

DIVISION: 03 00 00—CONCRETE
Section: 03 24 00—Fibrous Reinforcing

REPORT HOLDER:

ABC POLYMER INDUSTRIES, LLC

EVALUATION SUBJECT:

FIBERFORCE 1000 HP™ & FIBERFORCE 750™ 1.5-IN. and 2-IN. MACRO FIBERS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018 and 2015 *International Building Code*® (IBC)
- 2018 and 2015 *International Residential Code*® (IRC)

For evaluation for compliance with codes adopted by Los Angeles Department of Building and Safety (LADBS), see [ESR-4335 LABC and LARC Supplement](#).

Properties evaluated:

- Durability
- Crack control in concrete

2.0 USES

FIBERFORCE 1000 HP™ and FIBERFORCE 750™ are polyolefin chopped strand fibers that are used as shrinkage and temperature reinforcement for plain concrete footings and plain concrete slabs supported directly on the ground.

FIBERFORCE 1000 HP™ and FIBERFORCE 750™ are also used to reduce shrinkage and temperature cracking in structural plain concrete footings and structural plain concrete slabs supported directly on the ground.

FIBERFORCE 1000 HP™ and FIBERFORCE 750™ are also used as an alternative to shrinkage and temperature reinforcement for concrete of composite steel floor deck-slabs in accordance with SDI-C as referenced by IBC.

Under the IRC, an engineered design in accordance with IRC Section R301.1.3 must be submitted to the code official for approval.

3.0 DESCRIPTION

3.1 FIBERFORCE 1000 HP™ Fibers:

The FIBERFORCE 1000 HP™ and FIBERFORCE 750™ products are a macro synthetic fiber. Average fiber deniers for FIBERFORCE 1000 HP™ and FIBERFORCE 750™ are 1800 and 4180, respectively. Fibers are chopped or cut to

the specified uniform length for the product ordered. The standard product lengths for both FIBERFORCE 1000 HP™ and FIBERFORCE 750™ are either 1.5 inches (38.1 mm) or 2.0 inches (51 mm).

3.2 Structural Plain Concrete:

Structural normal-weight plain concrete must comply with Section 1906 of the IBC.

4.0 INSTALLATION

The concrete with fibers complies with ASTM C1116, Type III. Fibers must be blended into the concrete mixture equal to or within the range of volume fractions at 0.2 percent to 0.5 percent of the specified volume fraction (reinforcement ratio). The volume fraction can also be expressed as dosage or an amount (mass or weight) per unit volume of concrete (3 to 8 lb./yd³ or 2 to 4.7 kg/m³).

The fiber product may be added to the concrete at the concrete batch plant or to the ready-mix truck at the jobsite. The manufacturer's published installation instructions and this report must be strictly adhered to for adequate dispersal of fibers throughout the batch mixture. A copy of the manufacturer's published installation instructions must be available at all times at the location of the fiber installation into the concrete

5.0 CONDITIONS OF USE

The FIBERFORCE 1000 HP™ and FIBERFORCE 750™ polyolefin chopped strand fibers as described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1** Concrete with polyolefin chopped strand complies with ASTM C1116/C1116M, Type III, and ASTM D7508/7508M.
- 5.2** Fiber must be blended into the concrete mixture in accordance with the installation requirements in the ICC-ES evaluation report and the manufacturer's published mixing instructions. If there is a conflict between the evaluation report and the manufacturer's published mixing instructions, the more restrictive governs.
- 5.3** Registered design professional must approve the use of polyolefin chopped strand fibers and the mixture proportions.
- 5.4** Structural plain concrete including concrete over composite steel decks must comply with the applicable IBC sections.
- 5.5** Structural reinforcement for continuity must be provided in accordance with the approved engineering

design of a registered design professional and the applicable codes (IBC).

- 5.6 Polyolefin chopped strand fiber must not be used to replace any structural reinforcement or the joints specified in the IBC (ACI 318-14 Sections 24.4 and 14.3.4, respectively).
- 5.7 When polyolefin chopped strand fibers are added at the ready-mix plant, a batch ticket signed by a ready-mix representative shall be available to the code official upon request. The delivery ticket must include information noted in Section 12 of ASTM C1116/C1116M.
- 5.8 Volume fractions of polyolefin chopped strand fibers are 0.2 percent to 0.5 percent of the specified volume fraction (reinforcement ratio). The volume fraction can also be expressed as dosage or an amount (mass or weight) per unit volume of concrete (3 to 8 lb./yd³ or 2 to 4.7 kg/m³). Interpolation for other volume fractions between the tested volume fractions is permitted.
- 5.9 The fire-resistance rating of fiber reinforced concrete composite steel deck construction has not been evaluated by ICC-ES and is outside the scope of this report. When requested, evidence of the fire-resistance rating of the construction will be submitted to the code official for their approval
- 5.10 The use of fibers in concrete of composite steel floor deck-slabs construction must comply with Section 2.4.B.13.a.3 of ANSI/SDI C with the specified minimum 4.0 lb/yd³ (2.4 kg/m³) dosage.

