



Fi-Bar

the next generation of reinforcement

Technical Data Sheet

Green Umbrella™ Fi-Bar is an advanced fiber that helps to provide a secondary reinforcement and can be a true rebar replacement, without the chance of corrosion. With Green Umbrella™ Fi-Bar, the concrete places faster, is highly impact resistant, cutting your labor and downtime.

FEATURES

- Enhances performance & durability
- Provides secondary reinforcement
- True replacement for rebar
- Alkali resistant & non-corrosive
- Insoluble in water
- Mixes well in concrete
- High impact resistance
- Excellent finishability

BENEFITS

Green Umbrella™ Fi-Bar fiber added to the concrete mix enhances the matrix and adds strength and stability. Green Umbrella™ Fi-Bar provides a secondary reinforcement and in some cases a complete rebar replacement without the worry of corrosion. With Green Umbrella™ Fi-Bar, concrete places faster, is highly impact resistant cuts your labor and downtime.

APPLICATIONS

Green Umbrella™ Fi-Bar characteristics lend itself to a variety of concrete applications including: slab-on-grade, precast concrete, shot-crete, paving, corrosive area placements and specialty concrete applications.

DOSAGE RATES

For general applications such as slab-on-grade, a standard dosage of 5 lbs. /yd is recommended. Other fibers require higher dosage rates or cannot meet requirements to achieve similar performance. For other applications, consult with your Green Umbrella™ representative for recommended dosages.



PHYSICAL PROPERTIES

Material: Modified Nylon
Specific Gravity (g/m³): 1.15
Impact Resistance: High
Blast Resistance: High
Tensile Strength: 116 ksi.
Acid & Alkali Resistance: Excellent
Color: Off White
Dispersity Rate: Excellent
Filament Diameter (mm): 1.0
Fiber Count (fiber/lb.): 7500
Fiber Length inch: 3 inch (76mm)

MIXING

Follow ASTM C-94 guidelines. Green Umbrella™ Fi-Bar can be added directly to the mix at the jobsite or during batching of ingredients, but after first ingredient and should be mixed for a minimum of 5 minutes at full mixing speed.

PACKAGING

1 Carton/30 lbs. per box; 18 Cartons/Pallet;
11 Pallets/20 ft.
Container.

FINISHING

There is little surface protrusion when using Green Umbrella™ Fi-Bar. Green Umbrella™ Fi-Bar can be pumped or placed using conventional equipment and Green Umbrella™ Fi-Bar can be used with most finishing techniques including power or hand troweling and broom finished concrete.

TESTING

Introduction: This document presents the summary of the laboratory testing performed by TEC on samples of concrete containing Green Umbrella™ Fi-Bar at different application rates. The scope of the testing was as follows: Perform laboratory batching of concrete with and without fibers according to ASTM C 1609

A. Flexural Strength (ASTM C 78-10)

B. ASTM C 1609

C. Resiliency

D. ASTM C 1018

Summary of Test Results:			
The following is a summary of the tests results:			
Dosage per yard/3	Resiliency	ARS/PSI	C1018 I10
3	17.37%	227 psi	4.8
5	28.33%	364 psi	4.8
10	41.39%	512 psi	5.8
15	46.67%	630 psi	7.0
25	54.01%	725 psi	9.0

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Conclusion:

Based on the test results, Green Umbrella™ Fi-Bar can be used at a specified dosage rates to replace welded wire mats and rebar in specified concrete placements.

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