

**FRC**

FIBER TESTING

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**FIBER TENSILE STRENGTH TEST  
MONOFILAMENT POLYPROPYLENE FIBERS**

TESTING LAB: STORK – TWIN CITIES TESTING  
DATE: SEPTEMBER 5, 2001

**FRC**  
**FRC INDUSTRIES**

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## ENGINEERING TEST COVER PAGE

Test:	Fiber Tensile Strength	Dosage	N/A
Product:	MATRIX Monofilament Fibers	Project:	031326
Method:	ASTM: D3822-96	Date:	September 5, 2001
Lab:	Twin City Testing Corp / St. Paul, MN	Manufacturer	ABC Polymer Industries
Summary	ATS – Average Tensile Strength = 93.1 ksi		

### INTRODUCTION:

The attached report presents the results of Twin City Testing Laboratories of the tensile strength and elongation of monofilament concrete fibers. Ten samples were used in accordance to ASTM: D3822-96. Spools of material were submitted on July 23, 2001. Each spool was approximately 4 feet in length and contained numerous individual fibers.

### SUMMARY OF TEST RESULTS:

The following is a summary of the test results:

The average tensile strength of the monofilament fiber was documented to be 93,100 psi (**93.1 ksi**). An average fiber diameter was used for the calculation of the tensile stress.

### TEST PROCEDURE:

The tensile strength and elongation were documented according to applicable sections of ASTM: D3822-96, "Standard Test Method for Tensile Properties of Single Textile Fibers." The area of the monofilament fiber was documented by measuring the diameter of a single fiber four times and averaging the four readings. The calibration for the equipment used during the testing of the fibers is traceable to the National Institute of Standards and Technology. The samples were tested at a rate of 6 inches per minute.

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**TEST OF MONOFILAMENT FIBER**

**TEST RESULTS:**

<u>Sample</u>	<u>Load at Failure, lbs.</u>	<u>Elongation %</u>	<u>Tensile Strength psi</u>
1	0.102	12.2	83,100
2	0.146	25.9	119,000
3	0.142	16.2	115,700
4	0.145	28.6	118,200
5	0.081	2.0	66,000
6	0.089	32.4	72,500
7	0.122	148.6	99,400
8	0.125	35.8	101,900
9	0.123	124.1	100,200
10	0.067	10.0	54,600
<b>Average</b>	<b>0.114</b>	<b>43.6</b>	<b>93,100</b>

<sup>1</sup>The area for all of the samples was taken to be 0.00125 in<sup>2</sup>. The value was determined by measuring the diameter of a single fiber four times and averaging the values to achieve the area of the fiber.

**REMARKS:**

Unless further notice is received, the samples will be retained for a period of two weeks and discarded. Should you have any questions or require further assistance, please contact me at (651) 659-7340.

**STORK TWIN CITY TESTING CORPORATION**

  
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