

# Advantage Structural Fiber

## Fiber Reinforcement for Concrete

**Advantage Structural Fiber** significantly improves toughness and tensile strength properties of concrete. Improved toughness relates to increased durability, increased service life, increased crack resistance and post-crack load carrying capacity.

**Advantage Structural Fiber** creates a reinforcement network that prevents shrinkage cracks from forming, and presents a superior alternative to mesh. This network remains intact long after curing providing added surface toughness. **Advantage Structural Fiber** also gives concrete the ability to carry increased loads even when cracks do occur.

GRT recommends the use of a superplasticizer or mid-range water reducer to achieve the required workability when batching with **Advantage Structural Fibers**.

## PERFORMANCE

- Increased Toughness
- Higher residual strength concrete
- Good dispersion
- Tight crack control
- Increases cohesion of mixture
- Synthetic fibers not subject to corrosion
- Reduces bleeding of water to the surface
- Increased flexural strength

## ADVANTAGES

- Improved internal dimensional stability; reduced surface permeability
- Decreased risk of cracking over rebar
- Greater long-term durability
- Reduced settling and easier finishing
- Reduced inventory, storage and labor costs; allows for fast-track scheduling; provides easier positioning of joints

## ADDITION RATES

**Advantage Structural Fiber** addition rates are dependent on the specific application. Depending on desired performance, addition will vary between 3 and 10 lbs. per cubic yard.

## APPLICABLE STANDARDS

**Advantage Structural Fiber** meets the material specifications described in ASTM C1116, Type III, Section 4.1.3 "Synthetic Fiber Reinforced Concrete".

ASTM C1399-Test Method for Average Residual Strength.

ASTM C1018-Test Method for Flexural Toughness and First Crack Strength of Fiber-Reinforced Concrete (Using Beam With Third-Point Loading).

ASTM C1609 and ASTM C1018-97 Level I, II, III.

Performance characteristics are based on addition rates.

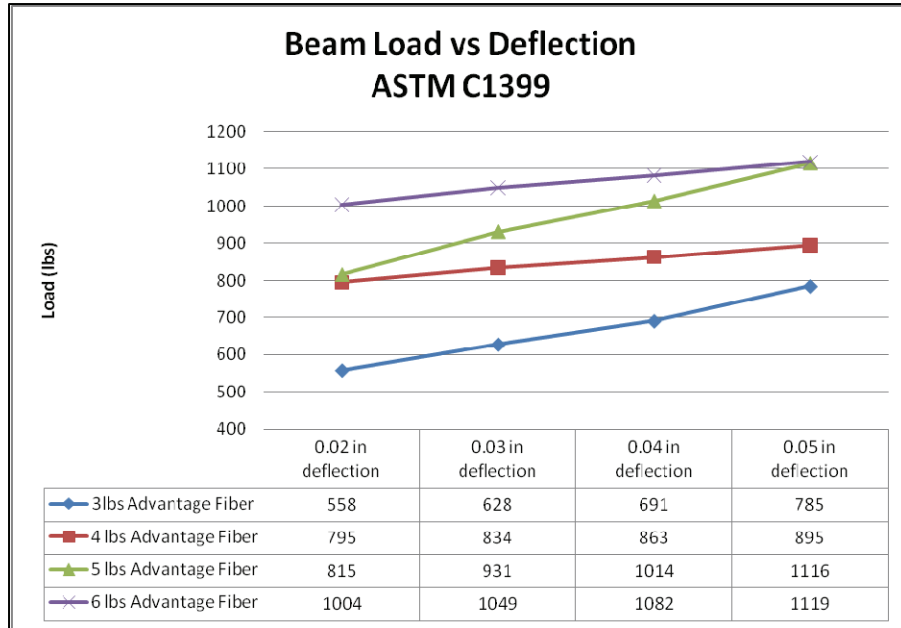
Contact a GRT technical representative for addition rate to comply with desired performance.

## PHYSICAL PROPERTIES

Polypropylene blend length:	1.50-1.75
Specific Gravity:	0.9-0.94
Aspect Ratio:	71
Absorption:	NONE
Electrical Conductivity:	LOW
Thermal Conductivity:	LOW
Tensile Strength:	88 ksi
Melting Point:	320°F
Flash Point:	650°F

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### Flexural Strength and Toughness (Compressive Strength 4,000 psi) According to ASTM C 1609-05

Advantage Dosage	Specimen Width	Specimen Depth	Peak Load	Peak Strength	Residual Load P (150)	Residual Strength f(150)
4 lbs per cubic yard	6.00"	6.01"	6,487 lbf	541 psi	1,910 lbf	159 psi

