooring and pavements for commercial, industrial, and residential construction, as well as other flat work and formwork applications.

**Traditional light steel reinforced elements:** Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF can be used as a suitable alternative to WWF or light reinforcing steel specified for temperature and shrinkage reinforcement.

**Precast and Prestressed concrete:** Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF can be used as a replacement for secondary reinforcement of normal and lightweight precast concrete elements and structures. (e.g. staircases, cellars, manholes, pits, septic tanks, vaults, walls, etc.)

**White toppings and overlays:** Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF is ideal for white toppings and overlays. Due to its rapid dispersion into the mixture and ease of finishability, the overall project productivity and contractor's profitability is enhanced.

**Composite Steel Floor Deck for Normal and Lightweight Concrete:** Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF can be used as a suitable alternative to welded wire fabric or light reinforcing steel specified for temperature and shrinkage reinforcement for composite steel floor deck assemblies.

## Certifications & Compliances

Standard EN 14889-2 for structural applications in concrete and mortars. ASTM C1116 / C1116M-10a, Standard Specification for Fiber-Reinforced Concrete, "Type III Synthetic Fiber- Reinforced Concrete"

## Technical Properties:

Material	Blend of Polypropylene/polyethylene
Colour	White
Specific Gravity	0.91
Diameter	0.9 + 0.5mm
Acid/ Alkali resistance	Excellent
Tensile Strength	> 600 MPa
Young modulus	4-5 GPa
Melt point	165°C
Ignition point	600°C
Water Absorption	Negligible
Fibre Cut length (mm)	36,47,50,60 As Per Requirement
Dispersion	Excellent
Chemical Resistance	Excellent
Conformity	ASTM C-1116

## Compatibility:

The utilization of Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF may require the use of a mid-range water reducer or a high-range water reducer such as ConFlow<sup>®</sup> or FlowMax<sup>®</sup> families of admixtures to restore the required workability. In addition, slight increases in fine aggregate contents may be needed. Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF are compatible with all Techno Builders Solutions<sup>®</sup> range of admixtures. Their action in concrete is mechanical and will not affect the hydration process of the cement or compressive strength. Each liquid admixture should be added separately to the concrete mixture.

## Dosage:

The recommended minimum dosage for Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF is 1.8 kg/m<sup>3</sup>. For most applications, the recommended dosage will be in the range of 1.8 to 4.5 kg/m<sup>3</sup>. However, depending on the specific application, a higher dosage may be recommended by Techno Builders Solutions<sup>®</sup>.

For composite metal deck-slab applications, subject to specifier approval on the basis of equivalent post-crack flexural performance as provided in the Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF Specifier Information technical note, Techno Builders Solutions<sup>®</sup> recommends a dosage of 2.4 kg/m<sup>3</sup>. In lieu of this approval, the dosage of Sterling<sup>®</sup> Rockset<sup>®</sup> Conwrap Fibre-MF in composite metal deck-slab applications is 3 kg/m<sup>3</sup>, based on the requirements specified in ANSI/SDI C-2017 Standard for Composite Steel Floor Deck-Slabs.

## Features & Benefits:

- Controls and mitigates plastic shrinkage cracking and reduces segregation and bleed-water
- Provides three-dimensional reinforcement against micro and macro-cracking
- Reduces equipment wear, fiber rebound and increases build-up thickness compared to steel fibers for shotcrete applications Increases overall durability, fatigue resistance and flexural toughness
- Reduction of in-place cost versus wire mesh for temperature / shrinkage crack control
- Equivalent strengths to WWM and rebar provided by engineering calculations
- Easily added to concrete mixture at any time prior to placement
- Uniform distribution throughout the concrete matrix
- Enhances durability
- Reduces construction time and overall labor and material costs
- Alkali resistant and rust proof

## Shelf Life & Storage:

Shelf life is up to 36 months under condition that the macro fiber is stored in a dry place at a temperature from 0 to + 40°C without exposure to direct sunlight. The Sterling® Rockset® Conwrap Fibre-MF must be in the original factory packaging. The placement of boxes with Sterling® Rockset® Conwrap Fibre-MF should take place in a room protected from weather conditions, with a humidity of not more than 50%.

## Packaging:

Sterling® Rockset® Conwrap Fibre-MF is supplied in 16 bags weighing 1 kg each on 192 kg pallets.

## Cleanup information:

Loose Sterling® Rockset® Conwrap Fibre-MF material should be disposed in proper receptacles for refuse. Finishing equipment with fibers embedded in concrete should be thoroughly cleaned.

## Health & Safety Instructions:

Protect your health while working with this material, always use safety goggles, gloves and safety clothing. When handling hazardous materials or pressurized materials, or during any application that may result in spills, splashes or airborne particles, a full face shield is strongly recommended. Protect yourself and others on the jobsite. Consider property in proximity of the application area to prevent loss or damage. Protect your jobsite from unauthorized persons. Store all materials and equipment safely and out of reach of children and animals.

**\*Further protection:** emergency showers and eyewash stations. Get immediate medical attention as needed.

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## Application:

Sterling® Rockset® Conwrap Fibre-MF can be added to the concrete mixture at any time prior to placement of the concrete. It is generally recommended to add Sterling® Rockset® Conwrap Fibre-MF at the ready-mix concrete plant during batching. Sterling® Rockset® Conwrap Fibre-MF must be mixed with concrete for a minimum of three to five minutes at maximum mixing speed, depending on the mixer type, to ensure complete dispersion and uniformity. When adding 1.8 to 3 kg/m<sup>3</sup>, a slump loss of up to 50 mm can be expected for a typical ready-mix concrete design. For dosages of 4 to 7 kg/m<sup>3</sup>, a slump loss of 75 to 125 mm can be expected.

## Precautions/Limitations:

Use of Sterling® Rockset® Conwrap Fibre-MF may cause an apparent loss in measured slump of concrete. This may be offset with the use of a water reducing admixture if necessary. Sterling® Rockset® Conwrap Fibre-MF should never be added to a "zero-slump" concrete. Ensure a minimum concrete slump of 3" (80 mm) prior to addition of Sterling® Rockset® Conwrap Fibre-MF material. Sterling® Rockset® Conwrap Fibre-MF may also be added in loose form to aggregate charging devices.

**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.

**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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