5.11 FIBERFORCE 1000 HP™ and FIBERFORCE 750™ polyolefin chopped strand fibers are manufactured by ABC Polymer Industries, LLC. in Helena, Alabama.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Polyolefin Chopped Strands For Use in Concrete (AC383), dated January 2018 (editorially revised August 2019).

7.0 IDENTIFICATION

- 7.1 Each container of FIBERFORCE 1000 HP™ and FIBERFORCE 750™ must bear the manufacturer's name, trademark and address; the product name; and the ICC-ES evaluation report number (ESR-4335).
- 7.2 The report holder's contact information is the following:

ABC POLYMER INDUSTRIES
POST OFFICE BOX 580
545 ELM STREET
HELENA, ALABAMA 35080
(205) 620-9889
www.ABCpolymerindustries.com

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EVALUATION SUBJECT:

FIBERFORCE 1000 HP™ & FIBERFORCE 750™ 1.5-IN. and 2-IN. MACRO FIBERS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the FIBERFORCE 1000 HP™ and FIBERFORCE 750™ 1.5-in and 2-in. macro fibers, described in ICC-ES evaluation report [ESR-4335](#), have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:

- 2020 *City of Los Angeles Building Code* (LABC)
- 2020 *City of Los Angeles Residential Code* (LARC)

2.0 CONCLUSIONS

The FIBERFORCE 1000 HP™ and FIBERFORCE 750™ 1.5-in and 2-in. macro fibers, described in Sections 2.0 through 7.0 of the evaluation report [ESR-4335](#), comply with the LABC Chapter 19, and the LARC, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The FIBERFORCE 1000 HP™ and FIBERFORCE 750™ 1.5-in and 2-in. macro fibers, described in this evaluation report supplement, must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-4335](#).
- The design, installation, conditions of use and identification of the FIBERFORCE 1000 HP™ and FIBERFORCE 750™ 1.5-in and 2-in. macro fibers are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-4335](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- Under the LARC, an engineered design in accordance with LARC Section R301.1.3 must be submitted.

This supplement expires concurrently with the evaluation report, reissued August 2020.

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1.0 REPORT PURPOSE AND SCOPE**Purpose:**

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Applicable code editions:

- 2019 *California Building Code (CBC)*

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of the State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2019 *California Residential Code (CRC)*

2.0 CONCLUSIONS**2.1 CBC:**

The FIBERFORCE 1000 HP™ and FIBERFORCE 750™ 1.5-in and 2-in. macro fibers, described in Sections 2.0 through 7.0 of the evaluation report ESR-4335, comply with CBC Chapter 19, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional design and inspection requirements of CBC Chapters 16 and 17, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections of the CBC are beyond the scope of this supplement.

2.2 CRC:

The FIBERFORCE 1000 HP™ and FIBERFORCE 750™ 1.5-in and 2-in. macro fibers, described in Sections 2.0 through 7.0 of the evaluation report ESR-4335, comply with CRC Section R301.1.3, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report.

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1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that FIBERFORCE 1000 HP™® and FIBERFORCE 750™ 1.5-in and 2-in. macro fibers, described in ICC-ES evaluation report ESR-4335, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2017 Florida Building Code—Building
- 2017 Florida Building Code—Residential

2.0 CONCLUSIONS

Use of the FIBERFORCE 1000 HP™ and FIBERFORCE 750™ 1.5-in and 2-in. macro fibers, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-4335, complies with the *Florida Building Code—Building* and the *Florida Building Code—Residential*, provided the design requirements are determined in accordance with *Florida Building Code—Building* and the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-4335 for the 2015 *International Building Code*® meet the requirements of the *Florida Building Code—Building* and the *Florida Building Code—Residential*, as applicable, with the following conditions:

1. Control and contraction joints must be in accordance with Section 1907.2 of the *Florida Building Code—Building*, as applicable.
2. Minimum size of footings and resistance to uplift must be in accordance with Sections R403.1.1 and R403.1.2 of the *Florida Building Code—Residential*, as applicable.

Use of the FIBERFORCE 1000 HP™ and FIBERFORCE 750™ 1.5-in and 2-in. macro fibers for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential* has not been evaluated and is outside the scope of this supplemental report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

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