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ICC-ES Legacy Report

SBCCI-9513A

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Reissued 06/2015

This report is subject to renewal 06/2016

DIVISION: 03 00 00—CONCRETE
SECTION: 03 24 00—FIBROUS REINFORCING

REPORT HOLDER:

DURAFIBER, INC.

**4825 TOUSDALE DRIVE, SUITE 205
NASHVILLE, TENNESSEE 37220**

EVALUATION SUBJECT:

DURAFIBER™ AND DURAFIBER CFP



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The Subcommittee on Evaluation has reviewed the data submitted for compliance with the Standard Building Code® and the CABO One and Two Family Dwelling Code and submits to the Building Official or other authority having jurisdiction the following report. The Subcommittee on Evaluation, ICC-ES and its staff are not responsible for any errors or omissions to any documents, calculations, drawings, specifications, tests or summaries prepared and submitted by the design professional or preparer of record that are listed in the Substantiating Data Section of this report. Portions of this report were previously included in Evaluation Reports #9315 and #9513.

REPORT NO.: 9513A**EXPIRES:** See the current EVALUATION REPORT INDEX**CATEGORY: MASONRY PRODUCTS****SUBMITTED BY:****DURAFIBER, INC.
4825 TROUSDALE DRIVE, SUITE 205
NASHVILLE, TENNESSEE 37220****1. PRODUCT TRADE NAME**

- 1.1 Durafiber™
- 1.2 Durafiber CFP

2. SCOPE OF EVALUATION

Durafiber™ and Durafiber CFP

- 2.1 Concrete fiber admixture for controlling plastic cracking in concrete.
- 2.1 Concrete fiber admixture for reducing shrinkage and thermal cracking in nonstructural concrete (plain concrete) slabs on grade.

3. USES

Durafiber fibers and Durafiber CFP fibers are used as a concrete fiber admixture.

4. DESCRIPTION

Durafiber is a $\frac{3}{4}$ inch long polypropylene fiber.

Durafiber CFP are fibrillated polypropylene fibers $\frac{3}{4}$ inch in length.

Durafiber fibers and Durafiber CFP fibers may be used as a concrete fiber admixture in concrete to assist in inhibiting plastic cracking.

Durafiber fibers may be used in nonstructural concrete (plain concrete) slabs on grade to control shrinkage and thermal cracking in hardened concrete. Plain concrete is defined in the **Building Code Requirements for Structural Plain Concrete**, ACI 318.1. Durafiber CFP fibers shall not be used for this application.

5. INSTALLATION

The fibers shall be blended into the concrete mix according to the manufacturer's instructions.

Durafiber is added to the concrete mix at a rate of $\frac{3}{4}$ to $1\frac{1}{2}$ pounds per cubic yard of concrete. Durafiber CFP is added to the concrete mix at a rate of $1\frac{1}{2}$ pounds per cubic yard of concrete.

The manufacturer's published installation instructions and this report shall be strictly adhered to and a copy of these instructions shall be available at all times on the job site during installation.

The instructions within this report govern if there are any conflicts between the manufacturer's instructions and this report.

6. SUBSTANTIATING DATA

6.1 Manufacturer's installation and mixing instructions.

6.2 Test report comparing concrete with Durafiber to control specimens, dosages rates of $\frac{3}{4}$ to $1\frac{1}{2}$ lbs per cu. yard, normal weight concrete, Law Engineering, Project No. 414.121, October 2, 1989, signed by Dennis W. Duerr and Joseph A. Amon. The following tests were performed:

- ASTM C 173, Air Content and Unit Weight
- ASTM C 143, Slump of Portland Cement and Concrete
- ASTM C 39, Compressive Strength
- ASTM C 78, Flexural Strength
- ACI 544, Impact Resistance
- ASTM C 666, Freeze Thaw Resistance
- ASTM C 496, Tensile Strength

