

Illinois Department of Transportation
Bureau of Materials and Physical Research
APPROVED LIST OF SYNTHETIC FIBERS
February 18, 2011

This list supersedes the June 25, 2010 list.
Special Provision for Portland Cement Concrete Inlay or Overlay (BDE) (November 1, 2008)

Material Code 43515

For information regarding new product submittal, click the "New Submittal" bookmark to the left.

Materials on this list are for use only with the Special Provision for Portland Cement Concrete Inlay or Overlay (BDE) (November 1, 2008).

The Euclid Chemical Company
19218 Redwood Road
Cleveland, OH 44110-2799
Phone: 800-321-7628
Attn: Brian Lewis
Producer/Supplier No.614-01
www.euclidchemical.com
"TUF-STRAND SF"
Dosage Rate: 5 lb / yd³

General Resource Technology
2978 Center Court
Eagan, MN 55121-1257
Phone: 217-652-4785
Attn: Mike Ames
Producer/Supplier No. 5204-01
www.grtinc.com
"ADVANTAGE STRUCTURAL FIBER"
Dosage Rate: 4 lb / yd³

W.R. Grace & Company
62 Whittemore Drive
Cambridge, MA 02140-1692
Phone: 617-498-4555
Attn: Miles MacDonald
Producer/Supplier No. 767-01
www.graceconstruction.com
"STRUX 90/40"
Dosage Rate: 4 lb / yd³

**Synthetic Fibers for Concrete
Submittal for Review and Approval**

Effective: July 27, 2007
Revised: [January 8, 2010](#)

A. Scope

The following guidelines are provided to clarify the submittal requirements and expedite the review process for approving synthetic fibers according to the Department's Special Provision for Portland Cement Concrete Inlay or Overlay (BDE)¹.

B. Procedure

When submitting synthetic fibers to the Department:

First Phase of Submittal Process:

- The manufacturer shall select an Independent Laboratory accredited by the AASHTO Materials Reference Laboratory (AMRL) for Portland Cement Concrete (required methods in ASTM C 1077). The lab shall be equipped to perform the Illinois Modified ASTM C 1609² test method on a submitted synthetic fiber product.
- Prior to the Independent Laboratory testing, the laboratory name, material sources, and mix design shall be submitted to the Department for approval.

Second Phase of Submittal Process:

The Manufacturer shall provide the following to the Department:

- The specific product brand name,
- Independent laboratory test results which show the product meets Department specifications,
 - Residual strength ratio
- Material Safety Data Sheet,
- Technical Data Sheet,
- Contact person's name, title, address, email address, and phone number,
- A letter stating the subject material will not be changed without prior written notification to IDOT, and
- A letter stating the material complies with the following requirements from the Special Provision for Portland Cement Concrete Inlay or Overlay (BDE)¹:

Synthetic fibers shall be Type III according to ASTM C 1116. The synthetic fiber shall be a monofilament with a minimum length of ½ in. (13 mm) and a maximum length of 2 ½ in. (63 mm), and shall have a maximum aspect ratio (length divided by the equivalent diameter of the fiber) of 100. The quantity of synthetic fiber(s) added to the concrete mixture shall be sufficient to have a minimum residual strength ratio (R_{150,3}) of 20.0 percent according to Illinois Modified ASTM C 1609. The maximum dosage rate shall not exceed 5.0 lb/cu yd (3.0 kg/cu m), unless the manufacturer can demonstrate through a field demonstration that the concrete mixture will be workable and fiber clumping is not a problem as determined by the Engineer.

The submittal information shall be sent to:

Melinda Winkelman
Illinois Department of Transportation
Bureau of Materials & Physical Research
126 East Ash Street
Springfield, IL 62704-4766

Any submittal provided without the above listed information will not be reviewed for approval. Any changes in the formulation outside the manufacturer's original parameters will necessitate a new submittal.

The manufacturer will be notified when the review is complete. For questions regarding the testing and approval process, contact Melinda Winkelman at 217-782-0117.

¹ <http://www.dot.il.gov/desenv/hwyspecs.html>

² <http://www.dot.il.gov/materials/labtestproc.html>

C. Recertification

Annual recertification of all synthetic fibers is required. During the last quarter of the calendar year, a recertification letter will be sent to the manufacturer. The recertification paperwork is due January the following year. For example, the recertification letter is mailed November 2009 and due by mid January 2010.

¹ <http://www.dot.il.gov/desenv/hwyspecs.html>

² <http://www.dot.il.gov/materials/labtestproc.html>

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Instructions for Acknowledgement by Company:

The owner, partner, or corporate officer shall complete the following and return a signed and dated copy with the product submittal or recertification.

_____ desires to obtain advance approval of materials to be
(Insert name of company)
supplied to Department of Transportation contractors as more fully described herein. I
and _____ understand that the Department of Transportation
(Insert name of company)
reserves the right in its contracts to approve materials at the source of supply as
provided in Article 106.01 of the Standard Specifications for Road and Bridge
Construction. I and _____ further understand that approval of
(Insert name of company)
company supplied material pursuant to this request does not constitute a contract to
supply material to the State of Illinois or any of its contractors, and that the Department
of Transportation does not assure or guarantee that any materials approved hereunder
will be supplied to the State or any of its contractors. In consideration of approval, I and
_____ agree to the terms, conditions and performance
(Insert name of company)
standards of the Standard Specifications for Road and Bridge Construction.

Type of Company: Individual Partnership Corporation

Company Name _____

Printed Name _____

Signature _____

Title _____

Business Address _____

City/State/Zip Code _____

Date of Signature _____