



PSI™ STEEL FIBER C6560

STEEL MACROFIBER

PRODUCT INFORMATION

PACKAGING

Collated 44 lb (20 kg) bags; 2640 lbs (1200 kg) per pallet

SHELF LIFE

3 years in original, unopened package

SPECIFICATIONS/COMPLIANCES

ASTM C1116

ASTM A820, Type I/V

TECHNICAL INFORMATION

Material: Low carbon cold drawn steel wire

Deformation: Hooked-end

Typical Dosage Rate:

20 - 100 lb/yd³ (12 - 60 kg/m³) or higher

Available Lengths: 2³/₈" (60 mm)

Aspect Ratio: 65

Tensile Strength: >160 ksi (>1100 MPa)

Color: Bright, clean wire

DESCRIPTION

PSI Steel Fiber C6560 is a low carbon, cold drawn and hooked-end steel wire fiber designed to provide concrete with temperature and shrinkage crack control, enhanced flexural reinforcement, improved shear strength and increase the crack resistance of concrete. PSI STEEL FIBER C6560 complies with ASTM C1116, Standard Specification for Fiber Reinforced Concrete and Shotcrete and ASTM A820, Standard Specification for Steel Fibers for Fiber Reinforced Concrete. These steel macrofibers will also improve impact, shatter, fatigue and abrasion resistance while increasing toughness of concrete. Dosage rates will vary depending upon the reinforcing requirements and can range from 20 to 100 lbs/yd³ (12 to 60 kg/m³) or higher.

PRODUCT CHARACTERISTICS

FEATURES & BENEFITS

- Increases impact, shatter and abrasion resistance of concrete
- Reduces segregation, plastic settlement, and shrinkage cracking of concrete
- Provides three-dimensional reinforcement against macro-cracking
- Increases overall durability, fatigue resistance and flexural toughness
- Reduction of in-place cost versus wire mesh
- Easily added to concrete mixture at any time prior to placement
- Tested in accordance with ASTM C1609, ASTM C1550 and EN 14651

PRIMARY APPLICATIONS

- Commercial and industrial slabs on ground
- Bridge decks, overlays and pavements
- Precast concrete applications
- Shotcrete, tunnel linings and slope stabilization
- Mass concrete and composite deck construction

PRECAUTIONS/LIMITATIONS

- Use of fibers may cause an apparent loss in measured slump of concrete. This may be offset with the use of a water reducing admixture if necessary.
- Fibers should never be added to a "zero-slump" concrete. Ensure a minimum concrete slump of 3" (80 mm) prior to addition of any fiber material. Fibers may also be added in loose form to aggregate charging devices.
- In all cases, consult the Safety Data Sheet before use.

DIRECTIONS FOR USE

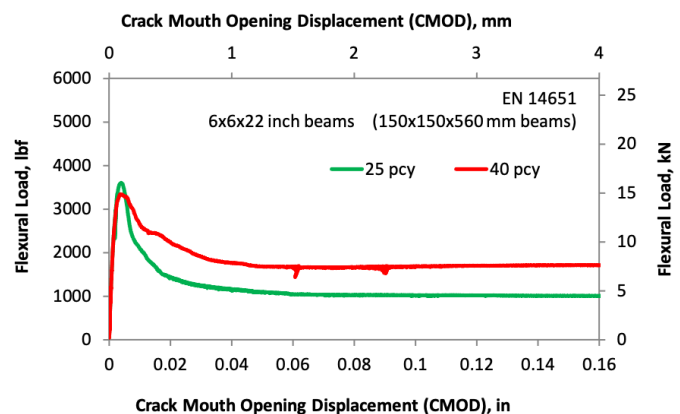
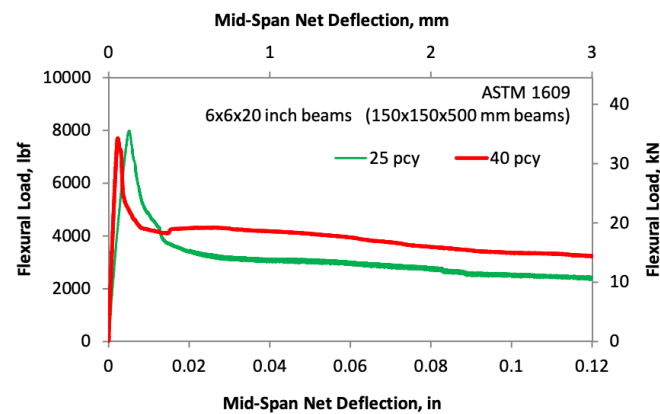
PSI STEEL FIBER C6560 can be added to the concrete mixture at any time prior to placement of the concrete. It is generally recommended to add any fiber material at the ready-mix concrete plant during batching. Fibers must be mixed with concrete for a minimum of four (4) to five (5) minutes at maximum mixing speed, depending on the mixer type, to ensure complete dispersion and uniformity. The addition of PSI STEEL FIBER C6560 at provided dosage rates, will decrease the measured slump of concrete; however, additional water should not be added. The use of water reducers and/or superplasticizers, such as the Eucon series or the Plastol series of admixtures may be necessary to maintain desired workability.

Add other admixtures independently from fiber addition. When used properly, and placed in a concrete mix of sufficient workability, the fibers will not adversely alter the compressive or flexural strength of concrete or shotcrete.

For further recommendations please consult Euclid Chemical Technical Bulletins at www.euclidchemical.com.

PERFORMANCE

Fiber-reinforced concrete (FRC) is characterized by standard test methods such as ASTM C1399, C1609, and C1550 or RILEM TC162 (EN14651). The flexural residual strength of FRC is measured using these beam tests and is used for design purposes with proper conversion factors. Typical test results for ASTM C1609 (FRC beam) and C1550 (FRC round panel) are shown for PSI STEEL FIBER C6560 macro synthetic fiber tested at different dosage rates. These test results could vary with mix design and curing conditions. For additional or specific test results in concrete, please contact Euclid Chemical.



ASTM C1609	A_3		f_r		f_3		f_{e3}		Re_3
Dosage	lbf-in	N-m	psi	MPa	psi	MPa	psi	MPa	%
25 lb/yd ³ (15 kg/m ³)	383	43.2	667	4.6	205	1.4	266	1.8	40
40 lb/yd ³ (24 kg/m ³)	469	53.0	644	.46	270	1.9	325	2.2	51

EN14651	$f_{ct,L}^f$ LOP		$f_{R,1}$		$f_{R,2}$		$f_{R,3}$		$f_{R,4}$	
Dosage	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa
25 lb/yd ³ (15 kg/m ³)	563	3.9	285	2.0	206	1.4	201	1.4	200	1.4
40 lb/yd ³ (24 kg/m ³)	553	3.8	446	3.1	331	2.3	331	2.3	337	2.3

CLEAN UP

Loose fiber material should be disposed in proper receptacles for refuse. Finishing equipment with fibers embedded in concrete should be thoroughly cleaned.

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