6.3 Test report comparing concrete with Durafiber to control specimens, dosages rates of $\frac{3}{4}$, 1, and $1\frac{1}{2}$ lbs per cu. yard, normal weight concrete, South Dakota School of Mines and Technology, February 17, 1991, and October 9,

1991, signed by V. Ramakrishnan. The following tests were performed:

- ASTM C 231, Fresh Concrete Unit Weight
- ASTM C 995, Inverted Slump Cone
- ASTM C 143, Slump of Portland Cement and Concrete
- ASTM C 39, Compressive Strength
- ASTM C 469, Static Modulus
- ASTM C 597, Pulse Velocity
- ACI 544, Impact Resistance
- ASTM C 1018, Static Flexural Strength

6.4 Test report on crack propagation under the procedure outlined by Professor Paul Kraai, dosage rates of $\frac{3}{4}$ and $1\frac{1}{2}$ lbs per cu. yard, normal weight concrete, Wilrick Engineering and Inspection, Exam No. 89-0281, December 15, 1989, signed and sealed by William H. Fitzjohn Jr., PhD., P.E.

6.5 Test report on chemical alkalinity of Durafiber, Smith-Emery Company, File No. 4734, September 15, 1989, signed by Shahid Noori.

6.6 Field inspection report of in place slab, H.H. Holmes Testing Laboratories, Inc., Lab No. CH 7487, File No. 6961.2, August 19, 1991, signed by Richard E. Nelson, Jr., and Sergio Meilman, P.E.

6.7 Test report on bond strength under ASTM C 234, Law Engineering, Project 46-900123,01, December 16, 1991, signed by Michael A. Raybon, E.I.T., and Joseph A. Amon, P.E.

6.8 Test report comparing concrete with Durafiber CFP to control specimens, dosages rate of $1\frac{1}{2}$ lbs per cu. yard, normal weight concrete, Maxim Technologies Inc., Project 4122 95-1285, April 12, 1996, signed by John Stieben, P.E. The following tests were performed:

- ASTM C 78, Flexural Strength
- ASTM C 39, Compressive Strength
- ASTM C 666, Freeze-Thaw Durability
- Plastic Shrinkage Cracking
- ASTM C 234, Bond Strength
- ACI 544, Impact Resistance

7. CODE REFERENCES

Standard Building Code© - 1994 Edition with 1996 Revisions

Section 103.7 Alternate Materials and Methods
Chapter 19 Concrete

CABO One and Two Family Dwelling Code - 1995 Edition

Section 108 Alternate Materials and Systems
Table 402.2 Minimum Specified Compressive
Strength of Concrete

Section 503 Concrete Floors (On Ground)

8. COMMITTEE FINDINGS

The Subcommittee on Evaluation in review of the data submitted finds that, in their opinion, the Durafiber™ fibers and Durafiber CFP fibers as described in this report conform with or are suitable alternates to that specified in the Standard Building Code and the CABO One and Two Family Dwelling Code, or Supplements thereto.

9. LIMITATIONS

9.1 This Legacy Evaluation Report and the installation instructions, when required by the building official, shall be submitted at the time of permit application.

9.2 The fibers shall not be used as a replacement for any reinforcement required by the Code.

9.3 The structural design of the concrete shall meet the requirements of the Code.

9.4 The fibers shall be blended into the concrete mix according to the manufacturer's instructions.

9.5 The fibers shall be used only in normal weight concrete.

9.6 The fibers shall not be used in fire resistance rated assemblies.

10. IDENTIFICATION

Each bag of Durafiber, Inc.'s Durafiber™ fibers and Durafiber CFP fibers covered by this report shall be labeled with the manufacturer's name and/or trademark, the SBCCI Public Safety Testing and Evaluation Services Inc. Seal or initials (SBCCI PST & ESI), and the number of this report for field identification.

11. PERIOD OF ISSUANCE

SEE THE CURRENT EVALUATION REPORT INDEX FOR STATUS OF THIS LEGACY EVALUATION REPORT.

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