

Concrete/Shotcrete Construction

Concrete Slabs-On-Ground
Concrete Slabs-On-Composite Steel Deck
Wet Method Shotcrete
Dry Method Shotcrete

Secondary Reinforcement

Section 3240: Synthetic Fiber As Secondary Reinforcement

Definition: Secondary Reinforcement The definition for secondary/temperature-shrinkage reinforcement per ACI 116 is: That reinforcement specified to hold the concrete together after it cracks. Said reinforcement is not used in the structural design of the cross-section of the concrete element.

For the purpose of this specification synthetic fibers used as secondary reinforcement in concrete are man-made fibers from the petrochemical group processed with textile industry equipment.

The synthetic fibers specified shall conform to the requirements of ASTM C1116, Section 4.1.3 and Note 3, as well as ICBO ES Acceptance Criteria 32, Sections 4.1.1 and 4.1.2. Both of these specifications apply to the use of synthetic fibers as secondary reinforcement in concrete. At the request of the project engineer the synthetic fiber vendor shall furnish a Letter of Certification stating compliance with these specifications and signed by a registered Professional Engineer.

Synthetic fibers shall be either nylon multifilament fiber or polypropylene collated fibrillated fiber or monofilament fiber.

Nylon multifilament or polypropylene monofilament fibers shall be introduced at the rate of 1.0 pound per cubic yard (0.6 kilograms per cubic meter) or as specified at the standard length of ¾" (19mm) or as specified.

Polypropylene collated fibrillated fiber shall be introduced at the rate of 1.5 pounds per cubic yard (0.9 kilograms per cubic meter) or as specified at the standard design length of ¾" (19mm) or as specified.

Synthetic fibers shall be added at the concrete batch plant and mixed with the other ingredients for 3 to 5 minutes. The concrete producer shall list the type and quantity of synthetic fiber added on each delivery ticket.

The ready-mix producer of record shall provide the project concrete contractor and project manager with a set of literature for the synthetic fiber to be furnished.

A source complying with this specification:

Manufacturer: Nycon, Inc; 101 Cross Street, Westerly, RI 02891
Phone: 800 456 9266
Product Names: NyconRC and MultiMesh, which are nylon multifilament fibers
ProConM, which is a polypropylene monofilament fiber
ProConF, which is a polypropylene collated fibrillated fiber
Website: www.nycon.com

Technical questions should be directed to Nycon, Inc.